ISN-WZ 2020

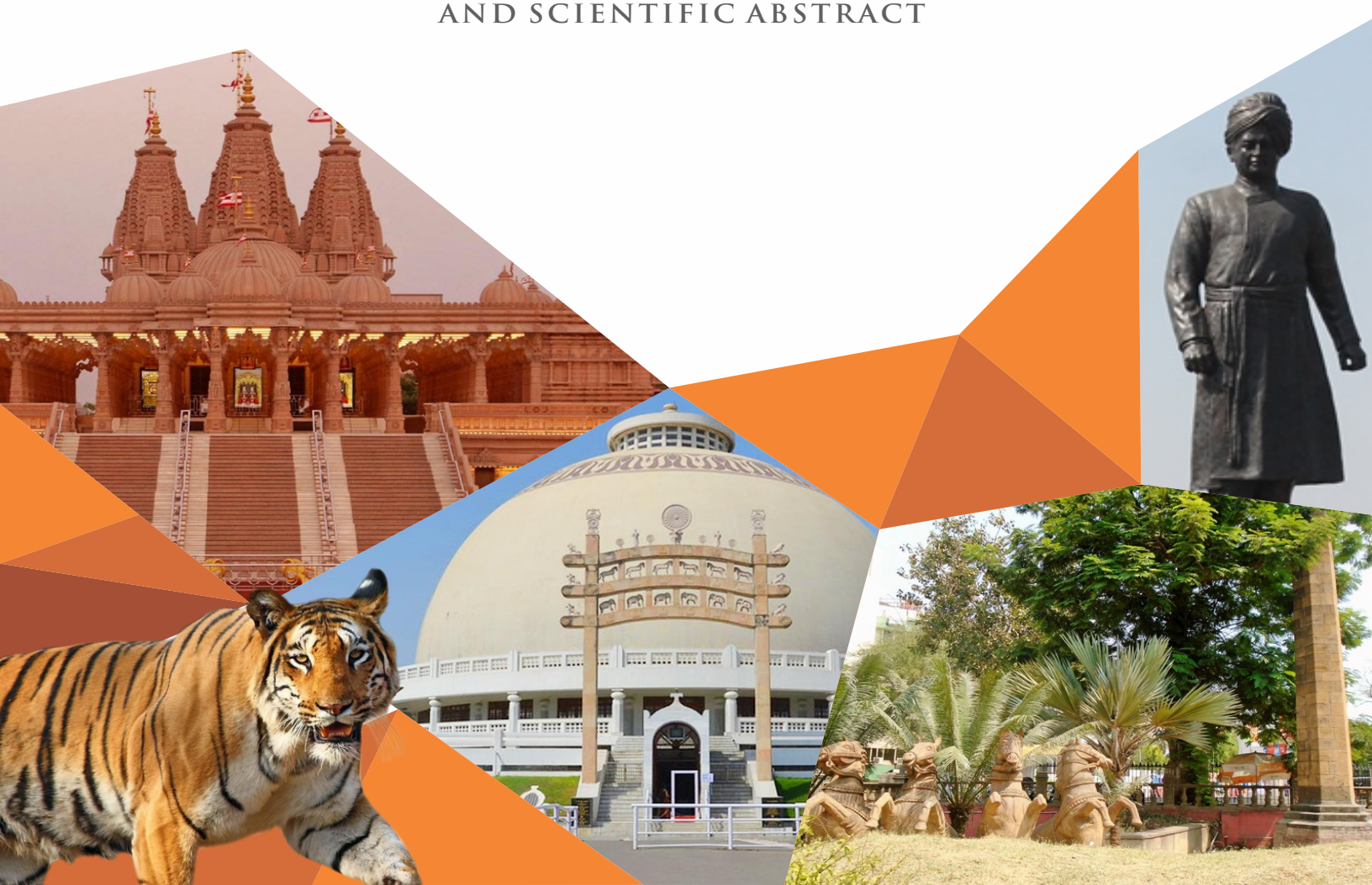
19th & 20th September 2020
26th & 27th September 2020

Nagpur

36th Annual Conference of Indian Society of Nephrology-West zone

SOUVENIR

AND SCIENTIFIC ABSTRACT



Organizing Committee ISN-WZ 2020

Patron

Dr. Viresh Gupta

Organizing Chairman

Dr. Shivnarayan Acharya

Organizing Co-Chairman

Dr. Dhananjay Ookalkar

Dr. Sameer Chaubey

Organizing Secretaries

Dr. Prakash Khetan

Dr. Manish Balwani

Chair, Scientific Committee

Dr Umapati Hegde

Treasurer

Dr. Amit Pasari

Registration

Dr. Monali Sahu

Quiz

Dr. Ashwinikumar Khandekar

Dr. Vishal Ramteke

Souvenir Committee

Dr. Suryashree Pandey

Dr. Vandana Baraskar

Nutrition Training Programme

Dr. Nishant Deshpande

Dr. Deodatta Chafekar

Moderator, Public Awareness Programme

Dr. Nikhil Kibe

Convenor, CME for Physicians

Dr. Kalpana Mehta

Entertainment Programme: Dr. Prakash Khetan, **Pharmaceutical Exhibition:** Dr. Sameer Chaubey,
Dialysis Technician's Programme: Dr Dhananjay Ookalkar, **Poster Presentation:** Dr. Vandana Baraskar

36th Annual Conference of Indian Society of Nephrology West zone

September 19-20th, 2020
September 26-27th, 2020

ISN-WZ 2020

Nagpur

Organized By: The Nephrology Society

SOUVENIR

AND SCIENTIFIC ABSTRACT

Virtual Meeting

Nagpur, India

www.isn-wz.com

ISN-WZ 2020
Nagpur

Scientific Programme

Day 1 - Saturday - 19th September 2020

Time	Dr. B S Chaubey Hall		
3.30 pm to 4:00 pm	Inaugural Function		
	Topic	**Speaker**	**Chairpersons**
4.00 pm	Debate - "Is It Better To Continue On Dialysis Instead Of Transplantation With Increasing Cases Of COVID 19".	Pro - Hemal Shah Con - M M Bahadur	Pradeep Salgia Dhananjay Ookalkar
4.50 pm	Nephrology Education In India: Past, Present And Future	M K Mani	Shivnarayan Acharya Alan Almeida
	Interesting Cases- Podium 6 x 8+2 Min.		
5.35 pm to 7.00 pm	ABO c KTx as blood group incompatibility. Are weak blood groups important to look for?	Sachin Nikam	Sishir Gang Jatin Kothari
	Differential Diagnosis of Post-partum AKI: It's Complicated!	Vipul Chakurkar	
	An interesting case of persistant left superior venacava	Appu Jose	
	A Case of successful transplant despite positive crossmatch	Shruti Tapiawala	
	Surprising cause of severe acute symptomatic hypercalcemia: Fullers earth ingestion.	Sandhya Suresh	
	Native kidney Xantho granulomatous pyelonephritis in a renal transplant recipient.	Abhishek Kadam	

Day 2 - Sunday - 20th September 2020

Dr. V N Acharya Hall

Public Awareness Programme (जनजागरण कार्यक्रम) Moderator - Dr Nikhil Kibe

Time	Topic	Speaker	Chairpersons
10.00 am	रक्तचाप को कैसे नियंत्रित करें	Ashok Kirpalani	Bhupendra Gandhi Arun Halankar
10.20 am	किडनी के बिमारियों में आहार का महत्व	Bharat Shah	
10.40 am	डायलिसिस क्या है ? मरीजों को क्या करना है ?	Umesh Khanna	
11.00 am	एक्यूट किडनी फेल को कैसे टालें	Sanjay Pandya	
11.20 am	किडनी की बिमारियों से बचने के उपाय	M K Mani	
11.40 am	Open House	All Speakers	

Dialysis Technician Programme. Convenor - Dhananjay Ookalkar

2.00 pm	Introduction to Critical Thinking	Sudhir Bagarao	Avinash Chaudhary Manish Mali
2.20 pm	Apply Critical Thinking To Dialysis Scenarios	Sumit Kati	
2.40 pm	Cases Discussion		
3.40 pm	Open House		

Dr H L Trivedi Auditorium

2.00 pm to 4.00 pm	Praveena Shah Award - Poster Judging Session (19 x 6 Min.)	See Page no. 05	Raja Ramchandran Manisha Sahay

Dr B S Chaubey Hall

4.00 pm	V N Acharya Oration	Jeremy Chapman	Bharat Shah Shruti Tapiawala
5.00 pm	How To Use Evidence Based Medicine With Experience, While Treating Patients	Mohan Rajapurkar	Umapati Hegde Himanshu A Patel
5.30 pm	Project VICTORY	Viswanath Billa	Shrirang Bichu Tarun Jeloka
5.50 pm	What We Learnt From COVID - 19 Cases - City wise Experience Sharing (15 Min. each)	Mumbai - Kalpana Mehta Pune - Valentine Lobo	Divya Bajpai Rushi Deshpande
		Ahmedabad - Divyesh Engineer Surat - Anil Patel	Vivek Kute Kalpesh Gohel
		Bhopal- Himanshu Sharma Indore - Asad Riyaz	Gopesh Modi Prawash Chaudhary

DAY 3 - Saturday - 26th September 2020

Dr V N Acharya Hall

Nutrition Training Programme. Moderator - Deodatta Chafekar

Time	Topic	Speaker	Chairpersons
2.00 pm	What Nephrologist expects from Renal Dietitian	Bharat Shah	Mohan Patel Atul Sajgure
2.20 pm	Nutrition Care Process	Sadanand Kulkarni	Nagesh Aghor Rajesh Bharani
2.40 pm	Nutrition Diagnosis	Dhananjay Ookalkar	Prashant Pargaokar Anil Jain
3.00 pm	Dietary Interventions in CKD	Anita Saxena	Sudhir Kulkarni Shubha Dubey
3.20 pm	Trending Diets: Place in Renal Disease	Himani Puri	Arun Shah Atul Ingale
3.40 pm	Panel Discussion: Clinical Scenarios in Renal Nutrition	Bharat Shah, Sadanand Kulkarni, Dhananjay Ookalkar, Anita Saxena, Himani Puri, Suneeti Khandekar	

Dr B S Chaubey Hall

2.00 pm to 4.00 pm	Consultants e-Poster Session (8 x 10 + 5 Min. each)	See Page No. 05-06	Judges Satish Balan Ram
4.00 pm to 6.00 pm	Late Dr Lalit Shah Award Oral Paper Session (12 x 8 + 2 Min. each)	See Page No. 06	Judges Narayan Prasad Dipankar Bhowmick
6.00 pm to 7.00 pm	Oral Paper Award Session for Consultants (6 x 8 + 2 Min. each)	See Page No. 06	Judges Narayan Prasad Vinay Malhotra

7.00 pm - General Body Meeting

8.00 pm - Entertainment Program

DAY 4 - Sunday - 27th September 2020

Dr V N Acharya Hall

CME for Physicians- Nephrology at Your Doorstep

Time	Topic	Speaker	Chairpersons
2.00 pm	UTI In Early Childhood; Should All Cases Be Referred To Nephrologist/ Urologists	Uma Ali	Jai Kirpalani Prashant Rajput
2.15 pm	Nephrotic Syndrome : What Should The Physicians Monitor And Why?	Deepak Tamakuwala	
2.30 pm	Young Hypertensive; Role Of Physicians Beyond Controlling Blood Pressure	Dilip Kirpalani	Praful Gajjar Anup Choudhary
2.45 pm	Hypertension During Pregnancy. When To Suspect Renal Cause Or Chronic Hypertension	Sameer Chaubey	
3.00 pm	eGFR For Physicians	Sheetal Lengade	Abhijit Konnur Rajesh Kumar
3.15 pm	Watching Out For Precipitating Factors For AKI & Differentiating AKI Vs CKD	Sanjeev Kale	
3.30 pm	Role of Physicians In CKD Before RRT	Tushar Dighe	Ravindra Nikaljee Sachin Soni
3.45 pm	Dialysis; Indications & Complications For Physicians	Rudramani Swami	

Dr B S Chaubey Hall

Time	Topic	Speaker	Chairpersons
2.00 pm	Post Graduate Quiz - Finals	Quiz Masters Sonal Dalal Ashwinikumar Khandekar	Judges Divya Bajpai Amar Sultan
	F F Wadia Grant Paper presentation		
4.00 pm to 4.15 pm	Evaluation of persistent diarrhoea in post renal transplant ; role of Norovirus	Abhishek Kadam	Niwrutti hase Atul Mulay
4.15 pm to 4.30 pm	Renal functional reserve after a recovered acute kidney injury and its impact on development of chronic kidney disease	Vipul Chakurkar	
4.30 pm	Clinico Pathological Correlation (CPC) Case	Case - S J Acharya Discussant - Tukaram Jamale Pathology Comments - Sunil Deshpande	Manoj Gumber Hemant Mehta
5.30 pm	Valedictory Function		

DAY 2 - Sunday - 20th September 2020

Dr H L Trivedi Auditorium

Praveena Shah Award - Poster Judging Session (2:00 pm to 4:00 pm)

Sr. No.	Presenter	Topic
1.	Bhagyashree Gorakh	Road Block? No problem, Will clear it!
2.	Vishnu Shanker Shukla	Interesting Case of Bilateral renal mass
3.	Nikhil Elenjickal	Unusual Presentation of a known Masquerader-Myeloma
4.	Nikhil Elenjickal	Collapsing Glomerulopathy- A Conundrum
5.	Azhar hassan	Case of Post Renal Transplant recipient presenting with Posterior Reversible Encephalopathy Syndrome (PRES).
6.	Mohit Mahajan	Interesting Case of MRKH Syndrome with Pyelonephritis
7.	Mohit Mahajan	Interesting Case of Mixed connective tissue disorder with AKI
8.	John Abraham Tharayil	Varied Presentations of Same Entity
9.	Mithesh Makwana	A study of Acute kidney injury in patients presenting with Adult nephrotic syndrome:A Prospective study
10.	Agarwal Prajal	Unusual Dermatological Lesions in a child with CKD5-PD
11.	Pallavi Tanapure	AKI with nephrotic syndrome in a known case of chronic myeloid leukemia
12.	Sanjay kumar	Incidence, etiologic profile and outcomes of postpartum Aki in Chattisgarh :- A single Center retrospective study
13.	Data Ankit	Study of biopsy proved glomerular diseases in Marathwada region of Maharashtra
14.	Salman Ali Sayed	COVID 19 infectionin Kidney Transplant Recipients
15.	Chaudhari Nayan	Clinical profile and short term outcome of children presenting with enuresis : An observational study
16.	Saumya Vishnoi	Low incidence and not too poor outcome of COVID infection in kidney transplant patients
17.	Satarupa Deb	Repeat RT-PCR positivity in dialysis patients
18.	Durga Deorukhkar	Post -COVID Sequalae in CKD patients -A single centre experience
19.	Rakesh Shinde	Baseline Hepcidin and Lactate predict need for Renal replacement therapy (RRT) in Septic Shock with Acute Kidney Injury (AKI)

DAY 3 - Saturday - 26th September 2020

Dr B S Chaubey Hall

Consultants e-Poster session (2:00 pm to 4:00 pm)

Sr. No.	Presenter	Topic
1.	Vipul Chakurkar	ACTH in Treatment of Membranous Nephropathy- A Case Report
2.	Shivnarayan Acharya	Unusual case of Acute Kidney Injury

Sr. No.	Presenter	Topic
3.	Shruti Tapiawala	Are we overdiagnosing Covid-19 – can it be common Flu?
4.	Mohan Patel	Torrential bleed after duodenal biopsy in a case of CKD -5: Vigilance needed
5.	Gharia Shivangi Virendrasinhji	Can ENZOTEIN (enzyme fortified protein supplement) At Lower Doses Replace Higher Dose Protein Oral Nutrition supplement (ONS)For Low Income Group Patients on Haemodialysis.
6.	Bharat Shah	Accommodation after ABO incompatible Kidney transplant. How soon can it develop?
7.	Mogal Vajed	Role of Iron Deficiency Anaemia in Patients with Chronic Kidney Disease
8.	Mogal Vajed	A Six-month Follow-up study in Comparison of Complications of Arteriovenous Fistula with Permanent Catheter in Hemodialysis Patients at a Tertiary Care Unit.
Late Dr. Lalit Shah Award Oral Paper Session (4:00 pm to 6:00 pm)		
1.	Shakir Ahmad	Clinical profile and outcome of ESRD with SARS COV2 infection in a tertiary care centre in Mumbai, India.
2.	Rakesh Patil	Cumulative fluid balance and mortality in critically ill AKI patients requiring RRT
3.	Mohit Mahajan	Study of acute kidney injury with COVID-19
4.	Sandhya Suresh	A randomized control trial of Rituximab Vs modified Ponticelli regimen in the treatment of primary membranous nephropathy- A pilot study
5.	Sachin Nikam	Spectrum of COVID-19 infection in patients with renal diseases.
6.	Jyoti Bansode	Acute kidney injury in COVID-19 positive patients
7.	Fadnis Madhura	Clinical profile and short term outcome of primary vesicoureteral reflux in children
8.	Nikhil Elenjickal	A comparative Study between Ambulatory and Automated Office BP measurement in Non-Dialysis Chronic Kidney Disease Patients
9.	Ankur Mittal	Parvovirus disease post transplant presenting as refractory anemia single centre experience
10.	Dilip Jadhav	To compare the effect of standard bicarbonate dialysate vs bicarbonate profiling on pre-dialysis potassium level in maintenance haemodialysis patients.
11.	Rashmi Algeri	Role of Inositol hexanicotinate as a phosphate lowering agent compared to sevelamer carbonate in CKD patients not on dialysis.
12.	Neil Saldahna	Efficacy of sodium - glucose co transporter-2 inhibitors in diabetic patients in retarding the progression of chronic kidney disease
Oral Paper Award Session for Consultants (6:00 pm to 7:00 pm)		
1.	Prawash Chowdhary	CKD of Unknown Origin in Supebeda, Chhattisgarh, India
2.	Abhijit Konnur	A study of clinical profile of patients with Multiple myeloma and kidney disease in a tertiary care centre in West India
3.	Deepa Usulumarty	COVID experience in dialysis unit
4.	Jyoti Singhal	Clinical profile and short-term outcome of children with atypical hemolytic uremic syndrome
5.	Prashant Rajput	Steroid-Free Living Donor Kidney Transplants
6.	Shruti Tapiawala	ABO incompatible transplant instead of HLA incompatible transplant

Message from Patron

Dr. V. L. Gupta
Ex-Professor & Head,
Dept. of Nephrology SSH Nagpur

The first Indian Society of Nephrology West Zone (ISN-WZ) conference was organized in Nagpur in 1997, the second ISN-WZ conference was held in Nagpur in 2005. We have fond memories of these two conferences. Both these conferences were very well organized, well attended and were huge success. When the Nagpur was selected to host third ISN-WZ conference this year, we as organizing team thought of doing best at this time.

During the fifteen years that have lapsed since the last ISN-WZ in 2005, Nagpur has changed a lot, towards becoming smart city, it's sky line, fast pace of development had metro running, roads are better than ever. Other logistics and infrastructure are lot better. Hospitality and event management sector has seen significant improvement. Health care sector has seen sea change. Medical infrastructure and logistics are lot better to words world class. All India Institute of Medical Sciences has started functioning in new campus. Big corporate hospitals with multi specialty facilities are order of the day. Several well equipped and well staffed centers are doing organ transplants. Diseased organ donation program has taken off in a big way. National Institute of Cancer has provided big relief to cancer patients in this region. Nagpur can boast of having world class facilities in medical field. Conferences, of various specialties, including international, national, regional, state level are organized frequently. Continuous Medical Education, and various other academic programs are there almost at every week end. So, this time, we had a plan of making it big and memorable, and planning was started accordingly. But the Covid 19 pandemic and worsening situation therein had put grinding stop. It was not possible to hold the physical meeting or the conference. It was so depressing and worrisome. We changed the format of conference to virtual. Most of conferences, CMEs, meetings are held now a days are organized in this form only. With latest and advanced technology available, our virtual conference is going to be a success.

Organizing committee has done lot of hard work to make it happen. This being the first experience of holding it in virtual format. Scientific committee has planned academic feast which will be rewarding experience. The whole health sector scenario is being dominated by Covid 19 pandemic, there is need to stay healthy, stay safe, and enjoy the deliberations.

I wish the conference grand success.

Message from Organizing chairman

Dr. Shivnarayan J. Acharya

Dear Delegates,

I welcome you to this most unusual conference, the 36th Annual conference of ISN-WZ that was to be held physically in Nagpur but now it's being held in the air. It's the gift of technology because of which I can see you, you me, I can listen to you and you me, we both learn from each other without actually stepping out of our homes.

The Nephrology Society of Central India has taken up the challenge with full faith and confidence that we can do this seemingly impossible task. We decided to speak to the enemy, the Corona Virus, eye to eye and the result is in front of you. While we are unable to meet physically, there are innumerable advantages of going digital, you can simply relax on your choicest sofa, enjoy your choicest home made cuisine, have your child or grandchild play on your lap while staying plugged to your laptop. It's the most heavenly feeling in the midst of your own family, without actually spending a single penny. What more can a delegate want – it's a once in a lifetime opportunity!

Just as you might miss visiting wildlife, lakes, memorials, temples, besides the *jhunka bhakar* and *poolanpori* of Nagpur, we too miss welcoming you physically in this city of oranges.

We have spread a carpet of recent advances of nephrology in scientific sessions, the musical extravaganza and also the pharmaceutical exhibition all in this virtual conference.

So welcome on board, it's all in the air, just enjoy this beauty - the conference with *a difference*.

Message from Organizing Secretaries

Dr. Prakash Khetan
Organizing Secretary

Dr. Manish R Balwani
Organising Secretary

Dear Friends & colleagues,

We are extremely happy and delighted to welcome you to ISN-WZ 2020, Nagpur virtual conference.
We, here at Nagpur have spared no effort to make this virtual conference one of the best ever. To this end, we are striving to have an event with a rich combination of brain-storming academic sessions, wonderful interactive programme for physicians, dialysis technicians, dieticians, general public along with fabulous online entertainment.

We would like to thank scientific committee for putting up such an academic agenda as this conference will have something for everyone - be it academicians, practising physicians, medical post graduates and delegates.

We thank you on behalf of organising committee for registering for this conference. It would have been our honour to host you personally in Nagpur but due to ongoing COVID-19 pandemic, we would not like to miss a chance to interact virtually.

Welcoming with warm regards..

Message From President Of The Nephrology Society

Dr. Ashwinikumar Khandekar

Dear Delegates,

"Sometimes we need to wander in the mist to understand the clarity that follows." -Anonymous

As the initial mist settled one realized with clarity that the show must go on. We cannot be standing frozen when the road ahead can only be walked through. As a professional society, the thought resonated well across the membership and we decided that we will hold a conference, virtually, if not physically. The result was a First entirely virtually conducted West Zone conference hosted by The Nephrology Society.

Just as in a physical conference, the host body is required to provide 'premises' for smooth conduction of the events, we needed to make sure we have a virtual platform that caters to scientific and professional agenda and is commercially compatible too. We found an able partner and hopefully we have delivered what we set out to.
The entire world is battling an un precedented challenge to what is perceived as 'normal'. So there was no 'normal' way of taking the project further. Our team has battled their way through challenges of health, additional responsibilities, and public duties to ensure that the event is a success.

Nothing is perfect and so will be a maiden attempt to serve virtually what has always been a monumental physical exercise! On behalf of the society, let me request you to forgive any inadequacy that might have crept in during preparations and final conduct of the event.

This conference, the First virtually held West Zone Conference, is a fitting tribute to our patrons who instilled the never say die attitude in us. A perfect homage to the infinite inspiration instituted by the Nephrology pioneers of central India, Dr Balswaroop Chaubey and Dr Harsha Salkar.

Welcome Aboard, Dear Delegates..

Journey of Nephro-Urology in Central India

A Saga of the Milestones and of Those Who Made A Difference in Nephro-Urology in Vidarbha

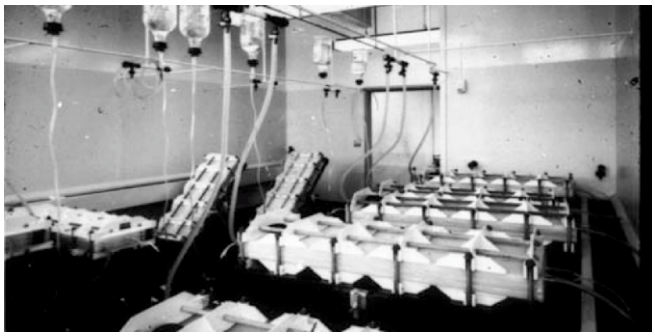
Dr. Shivnarayan J Acharya

If you take the first step of faith you'll always succeed.

Nephro-Urology are branches of Medicine and Surgery which evolved over few decades into separate discipline. It took its present shape in Vidarbha with the tender hands of Dr Balswarup Chaubey, Ex Professor of Medicine in Government Medical College, Nagpur. He started dialysis center in 1971 with two machines.

Those days, ultrasound was not yet in vogue, kidney size was determined by IVP films, the dye itself was nephrotoxic, the laboratories were not standardized, and it was even difficult to do serum electrolytes (with flame photometer which was available then). Treatment of kidney failure those days were mainly rice-sugar diet. In the government set up, there were many problems, besides crunch of finances and inadequate infrastructure, the transfer of medical teachers were routine. Dr B Chaubey did his best to develop the department against all these odds.

The dialysis machines those days were not sleek or compact like the ones seen today. There were Kiil dialysers with membranes placed on parallel plates which needed many hours to assemble, needed large dosages of heparin to prevent clotting and so the bleeding and clotting both were common complications. There was also an increased incidence of sepsis.



Kiil-Dialyser

Dr Balswarup Chaubey
02.06.1934 - 19.11.2011

Dr B S Chaubey inculcated strict discipline, obedience and laid a systematic work culture. He conducted memorable post graduate activities and clinical rounds in Government Medical College, Nagpur. He also awarded thesis topics on nephrology. Another unique feature he had introduced was renal laboratory.

He was also a DM/DNB examiner in nephrology. He can be considered as *Bhism Pitamaha* of Nephrology in Central India. In view of his contribution to the field of medicine, he was awarded prestigious *Padmashree* by President of India.

Dr Balswarup Chaubey receiving prestigious *Padmashree* Award by President of India.

In the earlier period till 1973, there were no dedicated branch of Urosurgery . Dr Purushottum Paldiwal started first urosurgery hospital in private set up at Nagpur in 1973.He used to do trans-urethral resection of prostate with saline because glycine was not invented till then.

Dr Purushottum Paldiwal

Dr Mukund Vaidya

There was an urgent need of sonography as it was a well known fact then that dye used in intravenous pyelography to see structure of kidneys had severe nephrotoxic side effects. Dr Mukund Vaidya is to be credited for starting first sonology centre in Nagpur. While nephrology center in Government Medical College Nagpur was first nephrology center in Central India, first dialysis center in private sector 'Acharya Dialysis Centre' came up on 5th February 1989 by Dr Shivnarayan J Acharya. Those days, dialysis technicians or trained staffs were not available and banks were not open to distributing loans. There were very few multi -specialty hospitals in private sector. Dialysis facility was not available in any of these hospitals.

Dr Arvind M Joglekar

As dialysis became routine procedure, soon there was a need of a surgeon to create arterio-venous fistulae. Dr Chandrashekhar Thatte from Indore used to visit Nagpur to do this surgery.

Dr Arvind Joglekar was the first surgeon in Nagpur to do it.

As patients on dialysis started surviving more and in view of many young patients suffering from end stage renal disease, necessity of kidney transplantation was felt. Organ transplantation is the only alternative to the permanent organ failure be it heart, lungs or liver. For end stage renal disease, kidney transplant provides better outcome than dialysis in selected cases. Earlier, patients with end stage kidney disease in Vidarbha had to travel out for kidney transplantation. Kidney transplantation in our region has proved to be a boon for such patients as it is not only convenient for patients and families but it is also economical.

Mure Memorial Hospital

First kidney transplant in Vidarbha region was performed at Mure Memorial Hospital, Nagpur on 27th November 1990 and patient was Zulfiquar Ali, 19 years old engineering student who presented with uremic seizures. His mother donated kidney. Total expenses were Rs 22,000 /- then, off course with philanthropy of all participating doctors.

First Kidney recipient, Zulfiquar along with his mother as donor, with Dr S J Acharya, transplant physician.

Till 1993, transplants were done regularly. Zulfiquar survived for about 12 years post transplant, but rejected his graft when he stopped taking immunosuppressive drugs. Till 1993, 10 live related kidney transplantations were done at Mure Memorial Hospital.

Cytotoxic cross match is a must before kidney transplant surgery. The samples were sent in thermos flasks to Jaslok Hospital, Mumbai for cross match. Land line telephones were luxury, pager or mobile phones were yet to be discovered. Load shedding was a rule rather than exception. There was crunch of resident doctors. For initial few days post transplant, nephrologist would stay put in the ward itself. However outcome was good. Immuno-suppressants used for all these 10 patients were prednisolone, cyclosporine and azathioprine. Drugs like Tacrolimus or mycophenolate were discovered but not marketed till then. Longest

survival was 22 years for the lady from Chandrapur transplanted in 1992 at Mure Memorial hospital who received kidney from her mother. She succumbed to fungal pneumonia with functioning graft.

The team of doctors who did first kidney transplantation in Central india at Nagpur were:Dr S S Joshi (Transplant surgeon from Jaslok Hospital , Bombay), Dr Chandrashekhar Thatte (Transplant surgeon from Indore) , Dr Vijay Shrikhabde (Urosurgeon) , Dr Arvind Joglekar (Surgeon) , Dr Shivnarayan J Acharya (Nephrologist) , Dr Hemant Sane , Dr A V Joshi (Anesthesiologists), and Dr Abhay Bhalme (Assistant Surgeon). Dr S N Mukherjee was the director of the Mure Memorial Hospital.

In 1994, Transplantation of Human Organs Act was enacted by parliament with the objective of regulation of removal, storage and transplantation of human organs for therapeutic purposes and for the prevention of commercial dealings in human organs. The transplant centers needed to be well equipped for performing organ transplantation. The local hospitals in Nagpur were not well equipped enough to do transplantations. So the transplant program stopped. Between 1994 till 2000, no transplantations were done at Nagpur. Patients had to go out of Nagpur to appear before authorization committees in Mumbai and do kidney transplantation there causing inconvenience and huge financial burden.

In the mean time, in 1996, Government of Maharashtra started Super-specialty Hospital situated next to Government Medical College, Nagpur. A nephrology department was set up with 11 dialysis units.

Superspeciality Hospital, Nagpur

On 30th April 2000, kidney transplantation program restarted at Suretech Hospital Nagpur. Dr Vasudeo Ridhorkar and Dr Anil Shrikhande (Transplant surgeons) Dr Dhananjay Ookalkar and Dr Prakash Khetan (Nephrologists) and Dr Bhau Rajurkar (Anesthesiologist) participated.

First Transplant team of Suretech Hospital

After few months, in the year 2000, at Wardha, kidney transplantation program was started at Jawaharlal Nehru Medical College and Acharya Vinoba Bhave Rural Hospital, Sawangi.

Jawaharlal Nehru Medical College and Acharya Vinoba Bhave Rural Hospital, Sawangi.

Dr S Sahariah, Dr Vijay Shrikhande,Dr A M Joglekar and Dr Sanjay Kolte (Transplant Surgeons), Dr A V Joshi and Dr Neeta Deshpande (Anesthesiologists) and

Dr Shivnarayan J Acharya (Nephrologist) were the team members.

First Kidney transplant recipient and donor at Jawaharlal Nehru Medical College, Sawangi, Wardha.

In the year 2001, Orange City Hospital and Research Centre at Nagpur started kidney transplantation program. Wockhardt Hospital also started transplant program in 2011. Subsequently Meditrina Hospital, CARE Hospital and Super-specialty Hospital also started conducting kidney transplantation. New Era Hospital performed first liver transplantation 2018. Soon, at Wockhardt and Alexis Hospitals, liver transplant program started. Outside Nagpur, at Amravati also, kidney transplantations started at Government Hospital.

In 2005 first cadaver kidney transplantation was done in Nagpur at Suretech hospital. The Team Members were Dr. Khetan, Dr. D. S. Ookalkar , Dr. Sameer Chaubey Dr. Anil Shrikhande, Dr. Kolte , Dr. Ridhorkar, Dr Rajurkar, Dr Shivaji Deshmukh and Dr Madhuri Wasule . Dr Vatsala Trivedi was the expert transplant surgeon from Mumbai. Donor was Jayesh Patil , a first year engineering student who had brain injury following road traffic accident .

जेथे दुःखाला सीमा नि करुणेला अंत नसतो!

पुत्रवियोगातही मातेचा धाडसी निर्णय : मुलाचे डोळे आणि किडनी दान करणार

आम्हाला अभिमान वाटतो

First deceased donor of Nagpur (before establishing ZTCC)

Both the recipients developed complications and did not survive. One recipient developed peritonitis and septicemia, other had pseudo-aneurysm at anstomotic site and had catastrophic bleeding.The death of both recipients in this first ever deceased donor transplant was a big set back and the enthusiasm slowed down . There was a gap of about 8 years for next cadaver transplant.

With the establishment of Zonal Transplant Coordination Centre (ZTCC) on 14th March 2012 in Nagpur, cadaver transplant program restarted. ZTCC is a quasi-government charitable non profit organization. It was registered with Charity Commissioner, Nagpur on 31st January 2013. Dr B G Waghmare was the first president of ZTCC and Dr Rajaram Powar was first honorary secretary.

Amit Singh
First deceased donor (after establishing ZTCC)

The first deceased donor after establishing ZTCC was Amit Singh, 18 years old male, whose both kidneys were transplanted at Wockhardt Hospital sucessfully, Nagpur on 4th and 5th April 2013.

The pace of organ transplantation was slow to begin with but it picked up in 2016. Few Non-transplant Organ Retrieval Centres (NTORC) were permitted to carry out organ retrieval for transplantation purpose. It got a momentum when NTORCs started and also as the liver transplantation started. Radiant and Zenith Hospital, Amravati are two such centers which retrieved kidneys and liver. In 2018, 19 livers were transplanted. Our zone not only transplanted organs in our region but it could provide heart, lungs, liver and also kidneys to other zones in the state of Maharashtra as well as out of state.

Urgent need was felt for organ transplantation in Government hospitals. This dream came true on 9th June 2016 when first kidney transplantation took place in Super-specialty Hospital, Nagpur.

First heart transplantation was done in New Era Hospital in 2019. Presently among solid organ transplants, Kidneys, liver, cornea and skin are regularly transplanted amongst different transplant centers in Vidarbha region. Heart and lungs are shared at regional, state or national level through Regional Organ and Tissue Transplant Organization (ROTTO), State Organ and Tissue Transplant Organization (SOTTO) or National Organ and Tissue Transplant

Organization (NOTTO).

The aim of ZTCC is that '*not a single organ should go waste in view of organ shortage*'. The ZTCC also keeps a record of the organs transplanted and their outcome on short and long term basis.

Table No. 1- Solid Organs retrieved in Nagpur Zone (Source-ZTCC)

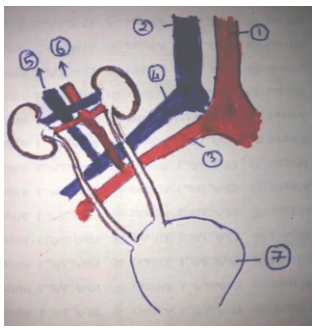
S.N.	Year	BSD Donors	Kidneys	Liver	Heart	Pair of Lungs	Cornea Pair	Skin
1	2013	1	2	0	0	0	0	0
2	2014	3	5	0	0	0	0	0
3	2015	4	7	0	0	0	0	0
4	2016	6	12	1	0	0	4 Pairs	1
5	2017	14	24	12	5	0	12 Pairs	5
6	2018	18	33	18	4	1	12 Pairs	2
7	2019 (June)	7	10	7	2	1	1 Pair	0
Since 6.7 Years		53	93	38	11	2	29 Pairs	8

Table No. 2- Kidneys Tx in Nagpur Zone & allocation by ZTCC/SOTTO/ROTTO

S.N.	Year	Kidneys retrieved	Kidneys Tx in Nag. zone	ZTCC-Mumbai
1	2013	2	2	0
2	2014	5	5	0
3	2015	7	7	0
4	2016	12	12	0
5	2017	24	22	2
6	2018	33	33	0
7	2019 (JULY)	10	10	0
	Since 7 Years	93	91	2

In year 2017, Two Kidneys from Sankalpa Chaudhari Hospital, Amravati were allocated to Jupiter Hospital, Thane & Hinduja Hospital, Mumbai.

Dual Kidney Transplant in 14-year old boy at Orange City Hospital, Nagpur was done from a deceased donor girl aged 6 years by team of Dr S J Acharya, Dr Suhas Salpekar , Dr Rohit Gupta in year 2018. Dr Nita Deshpande and Dr Smita Harkare were anesthesiologists.



Dual kidneys in pediatric transplant

The reason of implanting both kidneys in single patient from 6 years old girl to a 14 years old boy was done considering age of donor and recipient patients after much deliberation among nephrologists of the region and after expert inputs from senior nephrologists of the country.

Table No. 3- Liver Tx in Nagpur Zone & received from ZTCC/SOTTO

S.N.	Year	Liver Retrieved	Sent to ZTCC-Pune	Sent to ZTCC Mumbai	Sent to ZTCC A'bad	Liver Recieved	Liver TX in NGP
1	2016	1	0	1	0	0	0
2	2017	12	5	7	0	0	0
3	2018	18	0	0	1	2	19
4	2019 (JULY)	7	0	0	0	0	7
	Since 7 Years	38	5	8	1	2	26

In year 2018, Dual Organ (Liver + Kidney) Transplant was done in Nagpur Zone at New Era Hospital.

Total 4 Hearts had been allocated by NOTTO to ROTTO, Chennai and AIIMS- Delhi. Total 7 hearts had been allocated by ROTTO-SOTTO western Region.

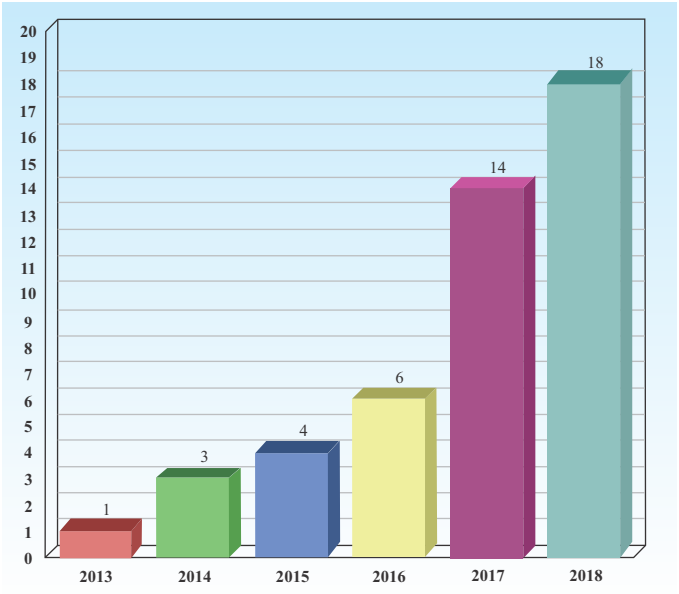
Table No. 4- Heart Tx in Nagpur Zone & received from ZTCC/SOTTO/NOTTO

S.N.	Year	Heart Retrived	Sent to ROTTO Chennai	AIIMS-Delhi	ZTCC-Mumbai	Received from ZTCC-Pune	Heart TX
1	2017	5	1	1	3	0	0
2	2018	4	2	0	2	0	0
3	2019 (JULY)	2	0	0	2	1	1
	Since 7 Years	11	3	1	7	1	1

Table No. 5- Lungs allocation ROTTO/SOTTO/NOTTO

S.N.	Year	Lungs Retrieved	ZTCC-Mumbai	Telangana
1	2018	1 Pair	1	0
2	2019 (JULY)	1 Pair	0	1
	Since 7 Years	2 Pairs	1	1

Dual Organ Heart & pair of lungs Transplant done at Fortis Hospital, Mulund.



Year-wise deceased donors in Vidarbha (Source – ZTCC, Nagpur)

Few important landmarks in organ transplantation in Vidarbha :

Year		Event
1990 Nov 27	:	First Kidney Transplant at Mure Memorial Hospital, Nagpur
1999	:	Kidney transplant restarted after HOTA 1994, at Suretech Hospital Nagpur
2000	:	First Kidney Transplant at JNMC, Sawangi, Wardha
2005	:	First deceased donor kidney transplant in Vidarbha at Suretech Hospital, Nagpur
2012	:	Establishment of ZTCC at Nagpur
2013	:	First successful deceased donor transplant at Wockhardt Hospital, Nagpur
2016 25th May	:	First Swap Transplant in Nagpur across religious barrier at Wockhardt Hospital, Nagpur
2016 June 09	:	First kidney transplant in Superspeciality Hospital, Nagpur
2017	:	First liver transplant at New Era Hospital, Nagpur
2018	: :	Dual kidney transplant in 14-year old boy at Orange City Hospital, Nagpur.
2018	:	Dual organ (liver + kidney) transplant done at New Era Hospital, Nagpur
2019 14th Feb.	:	Second Swap transplant in Nagpur at Suretech hospital (Blood groups A to O and O to A)
2019 Feb 15		First ABO incompatible (AB to B , wife to husband) transplant at Wockhardt Hospital, Nagpur
2019 June 7		First heart transplant at New Era Hospital, Nagpur
2020		Live liver transplant in 2020in COVID Period at New Era Hospital

Since the first kidney transplant at Mure Memorial Hospital, Nagpur on 27th Nov 1990, total number of Kidney Transplants stand to **761** till 31st July 2020.

Heart Transplantation in Vidarbha

First and only heart transplantation was done in Vidarbha on 7th June 2019 at New Era Hospital. The donor was 32 years old man admitted in KEM Hospital, Pune with brain hemorrhage. Heart was retrieved at 10.30 am at Pune and brought by commercial regular airline flight to reach Nagpur at 12.30 noon. By 1.10 pm, procedure of transplantation had started. The team consisted of Drs Anand Sancheti, Manoj Durairaj, Vivek Lanje, Shantanu Shastri, Prashant Dhumal, Mukesh Adheli, Sahil Bansal, Savita Jaiswal, Vijaya lanje and Cardiologist Dr Nidheesh Mishra. The recipient was 28 years old man suffering from cardiomyopathy.

Both Pune and Nagpur police played exceptional role in creating green corridor for transportation. Commissioner of Police, Nagpur, awarded the experienced ambulance driver for his swiftness and driving skills. However patient had acute rejection of the graft and died on 10th post- operative day (Personal communiqué with Dr Anand Sancheti).

Table No. 6 - Heart Transplantation in Vidarbha

S No	Hospital	No of Transplant
1	New Era Hospital	01

Fig. 1 Heart Transplant team at New Era Hospital

Table No.7- Kidney Transplantation in Vidarbha till 31st July 2020

S.No	Hospital	Live Donor Transplant	Deceased donor transplant	Total Transplants
1.	Mure Memorial Hospital	010	00	010
2.	Orange City Hospital	107	26	133
3.	Care Hospital	077	17	094
4.	Suretech Hospital	174	03	177
5.	New Era Hospital	005	13	018
6.	Alexis Hospital	000	01	001
7.	Meditrina Hospital	004	04	008
8.	Wockhardt Hospital	128	38	166
9.	Superspeciality Hospital	057	08	065
10.	Referral Hospital Amraoti	013	00	013
11.	Acharya Vinoba Bhave Rural Hospital, Sawangi	071	04	075
12.	Transplant done before ZTCC was formed. (Suretech Hospital)	000	01	001
	Total			761

Liver Transplantation in Vidarbha

First liver transplantation was done in New Era Hospital, Nagpur on 22.04.2018. This was a deceased donor transplant, recipient was 54-year-old lady from Delhi suffering from NASH related chronic liver disease. She had diabetes. The team consisted of Hepatobiliary surgeons Dr Rahul Saxena and Dr Somnath Chattopadhyay, helped by anesthesiologists Dr Sahil Bansal and Dr Savita Jaiswal. Since then, in Vidarbha region, 40 liver transplantations have been performed including 11 done last year.

Table No. 8 - Liver Transplantation in Vidarbha till 31st July 2020

S No	Hospital	No of liver Transplants
1	New Era Hospital	29
2	Alexis Hospital	08
3	Meditrina Hospital	02
4	Wockhardt Hospital	01
	Total	40

Between 31st July 2019 till 1st August 2020, 11 liver transplants were done, 2 live and 9 from deceased donor. This is part of above 40 liver transplants.

In order to cater to most patients awaiting organ transplant, we need to increase organ donation by increasing awareness about paired donation or domino transplant and also about organ donation following brain death which can be achieved by public awareness and removing many of the myths surrounding organ donations following death. There is also a need for awareness among medical professionals about organ donation and the urgency with which decisions have to be taken once brain death is suspected.

Maintenance of deceased donor is of utmost importance and challenging task for better quality of donated organs. Prevention of hypotension, dehydration, electrolyte imbalance, hypothermia, early identification and aggressive treatment of sepsis, care of respiratory tract, skin and eyes are all important. There is need for holding continuing medical education for physicians especially intensivists from time to time to update the recent advances in this front.

Table No. 9 - Solid Organ Transplantation performed from 1.08.19 till 31.07.20

S.No	Hospital	Kidney Transplants	Liver Transplants	Total SOT
1.	Orange City Hospital	6 (L2, D4)		6
2.	Care Hospital	2 (L1, D1)		2
3.	Suretech Hospital	4 (L4)		4
4.	New Era Hospital	7 (L2, D5)	8 (L1, D 7)	15
5.	Alexis Hospital	1 (D1)	3 (L1, D2)	4
6.	Meditrina Hospital	3 (D3)		3
7.	Wockhardt Hospital	8 (L4, D4)		8
8.	Superspeciality Hospital	12 (L9, D3)		12
9.	Referral Hospital Amraoti	4 (L4)		4
	Total	47	11	58

D- Deceased donor, L – Live donor

Once organs are retrieved, these must be harvested and transported properly at earliest to the transplant center for engraftment to prevent ischemic insult to the organ. Coordination with police officials is very crucial for creating green corridor for transportation of organs. Thanks to ZTCC which coordinated with police in creating green corridor for organ transport.

Many times relatives refuse to donate organs because they want body to be handed over to them at earliest for last rites. This is possible only after post mortem and police clearance. If the authorities can perform autopsy in the operation theatre itself following organ retrieval then the delays can be prevented. Or else, autopsy of organ donors should be done in priority keeping humanity in mind.

In our journey of kidney transplantation in Central India, some eminent surgeons from outside Nagpur have helped us in teething period. We express our heartfelt thanks to these surgeons namely Dr S S Joshi , Dr C S Thatte , Dr S Sahariah , Dr Umesh Oza , Dr Sabnis and Dr Ajay Oswal.

Dr. S. S. Joshi

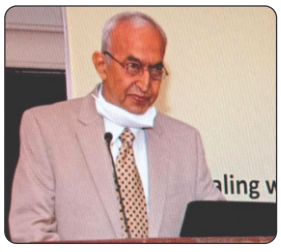
Dr. C. S. Thatte

Dr. S. Sahariah

Dr. Umesh Oza

Dr. Sabnis

Dr. Ajay Oswal



Dr Vijay Shrikhande

For his contribution to the cause of Nephro-urology in Central India, Dr Vijay Shrikhande was honoured with Life Time Achievement Award in 2016 by Nephrology and Urology Societies.


Dr. Sanjay Kolte


Dr. Rajesh Soni


Dr. Dhananjay Bokare


Dr. Suhas Salpekar


Dr. Vasudev Ridhorkar


Dr. Ravi Deshmukh


Dr. Anil Shrikhande


Dr. Swanand Choudhary


Dr. Surojit Hazra


Dr. Rohit Gupta


Dr. Sandeep Deshmukh


Dr. Jitendra Hazare

Surgeons of Nagpur involved in Organ Transplantation


Dr. Shailendra Mundhada

The first and only Tissue Typing and Cross match Laboratory, Dhruv Lab, was started by Dr Shailendra Mundhada in 2007, without whom, transplant program in Nagpur would have been in deep water. Dr Mundhada is trained from MD Anderson Cancer Centre.


Dr. Kaushik Chatterjee

Another very important addition to advanced technology in Nagpur is Nuclear Scan laboratory , at Rainbow Medinova, in which Dr Kaushik Chatterjee was the Chief of Nuclear Medicine Section. It helped in uro-nephro procedures and is very useful for transplant program.

Lot of transplant imaging were performed by Dr Raju Khandelwal and Dr Ghike during the initial few years of transplant.

Dr Shrikant Kothekar was singlehandedly doing conventional donor renal angiography for many years till CT angio came into vogue. He has also done many interventional radiology procedures for nephro-urology.


Dr Shrikant Kothekar

Central India Nephrology Society

In 1997, nephrologists in Nagpur region came together and started Central India Nephrology Society (CINS) with the aim of enhancing skills, spread knowledge and awareness and upgradation of nephrology services. Dr Mrs Harsha Salkar was the president and Dr Dhananjay Ookalkar was the honorary secretary.

Noted teacher and nephrologist Dr Vidya Acharya installed the first executive body headed by Dr Mrs Harsha Salkar. Dr S W Kulkarni, Dean of GMC, Nagpur and Dr Ashok Kripalani are also seen.

In 1997, annual conference of Indian Society of Nephrology, West Zone was held at Nagpur. Dr Chaubey was the patron, Dr Harsha Salkar, organizing chairman and Dr Shivnarayan J Acharya was the Organizing Secretary. Conference was inaugurated by Dr J C M Shastry, HOD Nephrology, CMC Vellore.

Dr JCM Shastry inaugurating ISN West Zone Conference. Dr K S Chugh , Dr Mohan Rajapurkar, Dr Harsha Salkar , Dr S J Acharya and Dr Satish Muley.

In 2005, ISN West Zone Annual Conference was again held. This time Organizing Chairman was Dr V L Gupta and Organizing Secretary was Dr Sameer Chaubey. Dr S J Acharya was Chairman Scientific Committee.

Dr Sameer Chaubey speaking at ISN, West Zone conference in 2005.

Dr Saglyker, Founder President, National Kidney Foundation, Turkey with Dr Vidya Acharya

Dr Vedprakash Mishra inaugurating Annual Conference of ISN WZ 2005

Central India Nephrology Society did some wonderful creditable works . It includes publication of few books helpful for meical practitioners , technicians and research workers. A manual of Medical Research Methodology was published by CINS written by Dr V L Gupta.

It was felt that we need properly trained dialysis technicians in Nagpur who should have a valid certification by RST Nagpur University. A certificate Course of Dialysis Technician Assistant course was started at Bhaiyaji Pandhripande college in collaboration with CINS. Every year about 25 students pass out after proper training and practical examination. A handbook of Dialysis for Technicians was published by CINS with contributions from member nephrologists and edited by Dr V L Gupta and Dr D S Ookalkar.

Another book entitled 'Essentials of Evidence Based Medicine ,Principles and Practice ', authored by Dr V L Gupta has been published in 2019 which will help the epidemiologists and the new researchers who wish to write scientific papers . This book is a compilation of literature

published on evidence based medicine and its evolution . Evidence based medicine is integration of best research evidence with clinical expertise and patient values.

Every year Dr B S Chaubey Oration is held since 2004. It was started during the lifetime of Dr B S Chaubey . Recipients of the oration are as follows -

2004 Dr Mohan Rajapurkar	2014 Dr Dilip Pahari
2005 Dr Ramesh Khanna	2015 Dr Vivek Jha
2006 Dr Vijay Kher	2016 Dr S Sahariah
2007 Dr Ashok Kirpalani	2017 Dr Georgi Abraham
2009 Dr M K Mani	2018 Dr Girish Narayan
2011 Dr A F Almeida	2019 Dr Kumud Mehta
2013 Dr R K Sharma	

Dr Ramesh Khanna delivering
Dr B S Chaubey Oration award in 2005.

Felicitation of Dr R K Sharma, recipient of Dr B S Chaubey Oration in 2013. This is possibly the last photograph of Dr (Mrs.) Harsha Salkar in our society function before she succumbed to Cancer.

In memory of our first president: Dr Mrs Harsha Salkar , Professional Excellence Award in Nephrology has been instituted by Dr Ramesh Salkar. First recipient was Dr V L Gupta, who delivered an oration on ' Obesity and Chronic Kidney Disease' . Dr S J Acharya was the second recipient of the award who spoke on 'Be fair to fair sex '. Dr Dhananjay Ookalkar was awarded the third Professional Excellence Award and delivered the oration on 'Kidney health for all'.

Dr Harsha Salkar Memorial Professional Excellence Award :

S.No	Year	Awardee	Topic of Oration
1	2017	Dr V L Gupta	Obesity and Chronic Kidney Disease
2	2018	Dr S J Acharya	Be fair to fair sex
3	2019	Dr D S Ookalkar	Kidney health for all

There are two social organizations which were started to help patients suffering from Kidney diseases and also to hold awareness programs.

Mr Vishwanath Pratap Singh, ex-prime Minister of India at inaugural function of Central India Kidney Foundation. Dr S Sahariah, T S Rawal, Salimbhai Chimthanawala and Dr S J Acharya are also seen.

Mr Devendra Fadnavis, Present Chief Minister, Maharashtra, inaugurating a session on Deceased Organ Donation in a program of CIKF.

Central India Kidney Foundation (CIKF) was started in 2000 when Mr Vishwanath Pratap Singh, ex-prime Minister of India inaugurated the function in presence of Dr Sahariah , doyen of transplant urosurgery in India.

Ashwini Kidney Trust was started by Dr D S Ookalkar with same objectives.

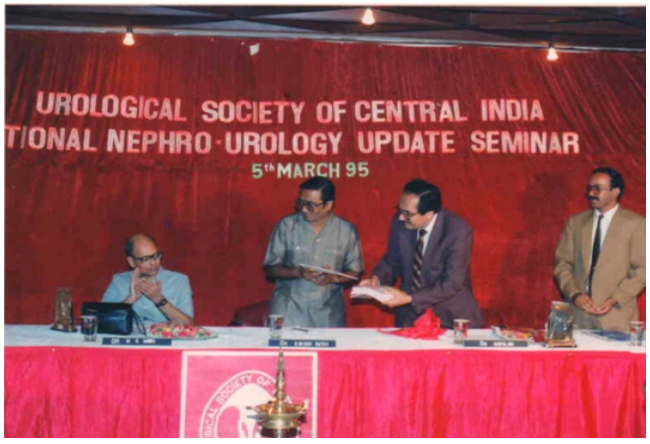
Cookery contest for patients by Ashwini Kidney Trust

Every year World Kidney Day is celebrated enthusiastically by CINS and CIKF. Many educational programs for physicians as well as for patients are held every year. Radio talks are broadcasted and articles in local news papers are also published. Nephrology society is involved in epidemiological studies on Chronic Kidney Disease of unknown etiology CKDu, which is thought to be prevalent in some parts of Vidarbha .

History of nephrology is incomplete without mention of milestones in the field of urology and transplant surgery.

Urological Society of Central India

Urological Society of India was formed by local urosurgeons with Dr Paldiwal as its first president and Dr Dinesh Rathi as secretary. One of the first activities was Nephro-urology update seminar organized on 5th March 1995. Dr M.K.Mani and Dr Ashok Kirpalani were the guests of honour. Dr S J Acharya was the convener. Dr B.S.Chaubey was felicitated on this occasion.



National Nephro-Urology Update Seminar held on 5th March 1995. Dr M K Mani, Dr Dinesh Rathi, Dr Ashok Kirpalani and Dr S J Acharya

In 1996, ESWL center was inaugurated by Dr Phadke , noted urosurgeon of Bombay Hospital. This was a combined effort of many urosurgeons coming together. Penile prosthetic surgery , buccal mucosal urrethroplasty , microsurgical four layer vasectomy reversal, vaso-epidymostomy are being routinely done. Radical retropubic prostatectomy for carcinoma prostate (Dr N Mohta) and supine access for percutaneous nephrolithotomy (Dr Kolte) are some historical urosurgical developments in Vidarbha.

Urological Society of India , annual conference was held on 2001 at Nagpur. Dr Purushottum Paldiwal was the Chairperson and Dr Narendra Mohta was organizing secretary. Dr Vijay Shrikhande was chairman , scientific committee.

Urological Society of India, Annual Conference

Dr. Narendra Mohta
Organising Secretary
USI, Annual
Conference 2001

Post-transplant ureteric re-implantation following ureteric stricture , uretero-ureterostomy with native ureter , nephrolithotomy of stones in transplant kidney , graft pyelo-ureterostomy with native ureter for PUJ obstruction of donor kidney and even native nephrectomy post transplant in view of recurrent pyelonephritis of native kidney are few difficult and skillful surgeries that have been carried out by our transplant surgeons. Angioplasty for post-transplant renal artery stenosis by interventional radiologist must also be mentioned here.

We recognize role of dedicated transplant anesthesiologists, histopathologists and sono-radiologists in our transplant program. The hospital authorities of various hospitals have also helped patients time and again with financial and logistic support. Central and state Governments, organisations

like WCL, MOIL and also charitable organizations have also helped patients financially.

There are few deficiencies and shortcomings in our region , which I am sure shall be overcome in due course of time. Few such lacunae are lack of transplant histo-pathologists, laboratories for drug level and high- end immunological laboratories.

Our limitations are only our imagination, otherwise sky is the limit.
We have started our journey, albeit slowly , but *slow and steady wins the race!* The race is for a healthy life of our patients suffering from kidney diseases.

Effect of COVID-19 on Organ Transplantation in Central India

The transplant program in Vidarbha had a major setback due to COVID-19 pandemic which affected transplant program all over the world. The COVID period in Nagpur started from the first *Janta* Curfew, i.e. Sunday 22nd March 2020 when the Prime Minister requested people to stay indoor voluntarily. Since then the transplant program came standstill except for one live liver transplant on 18th July 2020.

Why transplant activity has come to standstill in Vidarbha during COVID times?
Severe acute respiratory syndrome corona virus 2 (SARS-CoV-2), has very high infectivity and its mode of origin, vector, transmission, clinical course, treatment and outcome are still not clear. Patients suffering from organ failure like chronic kidney disease, liver failure, end stage lungs disease and end stage heart disease are often associated with diabetes, hypertension or other co-morbid conditions. They are more prone for complications of COVID 19 infection.

In view of its high infectivity and its unpredictable course, National Organ and Tissue Transplant Organization (NOTTO), Indian Society of Organ Transplantation (ISOT) and State Appropriate Authority, Government of Maharashtra have laid down specific protocols for dialysis and transplantation.[2,3,4]

In a transplant program, many personnel are involved besides the surgeons, anesthesiologists, nurses, para-medical staffs; other personnel involved include physiotherapists, perfusionist, blood bank and pathology personnel, nutritionists, liftmen, security personnel and even the staff who supply food. They all are exposed to the risks of exposure to virus and also they are likely the carriers of the virus themselves. As on today the state policy is not to check asymptomatic or unexposed individuals for corona infection.

If a transplant patient or the donor gets infected with Corona virus then the whole transplant program will be in jeopardy.

In view of lockdown affecting almost whole of India, road traffic accidents are less, so head injury cases and subsequently brain stem death cases are minimal, and hence less cases for deceased organ donation, which is in fact a welcome development!

The effect of Corona virus in a transplant patient is not known. However high mortality has been reported from few transplant centers resulting in suspension of the transplant surgery.[4] All the transplant patients start receiving immunosuppressive treatment a few days prior to transplant. Immunologically high-risk transplant recipients need drugs like anti-thymocyte globulin (ATG) or Rituximab which have a long-lasting effect on the patient's immune system. Such patients can easily catch infections and are prone for more hazardous course of the disease. [4,5]

The antimetabolites like azathioprine and mycophenolate have similar effects. Calcineurin inhibitors like tacrolimus or cyclosporine can induce new onset diabetes (NODT) through their effects on pancreatic beta cells. Hyperglycemia will also make these patients prone for infections.
Patients suffering from COVID -19 tend to have hyper-coagulation so the risk of thrombosis of graft is high. These patients also will have higher chance of developing deep venous thrombosis. Such patients should receive prophylactic anticoagulants.
The major complications of COVID-19 are due to cytokine storm, which is an immunologically mediated process. So immune-suppressants should actually ameliorate cytokine storm. In fact, steroids are indeed indicated for this syndrome with beneficial effects. However, mortality still remains high in spite of use of immune-suppressants, which is unacceptable. Considering the fact that alternative mode of treatment is available in the form of maintenance dialysis for patients with stage V CKD, transplant is better avoided unless the national guidelines are strictly followed.[2]

Those patients who cannot wait for delayed transplantation like acute liver failure or cardiac patients with very poor ejection fraction should be considered for transplantation in such a scenario with all precautions.

Acknowledgements:

I am thankful to ZTCC , Nagpur for providing relevant information. Thanks to Dr Mrs Dani , President , Dr Ravi Wankhede , Past Secretary ZTCC and Mrs Veena Wathode for providing relevant data. I am also thankful to Dr Sameer Chaubey , Dr Suryashree Pandey , Dr Manish Balwani and Dr Prakash Khetan for invaluable inputs.

References :

1. Shivnarayan J Acharya, Journey of Nephro-Urology in Vidarbha, Maharashtra, India; Journal of The Nephrology Society, Voume 1/No1/August 2019

2. Notification No. 1772725/2020/NOTTO-DGHS NOTTO NATIONAL TRANSPLANT SPECIFIC GUIDANCE FOR COVID-19, updated on 18th May 2020

3. Vivek Kute, Santosh Varughese et al; ISOT Transplant Specific Guidelines During Covid-19 Outbreak, issued on March 26, 2020.

4. Standard Operating procedure for doing transplants during the COVID 19 Pandemic, issued by The State Appropriate Authority, Government of Maharashtra, dated June 30, 2020

5. Boyarsky, B. J. et al. Early impact of COVID-19 on transplant center practices and policies in the United States. Am.J.Transplant. https://doi.org/10.1111/ajt.15915 (2020).

6. Kronbichler, A., Gauckler, P., Windpessl, M. et al. COVID-19: implications for immunosuppression in kidney disease and transplantation. Nat Rev Nephrol 16, 365–367 (2020).

Nephrology Education - Past, Present and Future

Dr M K Mani

When I joined the Madras Medical College in 1953, nephrology did not exist. Even the word nephrology had not been created at that time. Physicians used to treat patients with renal disease, but they didn't know much because they were not well informed about renal physiology. Those days, we had no steroids and only limited antibiotics; penicillin, streptomycin and chloromphenicol. Only diuretics available was mercury.

I remember that when I started practicing nephrology in Chennai as a specialist nephrology in 1970, I was called to Bombay to see a patient in Harkishandas Hospital. He had been treated by one of the senior physician there, he had renal failure with creatinine was about 2-2.5 mg/dl with serum sodium 126 Meq/l, and grossly edematous. The physician, on finding low sodium, went on giving him saline every day. The gentleman got more and more edematous and finally his physician thought that the patient needed dialysis. Since I was doing dialysis in Chennai, he called me all the way to Bombay and he said please take this patient for dialysis. But I thought this was just dilutional hyponatremia, so I asked to put patient on a salt free diet and restrict his liquid intake. Physician then told the family," I don't think this fellow knows anything about kidney disease. This man has got a serum sodium of 126 and he is asking to give salt free diet!". So they kept on for a few more days till the patient got worse and finally came to me. Of course he improved without dialysis.

A few studies were done about the transport capacity of the peritoneum as early as 1724 by a gentle man called Stephen Hales, he was actually a curate in one of the churches. Hales published about peritoneum characteristics in 1724. FIRST practical peritoneal dialysis was successfully done probably in 1936 in United States.

Kolff did first hemodialysis in 1943. Kolff was working in Holland during Nazi operation during World War II. He did hemodialysis for 15 patients, all these 15 patients died while on dialysis. The first really successful HD was done in 1945. Subsequently Kolff migrated to Salt Lake City in year 1970. I had spent a few days there. At that time there was an East German nephrologist called Horst Klinkman who was visiting that unit and he was put in charge of entertaining me since he had been there for a few months. He took me around, showed me the sights of Salt Lake City and then he cautioned me "If Kolff takes you for tea or coffee to the canteen, you will have to pay for yourself, he is a very stingy fellow, he doesn't pay for anyone else" and that's what happened. Kolff took me for coffee to the canteen at the end of which he expected me to pay. Luckily I had 25 cents change with me and I paid the amount. I am telling you this story particularly because I wanted to point out Kolff was a Dutchman, notoriously stingy. He invented the first practical workable artificial kidney, the dialyzer, the the twin coil artificial kidney and the machine. He refused to patent it, he said "I cannot make money out of the sufferings of people with kidney disease", so people who talk of him as being stingy are very wrong. This man, who could have made millions, just gave that away to the patients, so he was really an extremely generous man.

In 1950 percutaneous renal biopsy was developed. Transplantation you all know developed in 1954. The International Society of Nephrology was started in 1960.

Incidentally the word 'nephrology' came only in 1960. There was a lot of debate when they started the society as to what it should be called. There was a Renal Association in London for some time, so people said "You must have the name '*renal*' associated with it and they talked about *Renology*, but there was a lot of objection because *rinis* comes from Latin and *logy* or *logos* is Greek so they said this would be a bastard word, it will have half Latin and half Greek, so we should get a full Greek word and they got *Nephros* for

the kidney and *logos* for the science so we got the word *Nephrology* which was created in the English language for the first time in 1960.

So let's move to India now! The first successful human dialysis was done in June 1962 at the Christian medical college, Vellore, the next hospital was KEM in Bombay which started in 1963 and then PGI Chandigarh. Actually KEM could have started much earlier, they had the machine for more than a year but they wasted that one year in dialyzing unfortunate dogs which they put into renal failure and then they dialyzed them.

I was working in the Government service in Tamil Nadu in Stanley Medical College, I didn't get a Nephrology post in Stanley Medical College. I was in general medicine with a special interest in nephrology and all that I could do in Stanley was peritoneal dialysis because they would not give me an artificial kidney. Dr Malhotra in Delhi and Dr Vidya Acharya in the KEM Hospital in Bombay did general medicine as well as nephrology.

Dr Kripal Singh Chugh was exceptionally lucky, who is widely regarded as the senior most nephrologist of India and that is the fact that he's the first person who took up specialty nephrology in 1960s. The formal education, a DM in Nephrology started in Chandigarh in the year 1969 and the first DM graduate was Dr Amaresan from Madras and the other person who worked with him was an armed forces doctor who I think was Bhattacharya.

Christian Medical College of Vellore started DM course in 1974 and the National Board of Examinations started in 1975. Nowadays we have a certain way to decide whether a unit can teach nephrology or not, it has to be inspected by the national board of examination to check that everything is all right and then they grant you the recognition to start teaching. This is obviously necessary that somebody should inspect and see whether you have the facilities to teach or not.

As far as the education of Nephrology is concerned you know that MBBS education itself; you get anatomy taught by Anatomists, physiology taught by Physiologists. I think that the surgeons should teach anatomy and physicians should teach physiology because they are the ones who use that physiology. I believe that there are three subjects in medicine physiology, the science of the body and health, pathology the science of the disease and pharmacology is the bridge between the two. If you know pharmacology you will convert pathology into physiology, if you don't know pharmacology you will convert physiology into pathology. So the people who use them should teach these. I believe that the best thing would be for the nephrologist to teach all these subjects and he will know what exactly the candidate needs to know now in the early years of teaching nephrology.

For a lot of the development of libraries in India, we have to give the credit to Pakistan. There is a Sindh Institute of Urology and Transplantation in Karachi with Dr Ali Hasan Rizvi, a urologist who heads it. It is a magnificent institute. Every year he has a conference organized, predominantly urology, but he'll get some nephrologists, I was the one from India and Brenner was the other. We were only two nephrologists and we gave a number of lectures. Brenner chaired all my lectures and I chaired all his, so in the four days of the meeting we spent a lot of time together. Brenner then had a lot of clout with the International society of Nephrology and he got cheap versions of the books published for Asia. Today all reading materials are on the internet. Journal clubs are very good but in Journal club, everybody should read and should discuss. It should not be just one person who reads and comes and talks about it.

We should include discussion on ethical problemsin nephrology in view of huge ethical problems related to expenses and organ donation. Discussion is very important. I start every student rock bottom, I say this fellow knows nothing, is good for nothing, absolute zero so I tell them that my opinion of you is 'zero', so whatever you say it can only improve, you can't get worse than zero.

We really have nothing about selection of the teacher. A teacher should also have some quality, some ability to impart knowledge and keep his knowledge up-to-date. He should be reading the literature and should analyse all his experiences. A good teacher should maintain the records and show whether he is better or not than the general experience of that subject.

From examination point of view I think National Board is better than the DM examination because you've got a large number of candidates being assessed and examiners don't know the candidates. The current examiners tell me that they are actually asked to go out of the room when their candidate is being examined so there is no question of bias whereas in DM examination, the local teacher is also an examiner who may be keen on pushing his candidate.

I believe, you should also guide your candidates to do some research, it is very important that each one of us should contribute something to the knowledge of medicine on the basis of what we see. I always want my

postgraduates to do one retrospective study and one prospective study to get to know what is research, how you do it and then to go through the procedure of submitting it to a journal and getting it published.

Now what about the future teaching of Nephrology? I don't see much difference. But in practice, I do see greater tendency to do investigations that is unfortunate because investigation obviously add to the quality of your diagnosis but they also add to the cost. Every time you do an investigation, ask yourself the question 'what difference is this going to make to treatment of the patient' if not then don't add to his costs.

I believe that every nephrologist should be capable of starting dialysis from rinsing to post disconnection reuse of dialyzers. Each student should learn dialysis procedure.

There must be a regular teaching program in every unit. There should be clinical discussions of patients. In my unit in Apollo, we have one hour of clinical discussion in a week like a long case discussion, four-hour round where all the nephrologists get together and take part in the teaching sessions. Every day we have an hour which is devoted to journal club, discussion on radiology along with the radiologists or pathology slides along with the pathologist.

Every unit must form a structured mode of teaching and we should make sure that we have this teaching done, extract work from your candidates but you must give them teaching in return. Basically this is all that I have to tell you about the Nephrology education in this country past, present and a little bit into the future but I don't really see much great difference in the future between what it is now.

(This is an excerpt of the talk delivered by Dr M K Mani for ISN WZ annual conference 2020 . Thanks to Dr Sweety Pasari for her efforts to pen down this talk. The talk is available on you tube now.)

Dr. M.K. Mani in Nagpur interacting with Nephrology colleagues

Creating a future worth living.
For patients. Worldwide. Every day.

FRESENIUS
MEDICAL CARE

Fresenius Medical Care India Pvt. Ltd.
Regd. Office : S-21, Second Floor, Star City, District Centre, Mayur Palace, Mayur Vihar Phase-1, New Delhi- 110091
Tel.: +91 0124 6642 500 Fax.: +91 0124 6642 506
www.freseniusmedicalcare.asia email: Products.India@fmc-asia.com

Abstracts

we are committed to improve
Renal Care in India

With a legacy of 20 years, we are committed to improve Renal Care in India

Golden 50 years

WOCKHARDT | LIFE WINS

NEPHROLOGY

Committed to Excellence
12 Global manufacturing plants in India, USA & Ireland

Committed to Research & Development
578 research scientists exploring new-age technologies

WEPOX® Pen
Improved Compliance, Improved Efficacy

Darbotin
Stay Ahead...

WEPOX® 10K
The Specialist's EPO...

Mycoral-M
Potent, Safe & Prolongs Survival

Mycoral
Patient friendly Mycophenolate

Tacloran
Tacrolimus 0.5/1/2 mg Capsules
Winning Lives...

For more information contact us at: biotech@wockhardt.com

For the use of a Registered Medical Practitioner or Hospital or Laboratory only

Presentation: O-1

Chronic Kidney Disease of Unknown Origin in Supebeda, Chhattisgarh, India

Dr. Prawas Kumar Chowdhary[1], Dr. Vinay Rathore [2], Dr. Kamlesh Jain[3], Dr. Abhiruchi Galhotra [4], Dr. Nirmal Verma[3], Sanjeev Kale [1]

[1] **Department of Nephrology, Ram Krishna Care Hospital, Raipur;** [2] **Department of Nephrology, All India Institute of Medical Sciences, Raipur;** [3] **Department of Community Medicine, Pt. Jawaharlal Nehru Medical College, Raipur;** [4]**Department of Community and Family Medicine, All India Institute of Medical Sciences, Raipur**

Introduction:

Recent media reports have reported unusual number of the deaths due to kidney related disease in the village of Supebeda of Devobhog Block of District Gariyaband in the State of Chhattisgarh of India. Twelve patients from this village with renal dysfunction were referred to our centers (Ram Krishana Care Hospital, and All India Institute of Medical Sciences, Raipur) for evaluation and management. We present case series of these patients which may throw lights as to the cause of renal dysfunction in these patients

Case Series:

Out of 12 patients, eight (66.7%) were males. Their mean age was 49.9 ±14.2 year with an age range of 30-85year. Two (20%) of them had history of hypertension. Six (50%) had history of locally brewed alcohol consumption while seven (58.8%) had history of tobacco consumption (Either smoking or chewing). Family history revealed history of renal disease in the family. None of them had pedal edema. All patients were anemic with mean hemoglobin of 9.9±2.9. Three (25.0%) had stage V- CKD, three (25%) had stage IV CKD, while six (50%) had stage III CKD. Five (41.7%) patients had hypokalemia. None had hyperkalemia. Eight (66.6%) patients had hyperuricemia. Five patients (41.7%) had hypocalcemia while only two (16.7%) had hyperphosphatemia. Six patients (50%) had hypomagnesemia. Nine patients (90%) had metabolic acidosis. Liver transaminases were within normal limits in all patients. All patients had normal HbA1C level. Urine microscopy revealed bland sediments in all. The mean 24 -hour urinary protein excretion was 857.4± 630.0 mg/dl. Two patients underwent ultrasound guided percutaneous renal biopsy showed Interstitial fibrosis and tubular atrophy as the main features. Periglomerular fibrosis and ischemic changes were also seen in biopsy specimen. Toxicology evaluation was done by 24hrs urine collection using inductively coupled plasma mass spectrometry. Five patients had high chromium level, three had manganese and one has high nickel level. All of them have high fluoride level in their urine. One patient had features suggestive of skeletal fluorosis. Genetic testing was done is two patients by next generation sequencing. Though no significant genetic variant has been identified related to tubulointerstitial nephritis but additional variant defect in TTG gene was common in two patients.

Conclusion:

The recent media report of CKD in Supebeda is not associated with the traditional risk factors of CKD and fits into case definition of CKDu. Heat stress, heavy metals, agrochemicals, analgesic abuse, herbal medication, and genetics could be possible cause of CKDu in this village.

Presentation: O-2

A study of clinical profile of patients with Multiple myeloma and kidney disease in a tertiary care Centre in West India

Dr Abhijit Konnur, Dr Sandip Singhal, Dr Sishir Gang, Dr MM Rajapurkar, Dr Umapati Hegde, Dr Hardik Patel, Dr Mital Parikh, Dr Priyanka Srivastava, Dr Shailesh Soni, Dr B Mukhopadhyay, Mr Nitiraj Shete

Muljibhai Patel Urological Hospital, Nadiad

Introduction:

Kidney disease is a frequent presentation of patients with Multiple myeloma. There is scant data of clinical presentation of renal disease in patients with multiple myeloma in India.

Aim: A study of clinical profile and outcomes of patients with Multiple myeloma and kidney disease in a tertiary care center in West India.

Materials and methods: It is a retrospective, observational study of patients attending Muljibhai Patel Urological hospital, Nadiad, India from November 2017 till June 2020. All patients with clinical diagnosis of multiple myeloma based on bone marrow, renal histology and serological analysis and presence of kidney disease were included. Exclusion criteria: Patients without kidney disease or patients without multiple myeloma. Outcomes which were analyzed were death, ESRD status and history of chemotherapy.

Results: Of the 63 patients enrolled, average age was 61.53± 10.26 years, with 42 males and 21 females. The common symptoms were weakness, easy fatigability, bone pain/ backache. The presenting feature were oliguria in 15 (23.8 %), history of NSAID intake in 22 (34.9 %), hematuria in 5 (7.9%). 30(47.6%) patients gave history of hypertension or were on antihypertensive medication. On investigation ≤1 albumin/ globulin ratio was seen in 61 pts (73%), anemia (≤12 gm/dl) in (90 percentile) and hypercalcemia in 30 (47.6 %) Of the 55 patients who were available for telephonic follow up since onset of study, 24 (38.5%) had died, 16 (51%) were dialysis dependent and 41(74%) received chemotherapy.

Parameters	N	Mean ± SD
Age (years)	77	61.31 ± 10.05
Hb (gm%)	77	9.19±1.84
TLC (cells/mm3)	77	12912.33± 20512.53
Platelets (/mm 3)	77	323007.98±585890.98
Urine protein	76	2.06±1.76
Sr. Creatinine (mg/dl)	76	5.99±3.43
eGFR(EPI- ml/min/1.73m2)	76	13.87±12.65
Sr.Albumin (gm/dl)	75	3.33±0.72
Sr.Globulin (gm/dl)	75	4.86±1.95
A/G Ratio	75	0.80±0.35
Sr FLC Ratio	58	5.25±12.43
LDH	20	386.45±119.12
B2 Microglobulin	17	14240.05±6452.75
Bone marrow examination	20	MM
U.BJ Proteins	13	0.1538±0.37

Conclusion: Majority of patients with myeloma present in 6th decade with severe renal failure and reversed A:G ratio, with nearly half having hypercalcemia and anemia. Majority undergo chemotherapy but nearly half suffer from ESRD and 4 out of 10 die.

Presentation: O-3

From infection to immunity. Impact of COVID-19 infection across nine Hemodialysis Centres in Mumbai.

Dr. Deepa Usulumarty, Dr.Viswanath Billa, Dr. Jatin Kothari, Dr.Shrirang Bichu, Dr.Rajesh Kumar, Dr.Parag Tilve

Apex Kidney Care, Mumbai, India

Introduction: There are several studies of symptomatic hemodialysis patients with proven Covid-19 infection. However, there is paucity of data on asymptomatic Covid-19 infection in the outpatient hemodialysis population. The true prevalence and transmission of this infection in hemodialysis centers is unknown. This study was conducted across hemodialysis centers by testing all patients and staff for Covid-19 PCR and later for IgG antibody, irrespective of their symptoms.

Methods: All 705 hemodialysis patients and 103 dialysis staff across 9 centers, were tested for COVID-19 over a period of 54 days of the pandemic, and for COVD-19 IgG antibody of available enrolled staff and patients, after 8 weeks of study termination.

Results: The incidence of infection in patients and staff was 7.1% and 14.6% respectively. Mortality in patients was 18%, and all staff recovered. Clustering of patients and staff occurred at 3 of 9 centers. Of 26 HIV positive patients, only one contracted the COVID-19 infection and has recovered. Of those infected, seroconversion occurred in 80% of patients and 83% of staff. Seroconversion also occurred in 16% of patients and 37% of staff, who were asymptomatic and COVID PCR negative during the study period

Conclusion: Testing a patient only when symptomatic, identified only 26% (13/50) of infected patients. For every single symptomatic patient who tested positive, there were 3 other asymptomatic infected ones. There was a high seroconversion rates in infected subjects. But antibodies also developed in asymptomatic and previously PCR negative subjects, indicating silent transmission and antibody generation in this population.

Presentation: O-4

Clinical profile and short-term outcome of children with atypical hemolytic uremic syndrome

Dr. Jyoti Singhal, Dr. Jyoti Sharma

Pediatric Nephrology Service, Renal Unit, KEM Hospital, Pune

Objective: To study the clinical profile of children with atypical hemolytic uremic syndrome (aHUS) and determine factors associated with low eGFR on follow up.

Methods: Retrospective chart review of children (1-18 years) with aHUS managed at a tertiary care centre. Demographic details, clinical features, investigations at presentation and on follow up were noted. Details of treatment with respect to plasma therapy, use of immunosuppressive agents and renal replacement therapy were recorded.

Results: The mean age at presentation of the 26 children with aHUS was 80± 37.6 months and boys outnumbered girls (2:1). Vomiting was the most common symptom at presentation (57.6%). All children were hypertensive during the early phase of illness. Three children (11.5%) had a normal platelet count on presentation. Antifactor H antibodies were elevated in 84% (22/26). Plasma therapy was initiated for 25 patients, 17 received induction and maintenance immunosuppression and 18 children needed renal replacement therapy. The median duration to achieve hematological remission was 17 days and mean duration of hospital stay was 35 ± 18.8 days. On follow up, as compared to children with normal eGFR, those with CKD stage 2 or more had significant delay in initiation of plasma therapy and longer time to achieve hematological remission. The median duration of follow up was 27 months and prevalence of hypertension and proteinuria at last follow up was 68% and 31.8% respectively. Relapses were seen in 4 patients (16 %).

Conclusion: Antifactor H antibody associated HUS was the most common cause of aHUS. Delayed initiation of treatment and longer time to achieve hematological remission was associated with poor eGFR on follow up. Proteinuria and hypertension were long term sequelae.

Presentation: O-5

Steroid-Free Living Donor Kidney Transplants

Dr Prashant Rajput, Dr Hepal Vora, Dr Zaheer Virani, Dr Mita Shah, Dr Shruti Tapiawala, Hitesh Gulhane, Ishan

Parekh, Neil Saldanha, Saumya Vishnoi, Dr Bharat Shah

Global Hospital, Mumbai

Objective: Steroids are associated with many side effects. On the other hand, there is concern that Steroid free (SF) transplants are associated with a higher incidence of rejections. We undertook this study to see the outcomes of steroid free transplant in our select group of recipients.

Methods: Four hundred patients who underwent renal transplant between August 2013 to February 2020 were part of this retrospective analysis. Twenty-seven selected patients (low immunological risk, children in growth phase, elderly, diabetic) who did not receive steroids were analyzed in this study. Induction immunosuppression was used in 64.3 % (r-ATG or IL-2 receptor antagonist) and 35.7% did not receive any induction agent. Steroids were used for the first five days and then abruptly stopped. Maintenance immunosuppressive regimen consisted of Tacrolimus and Mycophenolate sodium or Azathioprine. All patients were followed for at least 6 months. Data was analyzed using descriptive statistics; mean and standard deviation (SD) for continuous variables and frequency and percentages for categorical variables.

Results: The mean age of the study population was 45.3 ±12.02 years (range 9-74 years) and 74% were males. Out of 96% who were hypertensive before the kidney transplant only 14.8% remained hypertensive post-transplant. Only 7.4% developed NODAT and only 3 (11.1%) had biopsy proven acute rejection, which was easily reversible with steroids. Infectious complications were low and seen in 14.8% patients. One elderly patient (75 years) died of sepsis with functioning graft

Conclusion: In carefully selected patients, steroid free transplantation is safe. It is associated with significant improvement in hypertension, decreased risk of NODAT and infectious complications and without increased risk of acute or chronic rejections.

Presentation: O-6

ABO incompatible transplant instead of HLA incompatible transplant

Dr. Shruti Tapiawala, Dr. Prashant Rajput, Dr. Zaheer Virani, Dr. Bharat Shah, Dr. Hepal Vora, Dr. Hitesh Gulhane, Dr. Ishan Parekh, Dr. Neil Saldanha, Dr. Saumya Vishnoi

Reliance Foundation Hospital and Global hospital, Mumbai

Objective: Preformed Donor Specific Antibodies (DSAs) lead to inferior allograft outcomes. ABO incompatible transplantation offers excellent long term and short-term outcomes. We present 4 cases where patients with DSAs underwent ABO incompatible transplant to get a donor with acceptable HLA mismatch.

Methods: Four sensitized patients (2 males and 2 females) with proven DSAs who were assigned a blood group mismatched donor through the sensitized organ recipient transplant registry (SORTER) were included. The desensitization protocol included Inj Rituxumab 200 mg at day minus 14 pre transplant and initiation of Mycophenolate Mofetil (MMF) 2 gm/day, Prednisolone (PSN) 20 mg/day, and Tacrolimus (TAC) to maintain a trough level of 8-10 ng/ml. Plasma exchange and replacement with donor blood group plasma was performed in all the patients to target Anti blood group antibody titer (ABGAT) of 1:8. The induction immunosuppression was bacillixumab in all except the patient who was highly sensitized where 2.5 mg/kg Anti Thymocyte Globulin was used. The maintenance immunosuppression was MMF/TAC and PSN. None of the patients required plasmapheresis post-transplant and no episodes of rejections have been encountered in these patients till last follow up.

Sr No	Age/ Sex	Recipient Blood group	Donor Blood group	ABGAT (IgG)	PRA Cl-I (%)	PRA Cl-II (%)	Date of Tx	Last serum creat (mg/dl)
1	53/F	O+ve	A +ve	1 in 1024	80	0	05-08-2018	1
2	51/M	O+ve	AB+ve	Anti A-1 in 1024, Anti B-1 in 512	0	40	03-02-2020	1.4
3	36/F	O+ve	B +ve	1 in 32	0	10	05-07-2018	0.9
4	26/M	O+ve	A +ve	1 in 512	10	0	07-05-2019	1.6

Conclusion: ABO incompatible transplant is a preferred option for sensitized patients with HLA antibodies to ABO compatible donors.

Presentation: O-7

Clinical profile and outcome of End stage renal disease patients with SARS COV2 infection in a tertiary care center in Mumbai, India

Dr. Shakir Ahmad, Dr. Smriti Sinha, Dr Salman Ali Sayed, Dr. Jyoti Bansode, Dr. Rudramani Swami, Dr. Nischal Godha, Dr. Kalpana Mehta.

T.N.Medical & BYL Nair Ch Hospital, Mumbai

Introduction:

CKD5D is a high-risk subgroup with high comorbidity burden, need for frequent visits to dialysis center and a compromised immune system. The effect of SARS COV2 virus on this population is unknown.

Methods:

This prospective study enrolled, all CKD5D with COVID 19 infection, admitted to our hospital, from 23rd April to 30th June 2020 & whose outcome as discharge /mortality was known. Their clinical profile, investigations, treatment history and outcome in terms of mortality or discharge after turning SARS- COV- 2 RT PCR negative was noted and analyzed.

Results: Total 203 CKD5D with COVID 19 were referred to

our institute. Of these totals, 138 were analyzed. Median age was 50 years (19-80) with 57% males. Hypertension (77%) was the commonest comorbidity followed by diabetes (30%) and coronary artery disease (21%). Dyspnea, fever and cough were present in 51%, 41%, and 33% respectively. 25% were asymptomatic. None had dialyser clotting. Mortality was 21.73%. Time to turn RT PCR negative was 13days (3-40days). Comparing deceased Vs Survivors: Age [56 Vs 49 yrs], diabetes [53% Vs 23%], fever [60% Vs 36%], Dyspnea [83% Vs 41.6%] and encephalopathy [23% Vs 1%] at admission and high leucocyte count [10977± 5654 Vs 6994± 2948/cmm] were statistically significant variables associated with mortality.

Conclusion:

Asymptomatic group was 25 % of the total CKD5D with COVID 19 infection population. Mortality was 21.73% mortality. Higher age, diabetes, dyspnea, fever & encephalopathy at presentation & higher leukocyte counts were significantly associated with mortality.

Presentation: O-8

Cumulative fluid balance and mortality in critically ill AKI patients requiring RRT

Dr. Rakesh Patil, Dr. Vipul Chakurkar, Dr. Valentine Lobo

KEM Hospital, Pune

Introduction: Though higher cumulative fluid balance (FB) is associated with mortality, very few studies have reported that achieving negative FB while on renal replacement therapy (RRT) improves mortality.

Methods: In this study, 50 consecutive critically-ill adult patients with AKI requiring RRT were included. Baseline demographic parameters, cumulative FB were noted at the initiation of RRT & daily thereafter. Associations of day0 & day3 FB with 30-day mortality were tested in univariate and multivariate analyses.

Results: Fifty patients (32 men) of median age 59 years were included. Twenty-one had DM, 10 had IHD while CKD disease was known in 15. Mean APACHE-II score at initiation of RRT was 26 (±6.7), mean SOFA score was 9.9 (±3.6) and 27 had sepsis. Day-0 FB at was not significantly different between survivors compared to non-survivors [(335ml vs 1487ml) p=0.42]. The negative FB on day3 was noted among survivors while non-survivors had positive FB [(-22.8 vs +50.47ml/kg) p=0.047]. On multivariate logistic regression analysis, positive FB at day3 and was significantly associated with a higher mortality [OR=1.0031 (95% CI: 1.0006-1.0056); p= 0.015] and so did the presence of DM [OR=9.5(95% CI: 1.50-60.09); p=0.016]. But neither day-0 nor day-3 FB affected 30-day mortality in multiple regression analysis (considering age, gender, diabetes, CKD, sepsis and APACHE-II score). Achievement of negative FB by RRT after 3 days significantly improved outcome with respect to 30-day mortality.

Conclusion: In this study, negative FB on day3 after RRT did affect outcome with improved 30day mortality in AKI patients. A larger study with sufficient number of patients would be required.

Presentation: O-9

Study of acute kidney injury with COVID-19

Dr. Mohit Mahajan, Dr. Naresh Pahwa, Dr. Rubina Vohra,bDr. Shraddha Goswami, Dr. Shweta Mogra, Dr. Vijay Malviya, Dr. Vishnu Shankar Shukla

Sri Aurobindo Institute of Medical Sciences, Indore

Objective: To study the clinical spectrum of AKI in COVID 19 patients. Data was analyzed according to demographic, clinical and biochemical parameters.

Method: We studied 40 COVID- 19 cases with AKI, admitted in SAMC&PGI, Indore from April 1 to July 10, 2020.We included COVID 19 patients above 18 year of age, confirmed by RT PCR. Standard definition for sepsis was used. KDIGO criteria for AKI was followed. Patients with CKD and age less than 18-year were excluded.

Result: 2543 COVID patients were admitted during this period. The incidence of AKI was 1.5% (40). The mean age was 52.1 years. Male female ratio was 1:1. Commonest symptoms were fever and cough in 78% (31) followed by breathlessness in 22% (9) patients. On presentation the average creatinine was 3.97mg/dl. 25% (10) patients had oliguric AKI and 23% (9) had non-oliguric AKI. AKI stage 1 was seen in 30% (13), stage 2 in 45% (18) and stage 3 in 25% (9) cases. Most common etiology was Sepsis 50% (20), PRAKI and Drugs in 7.5 % (3). T2DM was the most common comorbidity in 67.5% (27), HTN in 57.5% (22), bronchial asthma in 5 % (2), malignancy and CAD in 2.5 % (1) patients. Oxygen was required in 67% (27), BIPAP in 12.5 % (5) and ventilatory support in 5% (2) patients. The average hospitalization was 11 days. Dialysis was required in 20% (8) patients. 85% (34) patients recovered completely and 7.5 % (3) expired.

Conclusion: In COVID 19 patients elderly age, male sex and T2DM was commonly risk factor with AKI and patient requiring BIPAP or ventilatory support had increased mortality.

Presentation: O-10

A randomized control trial of rituximab vs modified ponticelli regimen in the treatment of primary membranous nephropathy - a pilot study.

Dr. Sandhya Suresh, Dr. Abhijit Konnur, Dr. Umapati Hegde, Dr. Sishir Gang, Dr. Hardik Patel, Dr. Mohan Rajapurkar

Muljibhai Patel Urological Hospital, Nadiad, Gujarat

Background: Membranous nephropathy (MN) is one of the most common causes of nephrotic syndrome in adults. The modified Ponticelli regimen with cyclical steroids and cyclophosphomide is used as first-line therapy for primary

MN (PMN) but is associated with several adverse effects. B-cell targeted therapy with rituximab has emerged as a newer option for treatment but it has not been compared in head-to-head trials against the first-line regimen. This study was conducted to assess whether rituximab is non-inferior to modified Ponticelli regimen in PMN.

Methods: This pilot randomized controlled trial (RCT) was done to assess the efficacy and safety profile of a low-dose protocol of rituximab against the modified Ponticelli regimen. We randomly assigned 52 patients with PMN with nephrotic syndrome and indication for immunosuppressive therapy to receive either rituximab at a dose of 500mg given 15 days apart or the modified Ponticelli regimen. B-cell depletion by this dose of rituximab was confirmed by CD19+ve B-cell counts at 1 and 6 months. The primary outcome was composite remission, either complete or partial, at 6 months.

Results: At 6 months, 14 out of the 26 patients (53.8%) in the rituximab group and 12 out of the 26 patients (46.1%) in the modified Ponticelli regimen group had achieved partial or complete regimen (Risk difference RD 7.6%, 95% confidence interval CI = -19.4 - 34.1, P = 0.578). The lower limit of CI crossed the -15% non-inferiority cut-off but sample size was limited in this study. Among the patients who had reached follow-up at 12 months, the remission rate was 55% in the rituximab arm and 68.75% in the modified Ponticelli arm (Risk difference -13.75%, 95% CI = -45.2 to 17.7). Adverse events (P = 0.008) and serious adverse events rate (P = 0.042) were significantly greater in the modified Ponticelli arm with leucopenia, infections and steroid induced hyperglycemia being more common. CD19+ve B –cell was suppressed by 1 month in all patients at this rituximab dose but 64% had recovery by 6 months. There was no difference in remission rates according to the CD19+ve B-cell count at 6 months.

Conclusion: Although the study was unable to demonstrate non-inferiority of rituximab to the modified Ponticelli regimen in inducing remission at 6 months in PMN, it was able to show similar efficacy of rituximab over a short-term follow-up with significantly fewer adverse events.

Presentation: O-11

Spectrum of COVID-19 infection in patients with renal diseases.

Dr. Sachin Nikam, Dr. Hardik Shah, Dr. Ravi Brahmbhatt, Dr. Appu Jose, Dr. Durga Deorukhkar, Dr. Parag Tilve, Dr. Dilip Kirpalani, Dr. Vishwanath Billa, Dr. Shrirang Bichu, Dr. Ashok Kirpalani

Bombay Hospital Institute of Medical Sciences, Mumbai.

Objective: To describe the clinical spectrum, risk factors, course and outcomes unique to SARS-COV infection in renal patients.

Methods: Data from COVID inpatients referred to Nephrology was collected and categorized in 4 groups : Acute Kidney Injury (AKI), Chronic Kidney Disease (CKD) Stages I-IV, Maintenance Hemodialysis (MHD) and Transplant (Tx).

Results: 157 pts. (Tx-16, MHD-23, CKD Stage I-IV -19, AKI -99) were included. Mean age: 66.1 $\pm$ 8.2 years,68 % males ,51 % diabetics; 13.5 % on RAS blockers. Fever (89%) and dyspnea (78%) were most common. MHD and AKI group had higher inflammatory markers (CRP - 129/126 mg/L; LDH - 536 /687 mU/ml; IL6 - 172/269 pg/ml, Ferritin – 4746 /1693 ng/ml respectively) as compared to Tx and CKD. K >5.5 mEq/l and hyperglycemia were significantly more in MHD (74% /35 %) and CKD (38 % / 73 %) as compared to AKI (38%/21%) and Tx (18%/25%). HCQS usage was higher in CKD (47%) and AKI (39%), Favipiravir in Tx (44%) and AKI (48%) and Lopinavir/ Ritonavir in MHD (30%). Use of Tocilizumab was highest in MHD (17 %) and Remdesvir in AKI (21%). Dialysis required in 37 % CKD and 16 % AKI pts. Mechanical Ventilator required in 6% Tx, 35 % MHD,42 % CKD and 55 % AKI. Mortality rate was 6 % in Tx, 35 % in MHD, 42 % in CKD and 51 % in AKI pts. Mechanical ventilation, CRP, D-Dimer, LDH and IL6 levels correlated significantly with mortality (r= 0.99,0.91,0.89 ,0.85 and 0.71 respectively).

Conclusion: Transplant patients showed better outcomes than other subgroups. Patients with AKI, CKD and MHD had worse outcome when they had high levels of inflammatory markers with need for mechanical ventilation

Presentation: O-12

Acute kidney injury in COVID 19 positive patients

Dr. Jyoti Bansode, Dr Salman Ali Sayed, Dr Shakir Ahmed, Dr. Smriti Sinha, Dr. Rudramani Swami, Dr. Kalpana Mehta.

T.N. Medical College & BYL Nair Ch Hospital, Mumbai

Introduction: AKI can be severe complication of COVID 19 infection. Clinical data, Laboratory investigations & outcome of this group are crucial to understand the disease.

Methods: COVID 19 patients [RT PCR positive] with AKI, from 1st June to 15th July 2020 were enrolled prospectively. Their clinical profile, investigations, treatment details, and outcome [mortality or discharge/recovery] were analyzed. Only those with known outcome were enrolled.

Results: AKI was noted in 87 patients. The cohort included 55 of 87 AKI. It comprised 37 (67.27%) males with median

age of 64 years (range 26-91). Common morbidities noted were DM [n=36] & Hypertension [n = 34]. AKI was noted in 41 while AKI on CKD in 14 patients. Breathlessness, fever and cough were present in 91%, 80%, and 54.5% respectively. ARDS was mild in 10, moderate in 9, severe in 26 patients. AKI was AKIN stage I in 11(20%), stage II in 6 (10.9%) & stage III in 38(69%). Proteinuria and hematuria were present in 60% and 34.54% respectively. Bacteremia was documented in 7. RRT was required in 43.63% patients. Mortality was 51%. Amongst survivors, renal function recovery was complete in 19(70.37%), partial in 07(25.93%) while 1(3.7%) is on dialysis. Tachycardia, Hypotension, need of ionotropic support, severe ARDS, lymphopenia, high blood sugar levels on admission & raised inflammatory markers were associated with high mortality rate & reached statistical significance.

Conclusion: Mortality in AKI with COVID 19 was 51%. AKI is an independent risk factor for disease severity and mortality in COVID 19.

Presentation: O-13

Clinical profile and short-term outcome of primary vesicoureteric reflux in children.

Dr. Fadnis Madhura, Dr. Singhal Jyoti, Dr. Sharma Jyoti

Pediatric Nephrology Service, Renal unit, KEM hospital, Pune, India.

Objectives: Primary: To study the clinical characteristics and short-term outcome of children diagnosed with primary vesicoureteric reflux (VUR). Secondary (1) To estimate the prevalence of associated renal scarring (2) Whether there is a difference in presentation or severity of illness between boys and girls, those with dilating and non dilating reflux and presence or absence of antenatal hydronephrosis (ANH).

Methods: Retrospective chart review of children diagnosed with primary VUR at the pediatric nephrology service at a tertiary care centre. The details noted were demographic profile, presenting complaints, grade of VUR, renal scarring and CKD stage at last follow up. Each kidney and ureter were considered as one unit respectively.

Results: Of 68 patients, boys outnumbered girls (M: F=1.5:1). The median age at diagnosis of VUR was 8 months. UTI as the presenting complaint was observed in 86% of patients. Of the total 104 refluxing units 80% were dilating units and 20% were non-dilating units. The prevalence of renal scarring at presentation was 60% and was significantly higher in those with dilating reflux and UTI at presentation ($P<0.05$). Dilating reflux, renal scarring and presence of antenatal hydronephrosis were significantly higher among boys. Children with an antenatal diagnosis of hydronephrosis had a higher prevalence of dilating reflux and UTI at presentation. Resolution of reflux was seen in 57% (19/33) of the patients at a median age of 48 months.

Conclusion: Primary VUR most commonly presents with UTI. Dilating reflux was most likely to be identified on antenatal ultrasonography, was more common in boys and more likely to be associated with scarring.

Presentation: O-14

A Comparative Study between Ambulatory and Automated Office BP Measurement in Non-Dialysis Chronic Kidney Disease Patients

Dr. Nikhil Elenjickal, Dr. Alan Almeida, Dr. Jatin Kothari, Dr. Rasika Sirsat, Dr.Chaitanya Kulkarni

P.D. Hinduja Hospital and Medical Research Centre, Mahim, Mumbai

Background: Hypertension is a common problem in patients with CKD. Traditional clinic BP measured using a sphygmomanometer is inconsistent and riddled with errors. This study was designed to assess if AOBP (Automated Office BP) measurements could be a suitable alternative to the gold standard ABPM, as standard of care for clinic BP measurement in CKD patients.

Aims and Objectives: 1) To compare the BP measurements obtained using Sphygmomanometer, AOBP and ABPM 2) To diagnose hypertension/poorly controlled BP in non-dialysis chronic kidney disease patients. The secondary objectives of the study were to identify white coat, masked and manifest hypertension.

Methods: One hundred patients, drawn from the outpatient clinic and who satisfactorily completed all assessments, were enrolled in the study. BP was measured using a sphygmomanometer, AOBP and thereafter a 24-hour ABPM.

Results: Mean age of the patients was 55.7 ± 14.2 years. Mean eGFR was 29.0±19.6 ml/min/1.73m^2. Mean sphygmomanometer systolic BP (168.2 ± 19.2 mmHg) overestimated the average ABPM systolic (147.4 ± 16.6 mmHg) while Mean AOBP systolic BP (157.4 ± 19.8) compared well with the average ABPM. The sensitivity and specificity of AOBP to diagnose hypertension was 95.7% and 83.3% respectively. White coat hypertension and sustained hypertension were seen in 23% and 71% patients respectively.

Conclusion: AOBP compared well with ABPM measurements in identifying hypertension and its control. The present study supports the use of AOBP for the measurement of BP and for monitoring antihypertensive therapy in CKD patients in the clinic.

Presentation: O-15

Parvovirus disease post transplant presenting as refractory anemia - Single centre experience

Dr Ankur Mittal[1], Dr Umapati Hegde[2], Dr M.M. Rajapurkar[2], Dr Sishir Gang[2], Dr Abhijit Konnur[2], Dr Hardik Patel[2], Dr Abhishek Kadam[1] [1] Nephrology Resident,

[2]Consultant, Department of Nephrology
Muljibhai Patel Society for research in NephroUrology, Nadiad, Gujarat

Background : Transplant patients are susceptible to a wide range of infections, one of which includes Parvovirus B19, usually presenting in first year of the post transplant period, associated with anemia and non specific signs and symptoms. Parvovirus infection increases morbidity, and also chance of graft dysfunction.

Methods: All renal transplant recipients, transplanted from 2013 to 2020, having persistent anemia were evaluated and after ruling out usual causes of anemia such as bleeding, iron deficiency, B12 deficiency and if present correcting the same, If the anemia persisted, in these patients we looked for Parvovirus infection by polymerase chain reaction (PCR) and bone marrow examination(BME) was done in 8 patients. We looked at the epidemiology, clinical spectrum and outcome of patients with post transplant PVB19 infection.

Results: Out of 71 patients tested for Parvovirus, 19 were PCR positive. 1 patient with PCR negative, bone marrow showed mega proeukaryotes and virus inclusions. These 20 renal transplant recipients (PCR +/ Bone marrow+) were diagnosed as Parvovirus disease. The median time to onset of PVB19 disease was 39 days post transplantation. Clinical presentation in those with Parvovirus disease include fever, generalized weakness; dyspnea and myalgia in 50%, 75%, 25% and 40% respectively. Mean Hemoglobin was 6.49 ± 1 gm%. Leucopenia and thrombocytopenia were present in 20%, and 10% of patients, respectively. Allograft rejection was seen in 9 patients, 5 were preceded by PVB19 infection. Graft dysfunction was observed at the time of PVB19 disease in 10 Patients. Hypo cellular marrow was seen in 87.5% of patients who underwent BME. Reduction in Immunosuppressant therapy was the most commonly used modality of treatment. IVIG, Packed cell transfusion and Erythropoietin therapy were also used. Two patients had their graft loss, 1 patient had recurrence of primary disease and 1 had non recovering graft rejection.

Conclusion: Parvovirus B19 is a rare but clinically significant cause of refractory anemia during the early post-transplantation. PCR/ BME needed for the diagnosis and reduction in immunosuppressant in particular antiproliferative agent is the mainstay of treatment.

Presentation: O-16

To compare the effect of standard bicarbonate dialysate vs bicarbonate profiling on pre-dialysis potassium level in maintenance hemodialysis patients.

Dr Dilip Jadhav[1], Dr Rasika Sirsat[2], Dr Alan Alemida[2], Dr Jatin Kothari[2]

[1]DNB student [2]Consultant Nephrology Department of Nephrology
P.D. Hinduja National Hospital and Medical Research Centre, Mumbai, India

Objectives: Primary objective- to compare the effect of standard bicarbonate dialysate vs bicarbonate profiling on pre-dialysis potassium level in maintenance hemodialysis patients. Secondary objective- 1) To study the impact of bicarbonate profiling on TCO_2 2) To study the impact of bicarbonate profiling on IDWG and intradialytic hypotension.

Materials and methods: It is a non-blinded randomized crossover study.

Inclusion criteria: ESRD patients on thrice a week MHD who were clinically stable and have started HD, 3 months prior to inclusion in the study.

Exclusion criteria: clinically unstable patients, requiring hospitalization in the past three months.

42 ESRD patients were subjected to either treatment A (HD with standard dialysate bicarbonate concentration i.e. 36 mmol/l) or treatment B (HD with varying dialysate bicarbonate- 28mmol/l for first hour, 34 mmol/l for second hour and 40 mmol/l for third hour). Each treatment was given for 4 weeks and then patients were crossed over to the other treatment with washout period of 15 days in between. Each patient was tested for pre-dialysis potassium and TCO_2 (samples were collected at baseline and for 4 weeks in each treatment arm)Δ pre-dialysis potassium and TCO_2 (baseline to each week) and average of four weeks values of pre-dialysis potassium and TCO_2 were compared in treatment A vs treatment B.

Results:

Table1: Comparison of average pre-dialysis potassium

Parameter (n=41)	Average of 1st week to 4th week pre-dialysis potassium in mEq/l			
	Mean ± SD	Median (IQR)	Range	P value Unpaired t test
Standard dialysate bicarbonate	5.3361±0.5909	5.42(0.50)	3.68 – 6.73	0.8158
Bicarbonate profiling	5.3688±0.6725	5.38(0.7725)	3.70 – 6.80	

Table 2: Comparison of average pre-dialysis TCO_2

Parameter (n=41)	Average of 1st week to 4th week TCO_2 in mEq/l			
	Mean ± SD	Median (IQR)	Range	P value Unpaired t test
Standard dialysate bicarbonate	23.0543±2.2187	23.25(2.782)	19.55 – 30.90	0.4056
Bicarbonate profiling	22.6616±2.0297	22.525(3.0688)	18.875 – 27.225	

Mean IDWG in standard dialysate bicarbonate arm was 2.3176 kg +/- 1.0234 and in bicarbonate profiling arm, it was 2.3400 kg +/- 1.0409 with p value of 0.922, which was not significant. There were only 2 episodes of intradialytic hypotension that too only in standard dialysate bicarbonate arm and no episodes of intradialytic hypotension in bicarbonate profiling arm.

Conclusion: 1.The effect of bicarbonate profiling on pre-dialysis potassium was same as standard dialysate bicarbonate arm, with no added benefit in maintenance haemodialysis patients. 2.The effect of bicarbonate profiling on pre-dialysis TCO_2 was same as standard dialysate bicarbonate arm, with no added benefit in maintenance haemodialysis patients 3. IDWG and episodes of intradialytic hypotension does not vary significantly with bicarbonate profiling as compared to standard dialysate bicarbonate.

Presentation: O-17

Role of Inositol hexanicotinate as a phosphate lowering agent compared to sevelamer carbonate in CKD patients not on dialysis.

Dr. Rashmi Algeri, Dr. Chaitanya Kulkarni, Dr. Alan Almeida, Dr. Rasika Sirsat, Dr. Jatin Kothari

P.D. Hinduja hospital & Research Center, Mumbai.

Objective: To assess the efficacy and safety of Inositol Hexanicotinate (IHN) compared to Sevelamer carbonate (SC) in lowering phosphorus level in non dialysis CKD patients.

Materials and methods: We randomized 100 non dialysis CKD Stage 3-5 patients with eGFR<60ml/min/1.73m2 (mean eGFR- 17.74 ml/min) into two groups from October 2019 to March 2020. One group received SC while the other received IHN for 3 months with escalation of doses of IHN and SC as tolerated after 2 weeks. Efficacy parameters like phosphorus, parathormone, cholesterol and safety parameters like liver function tests and uric acid along with adverse event profile of both groups were compared before and after the study.

Results: SC group showed significant reduction in phosphorus ($p< 0.0001$) and PTH($p<0.0001$), whereas no significant reduction was seen in IHN group for phosphorus($p<0.37$) and PTH($p<0.33$). Both groups did not show significant reduction in total and low-density lipoprotein cholesterol. When compared with each other, SC group showed significant lowering effect on both phosphorus($p<0.0001$) and PTH($p<0.008$) than IHN. Safety parameters like uric acid and liver enzymes were comparable in both groups. Both drugs were well tolerated with an acceptable side effect profile

Conclusion: IHN is safe but not effective in controlling hyperphosphatemia whereas SC is effective in reducing serum phosphorus in non dialysis CKD patients.

Limitation: Short duration of follow up.

Presentation: O-18

Efficacy of sodium glucose co transporter-2 inhibitors in diabetic patients in retarding the progression of chronic kidney disease.

Dr. Neil Saldanha, Dr. Mita Shah, Dr. Hepal Vora, Dr. Zaheer Virani, Dr. Prashant Rajput, Dr. Shruti Tapiawala, Dr. Hitesh Gulhane, Dr. Ishan Parekh, Dr. Saumya Vishnoi, Dr. Bharat Shah.

Institute of Renal Sciences, Global Hospital, Parel, Mumbai.

Objective: To study the renoprotective effects of sodium - glucose co transporter-2 inhibitors in diabetic kidney disease.

Methods: This prospective study included 102 diabetic kidney disease patients. Patients with an estimated creatinine clearance of ≤ 30 milliliter mL/minute were excluded. Fifty-two patients received SGLT2i and 50 patients did not receive SGLT2i. Patients were followed up for at least 12 months. BMI, blood pressure, HbA1c, Urine protein to creatinine ratio (UPCR) and rate of decline of the estimated creatinine clearance were compared between the two groups.

Results: The two groups were comparable in terms of age, sex, duration of diabetes, hypertension and degree of renal impairment. There was a significant reduction in BMI in SGLT2i group ($p<0.05$). The BP and HbA1c control were similar in both groups suggesting that renoprotective effect due to SGLT2 inhibition. Over 12 months the UPCR decreased by 0.03 in SGLT2i group and increased by 1.1 in non SGLT2i group ($p< 0.05$). The rate of decline of the estimated creatinine clearance in the SGLT2i group was 5.4 ml/min/year as compared to 9.1 ml/min/year in the non SGLT2i group ($p<0.05$).

Conclusion: Our study showed that the use of SGLT2i was associated with significant reduction in BMI, proteinuria and rate of decline in estimated creatinine clearance.

Presentation: P-1

ACTH in Treatment of Membranous Nephropathy- A Case Report

Dr. Vipul Chakurkar, Dr. Valentine Lobo
KEM Hospital, Pune

Objective: Membranous nephropathy may be treated with various immunosuppressive medications. Use of ACTH for this indication is recently being evaluated.
Case: A 38-year gentleman had nephrotic syndrome in June 2013 with UPCR 9.2 mg/mg and serum creatinine of 1.0 mg/dl. Kidney biopsy showed membranous nephropathy. Work-up for secondary cause was negative. After 3 months of RAAS blockers, there was no significant reduction in proteinuria. Alternate monthly prednisolone-cyclophosphamide regimen was started. He developed acute pyelonephritis with AKI. With no reduction in UPCR and with a serious infection, he was not re-challenged with cyclophosphamide. Tacrolimus was started with low-dose prednisolone resulting in reduction in UPCR to 0.04 mg/mg by 6 months. After 2 years, Tacrolimus was stopped. Over next 3 years, UPCR fluctuated between 0.5 & 1.0. But in March 2018, UPCR was 4.5 mg/mg with creatinine of 1.68 mg/dl. Patient was not ready to take tacrolimus or rituximab for cost reasons. He was started with intramuscular ACTH 1mg per week for 6 months. UPCR varied between 0.2 & 0.5 mg/mg on treatment, while creatinine had improved to 1.22 mg/dl.
Result: After stopping ACTH, patient continues to be in remission over last 1.5 year, with static creatinine.
Conclusion: Intramuscular ACTH can be an option in the treatment of nephropathy when other regimens are not tolerated or are not suitable. Randomised trials are needed.

Presentation: P-2

Unusual case of Acute Kidney Injury

Dr Shivnarayan J Acharya[1], Dr K.G. Jaiprasanna [2]
[1]**Nephrologist,** [2]**Cardiothoracic Surgeon, Viveka Hospitals, Nagpur**

Case: 53 years old diabetic and hypertensive gentleman presented with severe excruciating pain in chest radiating to back with profuse sweating. His blood pressure in upper limbs was 200/120 mm Hg while pulses were not felt in both femorals and lower down both limbs. There was cyanosis both lower limbs. After two hours he stopped passing urine. Doppler was suspicious of aortic dissection. Contrast CT evaluation revealed dissection of aorta originating from root of aorta extending up to bifurcation of common iliac arteries and extending to both common iliacs. The right renal artery was getting blood supply from the pseudo lumen of the dissected portion of aorta while the blood supply to left kidney was compromised by the compressed original lumen of the aorta. The supply to superior mesenteric artery was also compromised.
Result: Patient developed severe metabolic acidosis and succumbed after about 18 hours of onset of symptoms.
Conclusion- This is a rare case of extensive dissection of aorta and presenting as chest pain and acute anuria.

Presentation: P-3

Are we over diagnosing Covid-19; can it be common Flu?

Dr. Shruti Tapiawala, Dr. Prashant Rajput, Dr. Zaheer Viraniv, Dr. Hepal Vora, Dr. Hitesh Gulhane, Dr. Ishan Parekh, Dr. Neil Saldanha, Dr. Saumya Vishnoi, Dr. Bharat Shah.
Global Hospital, Mumbai

Background and Objective: As the Coronavirus pandemic set in, all patients presenting with fever, sore throat, body ache, malaise are suspected to be COVID -19 infected. But they could well be flu (influenza) which can also cause similar symptoms. Are we misdiagnosing common flu as COVID-19?
Methods: We present two cases where all symptoms of COVID-19 were present with CT chest showing ground glass opacities. They were suspected to be COVID-19 infected but nucleic acid testing of throat swab by RT PCR was negative
Results:
Case 1. A 53-year old female, 2 years post renal transplant, homebound isolated since the start of the pandemic presented with rhinitis, cough with expectoration and high-grade fever. The HRCT chest features were suggestive of mild to moderate COVID-19 infection. She was hemodynamically stable and had normal O2 saturation on room air. She was initiated on Favipiravir, Amoxicillin-Clavalunate, and supportive treatment. She required admission on day 4 of the illness as her IL6 levels were rising and she had persistent fever with worsening of upper respiratory symptoms. The COVID RT PCR done on day 2 and day 8 of symptoms were negative.
Case 2. A 46-year old female, 2 years, and 9 months post-transplant presented with anorexia, nausea, altered taste and smell and weakness. CT chest was reported to be suggestive of COVID-19 infection. The COVID RT PCR was negative. She was treated with HCQS and MMF was discontinued. She improved over next 1 week.
Conclusion: Our cases suggest that cases with nucleic acid test negative and CT chest suggestive of COVID -19 may be common flu and not COVID-19.

Presentation: P-4

Torrential bleed after duodenal biopsy in a case of CKD Stage 5: Vigilance needed

Dr. Mohan P. Patel[1], Dr Dhawal Choksi[2], Dr. Harshal Dhongade[3], Dr. Vidya Kale[4], Dr. Atul Sangle[5]

[1]Department of Nephrology, [2]Department of Gastroenterology, [3]Department of Radiology,[4] Department of Pathology.[5]Department of Intensive and Critical Care Medicine, Apollo Hospitals, Nashik, India.

Case:

A case of 9 yrs old male child, who is diagnosed to have Rapidly Progressive (Crescentic GN) IgA Nephropathy and progressed to ESRD over 6 months, is described here. He is on thrice a week maintenance hemodialysis through tunnelled cuffed chronic dialysis catheter for last 6 months. He presented with episodes of low-grade fever, peri-umbilical cramping pain, diarrhoea, and loss of appetite for 3 weeks duration. He has been evaluated for these symptoms with gastroenterology referral. CT abdomen suggestive of thickening of small bowel suggestive of inflammatory or infective aetiology. Despite conservative treatment for 2 weeks, patient did not have symptom relief, hence planned for endoscopic evaluation with UGI scopy and colonoscopy. Endoscopy revealed mild inflamed mucosal lesions in ileum and duodenum from which biopsy was taken and patient shifted to recovery room for monitoring. But, 4 hours after he had an episode coffee-ground vomiting. Later he developed multiple episodes melena mixed with small volume of fresh blood as well leading to severe anaemia requiring multiple blood transfusions to stabilize him hemodynamically. Eventually he underwent repeat upper GI scopy which showed active bleeding of arterial spurter from D2 segment of duodenum, for which therapeutic clipping done and hemostasis achieved. The biopsy showed non-caseating granulomas with inflammatory infiltrate suggestive of Crohn's disease. This episode of life-threatening bleeding after duodenal mucosal biopsy during routine diagnostic procedure is very unusual and virtually unheard of. It is likely due to clasping of artery inadvertently. This unpredictable presentation has important “take home” points. CKD patients are more prone for upper GI hemorrhagic complications due to various factors like platelets dysfunction, abnormality of coagulation pathway, uremic toxin, and anaemia. In addition to this, considerations should be given for force with which biopsy is being taken, caution for taking biopsy from inflamed tissue, necessary pause between multiple tissue sampling, and lastly adequate period of post biopsy assessment before discharge. These points are more important in relation to CKD patients which are more vulnerable for bleeding complications. Hence our vigilant approach with close watchfulness and repeat UGI scopy for therapeutic intentions represents viable treatment in life-threatening UGI bleeding.

Conclusion: In summary, the described event of life-threatening upper GI bleed after duodenal mucosal biopsy in the CKD patient is both unusual and sobering, and we are glad to share that there was a somewhat happy ending.

Presentation: P-5

Can ENZOTEIN (enzyme fortified protein supplement) At Lower Doses Replace Higher Dose Protein Oral Nutrition supplement (ONS) For Low Income Group Patients on Haemodialysis.

Dr. Gharia Shivangi Virendrasinhji
Saveetha Medical College and Hospital, Thandalam, Chennai, India

Objective: Intradialytic oral renutrition is recommended to replace amino acid loss during dialysis to combat protein energy malnutrition. We did this study to determine whether lower dose protein fortified with proteolytic enzyme (Enzotein) can improve malnutrition inflammatory syndromes in low income patients on government subsidized dialysis programmes.

Materials and methods: A single center study with 60 low income patients randomized into three groups of 20 each, Group I received Enzotein 15 gm and Group II whey protein 30 gm and Group III control received standard care. All supplements were given just prior to dialysis. Baseline data collected included demographic, clinical and laboratory assessment for nutritional parameters at beginning and at 6 weeks.

Results: Group I and II patients showed improvement in hand grip, reduced incidence of fatigue, shorter post dialysis recovery time and had better dry weight targets. Group III had higher score of malnutrition and inflammatory markers. Though marginal improvement in serum albumin values was seen in all three Groups it was higher in Group I. Though enzymes are used in many protein supplements its use and data on oral IDN is limited, Our study showed enzotein had favorable outcome even at lower dose of protein and further multicentre study is contemplated to see long term benefit.

Conclusion: Enzotein is cost effective and showed equal response in improvement of MIS and favoured use of lower dose protein. Further study is needed for long term benefits.

Presentation: P-6

Accommodation after ABO incompatible Kidney transplant. How soon can it develop?

Dr.Bharat Shah, Dr.Rajiv Nikte, Dr. Prashant Rajput, Dr. Hepal Vora, Dr. Zaheer Virani, Dr. Hitesh Gulhane, Dr. Ishan Parekh ,Dr. Neil Saldanha, Dr. Saumya Vishnoi, Dr.Shruti Tapiawala
Global Hospital, Mumbai

Background: In ABO incompatible (ABOi) Kidney transplants, it is observed that after a certain period, no ABMR occurs despite rise in antibody titres, a phenomenon called accommodation. How long after transplant

accommodation develops is not known

Objective: To show how soon after an ABO incompatible kidney transplant does accommodation develop

Methods: We present 2 cases to show that accommodation can develop within 1st week after transplant. Case 1: A 42-year old female, blood group O, underwent kidney transplant on October 10, 2017. Donor was her 42-year old husband, blood group A1. Baseline Anti-A IgG antibody titres were 1:1024. After desensitization with Rituximab and plasmapheresis (PP) when IgG antibody titres dropped to 1:16, transplant was performed. Case 2: A 61-year old female, blood group B, underwent kidney transplant on November 26, 2019. Donor was her 36 years old daughter, blood group A1. Baseline Anti-A IgG antibody titres were 1:64. For desensitization, 3 sessions of PP were carried out with 100 mg/kg IVIg given at the end of each PP. Transplant was performed with IgG antibody titres 1:8. In both cases, basiliximab induction and conventional immunosuppression was used and IgG antibody titres were monitored daily.

Results: There was a rapid drop in creatinine in both cases and graft function remained stable despite progressive rise in antibody titres from 2nd post-transplant day. These cases suggest that accommodation had developed by 2nd post-transplant day.

Conclusion: Our cases illustrate that rapid allograft accommodation can develop and there may not be any need of PP if antibody titres rise even in the first week of ABOi kidney transplant if the allograft function is stable

Presentation: P-7

Role of Iron Deficiency Anaemia in Patients with Chronic Kidney Disease

Dr. Vajed Mogal, Dr. Sudhir Kulkarni, Dr. Ravindra Bhattu, Dr. Kshitija Gadekar, Dr Ankit Data

Department of Nephrology, M.G.M. Medical College, Aurangabad, Maharashtra, India.

Background: Chronic kidney disease (CKD) is a worldwide health problem. A normocytic normochromic anaemia is observed in CKD. The primary cause in patients with CKD is insufficient production of erythropoietin (EPO) by the diseased kidneys. Anaemia is both a complication of CKD as a part of uremic syndrome and a risk factor which influences the adverse outcomes of CKD, So evaluation and management of anaemia is important to prevent the progress of CKD and for the general well-being of the patient.

Aims and Objectives: To determine the prevalence of iron deficiency anaemia (IDA) in patient with CKD and study the effect of IDA on survival of CKD patients.

Results: In present study the prevalence of IDA in CKD was 42.63% whereas in males, prevalence of IDA was 44.4% which was less than female patients (55.6%). The observed values of IDA in CKD in relation to age group, hypertension and type of iron therapy have been found statistically nonsignificant, however IDA an outcome with sex group, stage of CKD, diabetes mellitus (DM) and dialysis therapy were found to be statistically significant.

Conclusion: IDA is common in CKD patients. Functional iron deficiency is seen in 39.03%. IDA is related to stage of CKD, sex, DM, erythropoietin therapy and dialysis therapy. There was no relation of IDA with age, hypertension, and type of iron therapy. However, mortality was not related to IDA in CKD patients.

Presentation: P-8

A Six-month Follow-up study in Comparison of Complications of Arteriovenous Fistula with Permanent Catheter in Hemodialysis Patients at a Tertiary Care Unit.

Dr. Vajed Mogal, Dr. Sudhir Kulkarni, Dr. Ravindra Bhattu, Dr. Kshitija Gadekar, Dr Ankit Data

Department of Nephrology, M.G.M. Medical College, Aurangabad, Maharashtra, India.

Introduction: Arteriovenous fistula (AVF), permanent catheter (PC), and vascular graft are three vascular access types used for haemodialysis (HD) procedure. Due to insufficient reliable information on the comparison between AVF and PC. This study was conducted to compare AVF and PC regarding adequacy of dialysis.

Material and methods: This prospective study was carried out from June 2019to Dec 2019. In this study, 100 HD pts were enrolled and assigned to two unequal groups of AVF and PC. Before and after the dialysis session, blood samples were taken for laboratory examinations and measurement of urea reduction ratio and Kt/V. The patients were followed up for six months, and then laboratory examinations were repeated.

Results: Out Of the 100 HD pts, 40 had AVF and 60 patients on PC. During the 6-month follow-up, 30 patients in PC group but only two patient in AVF group showed infection ($P = 0.050$), while in each group, thrombosis were seen in 6 patients on PC and 4 patients of AVF ($P = 0.50$). Catheter dysfunction was seen in 15 patients of PC group and one patients of AVF group ($P = 0.0001$).There was no difference between the two groups in Kt/V and URR at the beginning of the study; however, after six months, Kt/V and URR were greater in AVF group ($P < 0.05$).

Conclusion: We found better dialysis adequacy in AVF group & there was some advantages of AVF over PC, such as lower rate of infection and thrombosis. We recommend that AVF be created in all of patients with chronic kidney disease who are candidates for HD.

Presentation: P-9

Road Block? No problem, Will clear it!

Dr. Bhagyashree Gorakh[1], Dr. Hemant Mehta[1], Dr. Jhoomar Makhija[1], Dr. Wasiyeeullah Shaikh[1], Dr. Pallavi Tanapure[1], Dr. Gireesh Warawadekar[2], Dr. Nikhil Karnik[2]

[1]Dept of Nephrology and [2]Interventional Radiology, Lilavati Hospital and Research Center, Mumbai 400050

Aims and objectives: Arterio-venous fistula (AVF) should be salvaged with endovascular procedure whenever feasible.

Method: 60/M, on hemodialysis (HD) through left brachio-cephalic (BC) AVF for 18 months, presented with AVF malfunction. Past history was significant for catheter related blood stream infection (CRBSI) and catheter related right atrial thrombus (CRAT), and had pulmonary thromboembolism following thrombolysis with recombinant tissue plasminogen activator, r-TPA. Cephalic vein angioplasty was done for juxta - anastomotic stenosis. 5 months later, he presented with AVF dysfunction again, angiography showed complete left cephalic vein thrombosis with Cephalic Arch Stenosis (CAS). Patient underwent balloon angioplasty of Cephalic arch and in-situ catheter directed thrombolysis with good results but a residual thrombus on check angiography persisted. Another 3 months later, presented with recurrence of AVF malfunction, due to long segment thrombosis of left cephalic vein and recurrence of Cephalic arch stenosis. Patient underwent Percutaneous Mechanical thrombectomy with Angiojet™ peripheral thrombectomy system (Boston Scientific), and stenting of CAS. This was 1st use of Angiojet for AV fistula thrombectomy in India, for native AVF. It is a novel device working on principle of drilling and suction of thrombus due to vacuum effect of high-pressure saline jet at the catheter tip.

Results: Assisted secondary patency of AVF was 6 months with good flow volumes (approx 1800ml/min).

Conclusion: AVF is a lifeline of patient. All attempts should be made to salvage it as much as possible. Pharmacological and mechanical thrombectomy tools are available and can be used with good results.

Presentation: P-10

Interesting case of bilateral renal mass

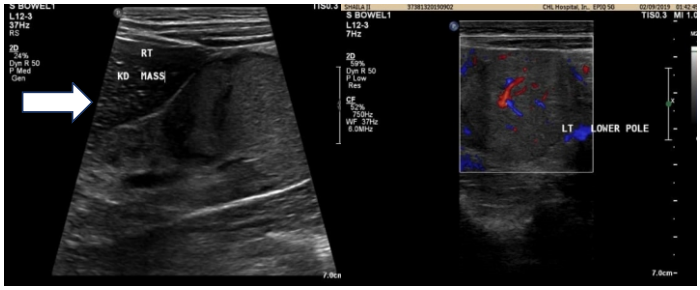
Dr. Vishnu Shanker Shukla, Dr. Rubina Vohra, Dr. Naresh Pahwa, Dr. Shraddha Goswami, Dr. Shweta Mogra, Dr. Vijay Malviya, Dr. Mohit Mahajan

Department of Nephrology Sri Aurobindo Medical College & Post Graduate Institute, Indore

Introduction: TB has ESRD as a risk factor for its development. Its presentation could be atypical and it may be difficult to diagnose TB in immunocompromised individuals. Genitourinary TB compromises about 20% of extrapulmonary TB. We will illustrate the difficulty in diagnosis and treatment of genitourinary TB presenting as B/L renal mass.

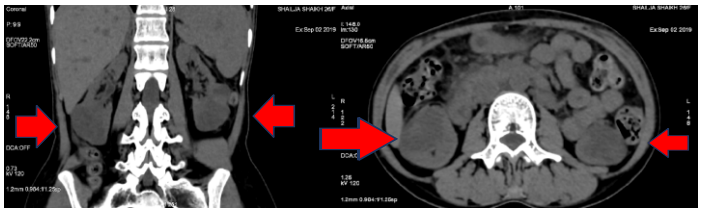
Case report: A 26-year old woman presented with complains of weakness for 4 months, fever, nausea, decreased appetite and anasarca for 10 days. On examination she had moderate pallor, B/L pedal edema and cervical lymphadenopathy. Initial report shown Hb. 6.6, TLC 7500 and platelet 1.93, urea/creatinine 172/12.3, Na/K 128/3.6, ESR 58, negative viral markers, urine routine showing 3+ albumin, pus cell of 8-10 and RBC Nil. Urine Culture showed no growth, CXR was normal

USG abdomen:



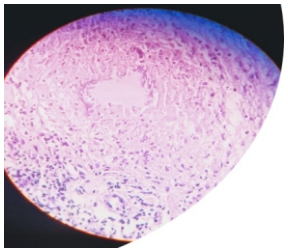
Right/left kidney size of 10.6 /9.6 cm with B/L heterogenous mass 6 cm in lower pole of kidney.

NCCT with MRI abdomen



Showed B/L kidney size of 8 cm with lobulated exophytic necrotic solid mass lesion of 5 cm in lower pole of both kidneys with heterogenous hypointensity on T1 and hyperintensity onT2 MRI.

Renal mass biopsy:



Revealed epitheloid cell granulomas with langhans giant cells and necrosis with normal renal histology of kidney

Diagnosis of renal TB was made. Patient improved post ATT and HD, renal mass regressed.

Discussion: D/D of RCC, lymphoma and angiomyolipoma should be kept in mind while treating B/L renal mass.

Conclusion: TB can rarely manifest as B/L renal mass as if left untreated can cause permanent genitourinary abnormalities.

Presentation: P-11

Unusual Presentation of a known Masquerader-Myeloma

Dr. Nikhil Elenjickal, Dr. Rasika Sirsat
P.D. Hinduja Hospital and Medical Research Centre, Mahim, Mumbai, India

Background: Multiple myeloma occurs due to the uncontrolled proliferation of abnormal plasma cells. Signs and symptoms of the disease are attributable to the proliferation of these cells. We describe two cases, that presented with unconventional manifestations of multiple myeloma.
Aims: We discuss the clinicopathologic profile and diagnosis of multiple myeloma in two patients.
Methods: Patient A, 48-year-old male, who presented with pain along the left groin, along both wrists, shoulders and ankles. On evaluation, serum creatinine 4.9mg/dl and Urine RM- 3+protein, 18-20 wbcs and 7-8 RBCs. Sr calcium was 9.5mg/dl. SPEP-negative for M band. MRI of pelvis showed mottled appearance. Free light chain- κ light chain 18.8, λ light chain 11800, with a ratio 0.002. BMA and biopsy that revealed >30 % clonal plasma blast cells. He was diagnosed as a case of light chain myeloma.
Patient B, 72-year-old male, presented with complaints of pain and swelling along both knees, wrist with stiffness on movements. Serum creatinine was 2.4mg/dl, and serum calcium 14.1mg/dl. Serum protein electrophoresis revealed no M band. Free light chain assay -κ light chain 20600 mg/L, λ light chain 8.69 mg/L, with κ/λ ratio 2370.541. BMA and biopsy revealed the presence of plasma cells.
Results: Both the patients presented with asymmetric polyarthritis and diagnosed as suffering from myeloma and initiated on chemotherapy, with good clinical improvement.
Conclusion: Plasma cell dyscrasia can masquerade behind unusual presentations that makes the diagnosis challenging. Our cases also highlighted the fact that serum protein electrophoresis should be supplemented with a FLC assay.

Presentation: P-12

Collapsing Glomerulopathy- A Conundrum

Dr.Nikhil Elenjickal, Dr. Jatin Kothari
P.D. Hinduja Hospital, and Medical Research Centre, Mahim, Mumbai

Background: Collapsing glomerulopathy is a variant of FSGS, that can cause nephrotic syndrome and rapid renal deterioration. We present two cases here. Patient A, presenting 9 years post transplant, with graft dysfunction. Patient B afflicted with COVID -19 disease, with sudden onset proteinuria.
Aims: We discuss the importance of the clinicopathologic profile and diagnosis of collapsing glomerulopathy in a renal allograft recipient and COVID-19 positive patient.
Methods: Patient A, 48-year-old male, renal allograft recipient (2011) with a good graft function, presented with graft dysfunction, serum creatinine 4.2mg/dl. Urine RM showed 2+protein, no RBCs. Urine ACR 5613 mg/g. Underwent allograft biopsy, that showed segmental consolidation with obliterated capillary lumina, and overlying podocyte hyperplasia. C4d was negative. Eventually lost his graft after 3 months.
Patient B, 42-year-old male, known hypertensive, non-diabetic, presented with fever in Jan 2020 and during evaluation, tested positive for COVID- 19. Subsequently developed nephrotic range proteinuria, 8g/day. Despite turning COVID negative, his proteinuria persisted and therefore underwent a native kidney biopsy. The biopsy revealed segmental collapse of the capillary tufts with obliterated lumens and the surrounding podocytes showed marked hypertrophy and hyperplasia. IF was negative. EM revealed viral particles within the glomeruli.
Results: Both patients were diagnosed as suffering from collapsing variant of FSGS.
Conclusion: Collapsing glomerulopathy is an uncommon entity. Exact pathophysiology of the entity in transplant recipients and COVID patients still remains obscure. Prompt diagnosis and timely management may help in the early management of the disease before renal functions deteriorate.

Presentation: P-13

Case of Post Renal Transplant recipient presenting with Posterior Reversible Encephalopathy Syndrome (PRES).

Dr Azhar Hassan, Dr. Tushar Dighe, Dr. Atul Sajgure, Dr. Charan Bale, Dr. Pavan Wakhare, Dr.Nilesh Shinde.
Dr D Y Patil Medical College, Hospital and Research Centre, Pune

Objective:

To report a case of Post Renal Transplant Recipient on Immunosuppression to prevent rejection presenting with PRES as a rarest complication.
Method: A 17yr old female Cadaveric renal transplant recipient with primary disease as Lupus Nephritis, on Immunosuppression with Prednisolone 5mg od, Tacrolimus 2mg per day and Mycophenolate sodium 1080mg per day presented after two months with complaints of nausea, vomiting, severe headache, blurring of vision and two days later developed generalized tonic-clonic seizures. Systemic examination showed extensor plantars. On routine investigations was found to have mild rise in Blood Urea and Serum Creatinine, low pcv however hemoglobin, total count and platelets were normal.

MRI brain done was suggestive of hyperintensities in white matter suggestive of PRES while CSF analysis was normal. Patient was put on anti-convulsant, dose of Tacrolimus was gradually tapered and stopped and dose of mycophenolate sodium increased and patient improved gradually.

Results: Incidence of Tacrolimus induced PRES in a Solid Organ Transplant recipient is found to be 0.54%. It is due to endothelial dysfunction due to Calcineurin inhibitor (CNI) toxicity often requiring EEG monitoring and anticonvulsants. It generally affects pposterior lobes of brain but can also be global.

Conclusion: Patients with Chronic Kidney Disease who undergo renal transplant and kept on immunosuppression with CNI like Tacrolimus should be monitored for complications like PRES though rarely can develop.

Presentation: P-14

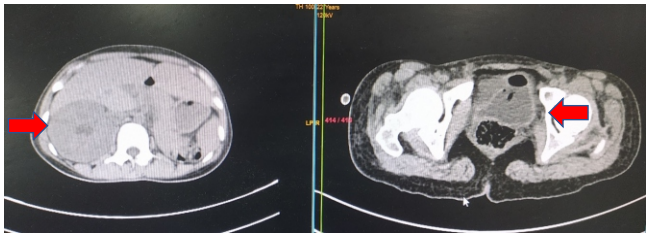
Interesting case of MRKH syndrome with pyelonephritis

Dr. Mohit Mahajan, Dr. Shraddha Goswami, Dr. Naresh Pahwa, Dr. Rubina Vohra, Dr. Shweta Mogra, Dr. Vijay Malviya, Dr. Vishnu Shankar Shukla
Sri Aurobindo Institute of Medical Sciences Indore

Introduction

Mayer-Rokitansky-Kuster-Hauser (MRKH) syndrome is characterized by absence of the mullerian structures causing complete or partial agenesis of the uterus, cervix and primary amenorrhea. It may rarely be associated with anomalies of the urinary tract, ovaries and skeleton.

Case report: A 22-year-old woman presented with complaints of primary amenorrhea, fever and burning micturition for 2 weeks. Physical examination revealed anemia with right renal angle tenderness. The initial report showed Hb. 10.5, TLC 22500 and platelets 2.43, urea/creatine 105/4.35, urinalysis showed 15-20 pus cells, RBC 2-3, albumin 1+ and urine culture revealed E. coli. USG showed unilateral right kidney with multiple abscesses, size 3.3x1.9cm & 2.2x1.1cm in mid & lower pole



NCCT Abdomen and Pelvis (Fig1).

CT abdomen showed enlarged Right kidney (12.6 cm), heterogeneous in attenuation with perinephric fat stranding s/o acute pyelonephritis. Multiple subtle hypodense lesions (evolving abscesses) largest measuring 2.4 x 2cm in upper pole cortex of kidney. Non visualization of the left kidney, uterus and both ovaries.Diagnosis of MRKH syndrome with UTI was made and patient was managed with antibiotics following which her renal abscess size decreased and AKI recovered.

Discussion:

Frequency of renal abnormalities is about 30–40%, including unilateral agenesis, ectopia of one or both kidneys, renal hypoplasia, horse shoe kidney and hydronephrosis. Patients with major anatomic abnormalities are at risk of recurrent renal infections causing scarring, loss of renal tissue and function resulting in CKD.

Conclusion:

Early investigations and treatment of anatomical urogenital defects in UTI is essential as it can lead to permanent renal damage.

Presentation: P-15

Interesting case of mixed connective tissue disorder with acute kidney injury

Dr.Mohit Mahajan, Dr. Rubina Vohra,Dr. Naresh Pahwa,Dr. Shraddha Goswami,Dr. Shweta Mogra, Dr.Vijay Malviya,Dr. Vishnu Shankar Shukla
Sri Aurobindo Institute of Medical Sciences Indore

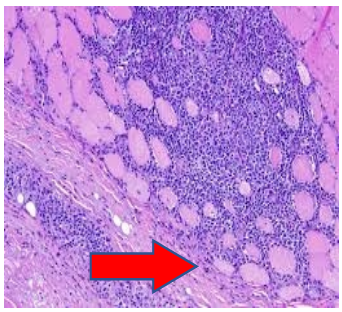
Introduction: The inflammatory myopathies are group of diseases that involve chronic muscle inflammation accompanied by muscle weakness. Inflammatory myopathy can present as rhabdomyolysis and AKI in older age group.

Case report: A 66-year old woman presented with complaints of generalized bodyache along with thigh pain for 4 months, vomiting and decreased urine output for 2 days. Physical examination revealed tenderness in the B/L calf and thigh muscle. The initial report showed Hb. 10.5, TLC 11500 and platelet 2.43, urea/creatinine 152/4.35, Sr. Sodium/Potassium- 134/5.0**,** SGOT/SGPT 1500/2800, CPK 11819, LDH 3110, Urine for myoglobin+, blood test 4 + and albumin of 3+. CXR was normal. USG showed normal kidney size.

Collagen disease antibody panel

Antibody	Value	Normal value
ANA	165	<20
U1RNP antibody	62	<20
SSA/Ro antibody	92	<20
SSB/Ro antibody	2.0	<20
Antids DNA	12.37	<30
Centromere antibody	4.38	<20
Scl 70 antibody	5.27	<20

Histopathology of muscle biopsy



Myofibril fibre splitting degenerative and regenerative changes. Myofibre necrosis with internal nuclei and chronic inflammatory cells and macrophages around necrotic fibers with increased endomysial fat and fibrosis suggestive of inflammatory myopathy.

Diagnosis of rhabdomyolysis with AKI secondary to inflammatory myositis with MTCD was made and patient was managed with iv fluid and MHD following which patient improved and AKI recovered.

Discussion: D/D of rhabdomyolysis, inflammatory myopathy should be kept in mind while treating AKI in older age.

Conclusion: Early diagnosis of rhabdomyolysis and early treatment with adequate hydration and MHD can result in early recovery in AKI.

Presentation: P-16

Varied Presentations of Same Entity

Dr. John Abraham Tharayil, Dr. Tushar Anil Dighe
Dr. D. Y. Patil Medical College, Pune

Case Vignette 1: 26 years/ Male, Driver. No known comorbidities. Presented with breathlessness, facial puffiness, swelling of feet, lethargy and decreased appetite, joint pain – 2 weeks, oliguria, initiated dialysis. Treatment history: given 3 doses of methylprednisolone and initiated 4 sessions of hemodialysis through right IJV uncuffed catheter at outside Centre. On examination- BMI: 24.22kg/m^{2}, HR: 90/ min, BP: 170/120 mmHg, RR: 16/ min, Temp : 98.6 ^{0}F, RS: normal breath sounds. No crepitations, CVS: S1, S2 heard normally. No pericardial rub, P/A: soft. No organomegaly. Bowel sounds present, CNS: no focal deficits, Fundus normal. Labs - Urine routine showed protein 3+, rbc 10-12, serum creatinine 7.3, serum cholesterol 287 mg/dl, autoimmune workup negative. He underwent Renal biopsy which showed acute tubulointerstitial nephritis with tubular necrosis. Follow up creatinine 1mg/dl.

Case Vignette 2: 75 years/ Male, Known case of Hypertension for 3 years, IHD -2 years, BPH. Presented with breathlessness, facial puffiness, swelling of feet, decreased urine output – 1 month. On examination: BMI: 25.53kg/m^{2}, HR: 80/ min, BP: 130/80 mmHg, RR: 16/ min, Temp: 98.6 ^{0}F. Systems within normal limits. Urine routine showed protein 2+, rbc 10-12/hpf, serum creatinine 8mg/dl, ANA positive, ANA blot negative, C-Anca positive. Renal biopsy showed pauci-immune crescentic glomerulonephritis suggestive of vasculitis. Follow up serum creatinine 1 mg/dl.

Conclusion: RPGN is manifested by features of glomerular disease in the urinalysis & by progressive loss of renal function over a comparatively short period of time most commonly by extensive crescent formation. We present these cases because they had different presentations of RPGN and was managed differently.

Presentation: P-17

A study of Acute kidney injury in patients presenting with Adult nephrotic syndrome: A Prospective study

Dr Mitesh Makwana, Dr Sishir Gang, Dr Umapati Hegde, Dr Mohan Rajapurkar, Dr Abhijeet Konuur, Dr Hardik Patel
Muljibhai Patel Urological Hospital, Nadiad.

Background and Objective: AKI (Acute Kidney Injury) is a distressing complication of nephrotic syndrome. In adults, it increases the risk of chronic kidney disease and death. There is limited data in adults about this condition, though, in children, there is much data. We performed a prospective study at our center to determine clinical characteristics, risk factors, and outcomes of these patients.

Methods: Between August 2019 and December 2020, 45 patients presenting with Nephrotic syndrome and AKI were prospectively included in this study. AKI was defined according to KDIGO guidelines. These patients were followed for six months, and their outcome was noted.

Results: Out of 45 patients, 27(60%) were male, and 18(40%) were female. The mean age of the cohort was 48.82+17.32 years. While defining the severity of AKI by KDIGO staging, out of 45, 8(11.7%) belonged to stage 1, 11(24.4%) had developed stage 2 AKI, and 26(57.7%) had stage 3 AKI. Proportionally, a higher percentage of patients 6(85%) out of 7 of Others group belonged to KDIGO stage 3 compared to the other three remaining primary glomerular diseases. It may suggest that secondary glomerular diseases with the nephrotic syndrome had higher chances of getting severe AKI though it was statistically insignificant (p=0.698). 17(37%) had MCD in 14 (31%) had FSGS (Focal Segmental Glomerulosclerosis), and 6(16%) had MN (Membranous Nephropathy). Out of 7(15%) patients of MN, one had focal crescent. 16(35%) patients had features suggestive of acute tubular injury. We found that total 45, 25 had AKI due to hemodynamic causes, and most were from MCD, and FSGS group with each had 10 (40%) patients. 3(12%) and 2(8%) from MN and others had hemodynamic causes. We divided the outcome of AKI into improved and not improved groups, then: 30 were total improved patients out of maximum were belonged from MCD (46%), and three were not improved, out of which 2(66.7%) were from FSGS, and one was from others group. A total of four relapses were there, two from MCD and one each from MN and FSGS. Risk factors for AKI were infections (31%) history of nephrotoxic drugs (55%), history of Hypertension (26%), and previous history of AKI (11%).

When comparing the factors which can affect the

recovery of AKI between two groups by Student t-test, there were no significant differences found for age, sex, serum creatinine on presentation, Serum albumin presentation, Urine protein-creatinine ratio at the first visit, GFR at the first visit and 24-hour urinary protein on presentation. When comparing the odds ratio for factors affecting recovery of AKI between two groups of recovered and non-recovered from AKI in nephrotic syndrome, MCD group of patients[OR 5.09(95% CI 0.56-45.56)], who had remission with steroids[OR 23.1(95% CI 3.7-144.21)], and who were in KDIGO stage 1,2[OR 2.6(95% CI 0.22-20.06)] had higher chances of recovery from AKI. The mean recovery time of AKI was 30.64+17.65 days.

Conclusions: Most common Primary glomerular diseases that are prone to develop AKI are MCD and FSGS. MN and other secondary causes are less common. Infection, hypoalbuminemia, and nephrotoxic drugs are essential causes of AKI in adults. Patients who had MCD and remission with steroids of their NS had higher chances of recovery from AKI. There is no difference in recovery AKI by creatinine, UPCR, serum albumin, and 24-hour urine protein on presentation. AKI is most commonly seen in patients with MCD. Recovery is entirely seen in patients with patients who had remission with steroids, age <40 years (OR-1.3, 95% CI), and who had KDIGO stages 1 and 2 in severity.

Presentation: P-18

Unusual Dermatological Lesions in a child with CKD5-PD

Dr. Prajal Agarwal, Dr. Jyoti Singhal, Dr. Jyoti Sharma
Pediatric Nephrology Service, Renal unit, KEM Hospital, Pune, India

Introduction: Nutritional deficiency is well recognized in both adult and pediatric patients with CKD, especially those on dialysis. Trace element deficiency in such patients may result from dietary restrictions, lack of adherence to treatment, poor appetite, compromised gastrointestinal absorption and dialysis. Zinc deficiency usually manifests with nausea, vomiting and poor appetite, and symptoms similar to those of CKD, making it difficult to suspect the former. We report an unusual presentation of zinc deficiency in a pediatric patient with CKD5PD. In addition to initially being a diagnostic dilemma, it highlights the importance of diagnosing zinc deficiency and benefits of supplementing zinc.

Case Summary: A 12-year-old girl with steroid resistant nephrotic syndrome progressed to ESRD at 11 years age and CAPD was initiated in July 2019. In January 2020, she presented with fever, acral, flexural, perineal polymorphous rash, progressive alopecia and long-standing nausea, vomiting and poor appetite. Based on clinical examination and demonstration of coronary aneurysms on 2D-echocardiography, she was diagnosed with Kawasaki disease and treated accordingly. Oral zinc was supplemented for low serum zinc levels. Constitutional symptoms, rash, alopecia improved, however relapsed with bullous eruptions without fever. Rare recurrence rate of Kawasaki disease (KD) with failure to satisfy clinical and laboratory criteria of KD led us to suspect zinc deficiency. Marked recovery with high dose zinc supplementation and recurrence of lesions due to non-compliance to zinc therapy strongly supported our diagnosis.

Presentation: P-19

Acute kidney injury with nephrotic syndrome in a known case of chronic myeloid leukemia

Dr. Pallavi Tanapure, Dr.Hemant Mehta, Dr. Jhoomar Makhija, Dr. Wasiyeeullah Shaikh, Dr. Bhagyashree Gorakh,
Lilavati Hospital and Research Center, Mumbai 400050

Aims and objectives: Differentiate between primary or secondary Membranous nephropathy (MN). It has therapeutic implications.

Methods: We are reporting a case of chronic myeloid leukemia (CML) who developed MN and presented with acute kidney injury (AKI). SN, a 35 years old male was diagnosed to have CML in 2014 and treated with imatinib mesylate (IM) with a good response to therapy as per the European Leukemia Network (ELN) norms of RT-PCR quantitation. However, due to exacerbation of his underlying ulcerative colitis (UC) (bleeding) despite steroid therapy, he stopped IM on his own in 2016; He remained on variable doses of oral steroids till 2017 with no CML assessment or therapy. In November 2018 three months prior to nephrology referral in our hospital, he had acute kidney injury (AKI) with nephrotic range proteinuria.

Results: Kidney biopsy was performed after stabilizing him with hemodialysis, and it showed MN and acute tubular necrosis (ATN). However anti-phospholipase A2 receptor antibody (PLA2RAb) staining on tissue and serum PLA2RAb tests were not done. He was advised to be treated with rituximab; hence he sought another opinion. On our analysis, it appeared to be a case of MN secondary to CML, and the treatment of the underlying disease resulted in remission of nephrotic syndrome. S. Creatinine has settled at 1.5 mg/dl and remained so for past one year.

Conclusion: It is very important to differentiate between primary and secondary MN as it has therapeutic implications and proper diagnosis would lead to unnecessary exposure to immunosuppressive agents.

Presentation: P-20

Incidence, Etiologic Profile and Outcomes of Postpartum AKI In Chattisgarh - A Single Center Retrospective Study

Dr. Sanjay kumar, Dr. Sanjeev Anant Kale ,Dr. Prawash Kumar Chowdhary
Ramkrishan Care Hospital, Raipur, Chattisgarh

Background: Pregnancy related AKI poses a challenge to clinicians. AKI resulting from late obstetrical complication is well described in literature. Recently reported incidence of PP-AKI is 10.55%. However, there is sparse data of PP-AKI from the state of Chhattisgarh.

Aim: To study incidence, etiology, and outcomes of postpartum AKI.

Methods: This retrospective study was done in Department of Nephrology at Ramkrishna Care Hospital Raipur from May 2011 to May 2017.The data of women developing renal injury in postpartum period, admitted in our hospital over a period of 6 yrs were collected and analyzed. Patients with known history of renal disease, hypertension and diabetes were excluded. Need for dialysis were also noted. Renal biopsy records were retrieved. Maternal postpartum AKI outcomes were noted as complete or partial recovery, dialysis dependent and death. Fetal outcomes were noted as live birth and neonatal death. Patients were grouped into two group: Group I (who underwent Hemodialysis) and Group II (managed Conservatively).

Results:107 patients had post partum AKI with an incidence of 3.26%. The mean age patients were 27.3±4.77 years. Mean gestational age 35.531±.89 weeks. Multipara constituted 45.8% patients and primipara where 54.2%. Most common clinical presentation was oliguria (91.58%). Most cause of AKI was multifactorial in57(53.27%), followed by Puerperal sepsis 35(32.7%). Most common cause of puerperal sepsis was UTI 22(62.85%). Dialysis-requiring AKI was seen in 73(68.22%) patients. Maternal mortality was 20.56%(N=22). OF the 85 (79.4%) surviving patients,75(88.2%) had complete recovery of renal function, 6(7.05%) patients had partial recovery and 4(4.7%) patients required dialysis on a long-term basis.7(6.54%) patients underwent renal biopsy. Live births were 92(85.98%) and 15(14.01%) died in neonatal period. No Statisical significant difference between GroupI and GroupII in etiologic profile ($p > 0.55$), maternal mortality($p > 0.66$) and renal outcomes ($p > 0.11$).

Conclusions : Post partum AKI was associated with poor maternal outcomes and renal recovery. Maternal mortality & renal recovery were not affected by need of hemodialysis in our patient.

Presentation: P-21

Study of biopsy proved glomerular diseases in Marathwada region of Maharashtra

Dr. Ankit Data, Dr. Abhijit More, Dr. Kshitija Gadekar, Dr. Mogal Vajed, Dr. Sudhir Kulkarni
MGM Medical College Aurangabad

Objective: The prevalence of kidney diseases has wide variation in different geographical areas due to socioeconomic conditions of the people, population demographics, race and ethnicity. The objective of this study was to find out the prevalence of biopsy-proven kidney diseases presenting to a tertiary care hospital in Marathwada region of Maharashtra.
Patients and methods: We have retrospectively analyzed the renal biopsy data from 2013 to 2020. The clinical and laboratory data of patients were collected from biopsy request forms, and histopathology data were recorded. Biopsy specimens were examined by light and immunofluorescence microscopy.
Results: A total of 243 patients underwent kidney biopsy for suspected glomerular disease. Minimal change disease (n=42) was the commonest histological type among glomerular diseases, followed in order by membranous glomerulopathy(N=37), focal segmental glomerular sclerosis (N=33) and immunoglobulin A nephropathy(N=19). Among the secondary glomerular diseases, the commonest was lupus nephritis (n=40)) followed by diabetic nephropathy (n=5) and crescentic glomerulonephritis (6). Most common indication for renal biopsy was nephrotic syndrome. Others being unexplained azotemia, AKI with unclear etiology or delayed recovery and RPGN.
Conclusion- Nephrotic syndrome was the commonest indication for renal biopsy, and minimal change disease was the most common primary glomerular disease followed by focal segmental glomerular sclerosis, membranous nephropathy and IgA nephropathy. Lupus nephritis was the commonest secondary glomerular disease.

Presentation: P-22

COVID 19 Infection in Kidney Transplant Recipients

Dr Salman Ali Sayed, Dr.Rudramani Swami, Dr.Shakir Ahmed, Dr.Jyoti Bansode, Dr.Smriti Sinha, Dr.Kalpana Mehta
T. N. Medical College & BYL Nair Ch Hospital, Mumbai

Introduction: COVID 19 in Kidney Transplant Recipients (KTR) is new entity with its clinical presentation & outcome being enigma presently.
Materials & Methods: This prospective study included all KTR with COVID 19 infection from MAY to JULY 2020. Clinical demography details were noted. MMF was stopped in all except in asymptomatic while in moderate & severe cases, CNI was withdrawn too. Inflammatory markers were sent in moderate & severe cases. Antivirals were as per the evolving treatment & availability. Outcome & prognostic factors were evaluated. Procalcitonin (PCT) was done prior to tocilizumab/itolizumab.

Results: We report 7 cases (Age: 25-60 years), M: F 5:2. Post-Transplant period range 1 to 10 years. Comorbidities were: DM + HTN: 1, DM: 3, HTN: 2, CKD [CAN]: 3. Immunosuppression was TAC based in all. COVID infection was mild in 3, moderate: 1 & severe: 3. Duration of symptoms were 2 to 10 days. Hospitalization was needed in 6, of which 3 required intensive care. Pneumonia on CT was noted in 4. Hospitalization duration was 1 to 3 weeks. Serum creatinine ranged from 1.5 to 7mg/dl. Four developed AKI; HD was required in only 2.High Serum D Dimer [1.5 - 3.5 mcg/ml], Ferritin [350 – 850ng/ml], Lymphopenia [5 -15%] , High C reactive protein [40-250 mg/L], and IL-6 levels [800-5500 pg/ml] occurred in moderate & severe cases. HCQ+Azithromycin was received by 5, Ivermectin 4, Flavipravir 1, Ritonavir +Lopinavir 1. Tociluzimab was administered to 3, Itolizumab to 1. Ventilator & or ionotropic support was needed in 3. Three succumbed & had severe disease, high inflammatory markers & needed ICU care.

Conclusion: COVID 19 infection in KTR was severe in 3 out of 7 cases. Three succumbed & had severe disease, high inflammatory markers & needed ICU care.

Presentation: P-23

Clinical Profile and Short-Term Outcome of Children Presenting with Enuresis: An Observational Study

Dr. Nayan Chaudhari, Dr.Jyoti Singhal, Dr. Jyoti Sharma

Paediatric Nephrology Service, Renal unit, KEM hospital, Pune, India.

Objectives: Primary: To study the clinical profile and short-term outcome of children aged 5 to 18 years who had enuresis at presentation. Secondary: To record the prevalence of primary versus secondary and mono-symptomatic (MNE) versus non-monosymptomatic enuresis (NMNE), co-morbidities associated with enuresis, various etiologies of enuresis and the short-term outcome with respect to resolution of symptoms in children with primary enuresis.

Methods: Clinical data of all patients aged 5 to 18 years enrolled with enuresis at presentation in the Paediatric Nephrology Service between January 2013 to August 2020 was noted from case record forms and course on follow up visits was recorded.We defined enuresis as intermittent urinary incontinence during sleep in the absence of physical disease in a child aged > 5 years as per the guidelines of the The International Children's Continence Society (ICCS). The ICCS guidelines were also followed for defining lower urinary tract symptoms, primary and secondary enuresis, MNE and NMNE.

Results: Of the total 73 cases, 49% were boys and 51% were girls. Primary and secondary enuresis were 73.9% and 26% respectively; while MNE and NMNE were 39.7% and 60.2% respectively. Common associated LUTS were urgency (53.4%) and voiding postponement (46.5%). Co-morbidities recorded were constipation (27.3%), ADHD (5.4%) and snoring (6.8%). Enuresis was secondary to CAKUT in 6.8%, chronic kidney disease 5.4% and tubular disorder in 1.3%. Of the 73 children, 32 followed up for a mean duration of 3 months. Forty-six percent (15/32) followed up for >/=6months of which all improved; 66% with urotherapy alone; 80% of children with overactive bladder improved with additional oxybutinin.

Conclusion: Children presenting with the symptom of enuresis may have underlying etiologies that need to be identified and addressed. Primary and NMNE are more common. A large majority of children improve with urotherapy alone.

Presentation: P-24

Low Incidence and Not Too Poor Outcome of COVID Infection in Kidney Transplant Patients

Dr. Neil Saldanha, Dr. Mita Shah, Dr. Hepal Vora, Dr. Zaheer Virani, Dr. Prashant Rajput, Dr. Shruti Tapiawala, Dr. Hitesh Gulhane, Dr. Ishan Parekh, Dr. Saumya Vishnoi, Dr. Bharat Shah.

Global Hospital, Parel, Mumbai

Objective: To determine outcome of COVID-19 infection in kidney transplant patients

Methods: During this ongoing pandemic 19 kidney transplant patients had COVID infection. We analyzed their presenting symptoms, laboratory findings, clinical course, and outcome. Not all patients were admitted. Only those with persistent fever, breathlessness, and/or elevated inflammatory markers (CRP, IL6 and d-dimer) were admitted. Those with no or mild symptoms were observed without any treatment. Those with moderate symptoms were treated with HCQS in the early part and favipiravir in the later part. In these cases, antimetabolite was withdrawn, and steroids increased to 15-20 mg/day. In those with severe covid disease, high dose steroids, heparin, remdesevir and tocilizumab was used.

Results: From our database of 516 active kidney transplant recipients, 18(3.48%) patients developed Covid-19 infection (RT-PCR Positive/CT chest suggestive). There were 13 males and 5 females. The mean (SD) age was 52.72(9.27) years. These patients were 5 months to 23 years post-transplant. Their maintenance immunosuppression was Tacrolimus (15), Everolimus (3), MMF (12)/AZA (4) and PSN (18). Eleven patients had diabetes, 16 had HTN and 3 had IHD. The most common presenting symptom was fever which was present in 17(94.44%) patients. Other symptoms were cough, sore throat, breathlessness, generalized weakness, reduced appetite, nausea/vomiting, abdominal pain and diarrhea. Nine (50%) patients developed transient allograft dysfunction, none requiring dialysis. Five (27.77%) patients had mild course and could be managed at home, 7(38.88%) patients were admitted in the ward and 6(33.33%) patients required ICU management.

Three (16.66%) patients required invasive mechanical ventilation. Two (11%) patients admitted at other centre died.

Conclusion: Our study shows low incidence of COVID -19 infection in transplant patients. A majority of patients have a mild to moderate course and mortality is low.

Presentation: P-25

Repeat RT-PCR positivity in dialysis patients

Dr. Satarupa Deb, Dr. Sreyashi Bose, Dr.Sayali Thakare,Dr. Sunil Patil,Dr. Atim Pajai, Dr. Divya Bajpai,Dr. Tukaram Jamale.

King Edward Memorial Hospital, Mumbai and Seth G.S. Medical College, Mumbai, India.

Cases summary:

We report 4 cases of chronic kidney disease (3 ESRD on MHD, 1 requiring RRT for AKI on underlying CKD) who were re-admitted to isolation ward, due to re-positive nasopharyngeal swab RT-PCR results, 18-51 days after discharge from first hospital stay for COVID-19 infection. All patients had multiple (2-4) negative swabs before first discharge. The second admissions were for other indications (unlikely COVID-19), but 3 patients were symptomatic for fever, 2 had ground-glass opacities (ongoing pneumonitis) on HRCT chest, 2 had clinical hypoxia. Antibody tests for 3 patients showed IgM negative, IgG positive. 2 of 4 patients expired. Following the clinical course and outcomes in these patients has led us to some observations, which may be unique to COVID-19 infection in CKD population. Does the virus persist longer in dialysis patients? Total duration of RT-PCR positivity in our patients is 47-99 days, much longer than that reported in literature. Repeat RT-PCR positivity despite previous multiple negative swabs, in the presence of detectable IgG antibodies, poses the dilemma of whether these are true reinfections (an undeniable proposition in face of the unique exposure pattern in dialysis patients, i.e. multiple visits to hospital/dialysis centre) or these findings are manifestations of a more ominous phenomenon- ongoing virological injury, in presence of non-neutralising (hence ineffective) IgG antibodies, given the background of uraemia and immunosuppression. We highlight these cases, since these questions merit discussion especially now, 6 months into the pandemic, when we are more likely to come across the longer observable consequences of COVID-19.

Presentation: P-26

Post -COVID Sequalae in CKD patients -A single centre experience

Dr. Durga Deorukhkar, Dr. Hardik Shah, Dr. Appu Jose, Dr. Sachin Nikam, Dr. Ravi Brahmbhatt,Dr. Parag Tilve, Dr. Dilip Kirpalani, Dr. Viswanath Billa, Dr. Shrirang Bichu, Dr. Ashok Kirpalani.

Bombay Hospital Institute of Medical Sciences, Mumbai.

Aim: To study the Post -COVID sequalae and the associated factors in renal patients as a pilot project for larger cohort studies.

Methods:

All COVID patients referred to Nephrology were followed up till their hospital stay / readmission. Case history, investigations and treatment details were recorded and data analyzed.

Results: Out of 10 patients ,7 : ESRD on MHD , 1 : CKD , 2 : persistent AKI -post COVID .Mean age :58.3 $\pm$7.3 years ,70 % females ,20 % diabetic .Mean CRP -149 mg/l , Ferritin 3587 ng/ml ,LDH -402 mU/ml ,IL-6 377 pg/ml,D-Dimer 3078 ng/ml .Mean steroid dose : 586 $\pm$168 mg .Duration of onset of post COVID sequalae after having turned swab negative ranged from 7-23 days .Tocilizumab -30% ,Mechanical ventilation -20 % .40% pts had sepsis from bacterial infection (Klebsiella pneumoniae in lung -2 ,E.coli in urine -2) ;CMV Meningoencephalitis -1 ,PRES -1 , Cortical venous sinus thrombosis -1 ,new onset atrial fibrillation -1 ,Pulmonary Fibrosis -2 , Pancreatitis -1 , Renal tubular dysfunction (hyponatraemia ,hypokalaemia, hypomagnesemia and hypophosphatemia)-1 and one had Biopsy proven acute tubulointerstitial nephritis with mesangial proliferation .30 % pts died from the post COVID sequalae (infectious),while remaining 70 % were discharged from hospital after a mean hospital stay of 25.4 $\pm$ 11.5 days .

Conclusion: COVID-19 infection can cause a variety of multisystem sequalae in CKD patients likely due to the inflammatory and immunomodulatory nature of the virus as well as a consequence of immunosuppressive treatment. Prudent management protocol and vigilant follow-up is the need of the hour in the CKD population.

Presentation: P-27

Baseline Hepcidin and Lactate predict need for Renal replacement therapy (RRT) in Septic Shock with Acute Kidney Injury (AKI)

Dr. Rakesh Shinde[1],Dr. Sagar Kulkarni[1], Dr.Vipul Chakurkar[1],Dr. Sonali Sanghvi[2] andDr. Valentine Lobo[1]

[1]Renal Unit, KEM Hospital, Pune;[2]Dept of Microbiology, KEM Hospital, Pune

Introduction & Aims: Septic shock is the commonest cause of acute kidney injury (AKI) in the ICU which occurs in around50% of cases. Biomarkers for early diagnosis of AKI are still lacking. This study was carried out to determine role of low serum Hepcidin levels and rising lactate levels in predicting AKI, need of RRT and mortality in septic shock.

Methods: Consecutive adult patients with septic shock without AKI at presentation were included. Hepcidin was

measured in serum samples collected at admission (and preserved at -70C) and lactate at 0, 6 &24 hours after admission. AKI was defined by KDIGO criteria. Results were analyzed by logistic regression analysis for odds ratio (OR) and 95% confidence intervals.

Results: Forty-three patients with septic shock (twenty-eight men), with mean age Fifty-five (±20.14) years were included. Thirty-seven developed AKI. Mortality was 32.5%. Low Serum Hepcidin predicted mortality with an OR= 5.71 (95% CI: 1.3047 to 25.0269, *p*=0.0207) but was not useful in predicting AKI or need of RRT on univariate analysis. Rising lactate trend was significantly associated with both need for RRT with OR=8.80 (95% CI= 2.0818 to 37.1983; *p*=0.0031) and mortality with OR=17.14 (95% CI=3.0489 to96.3873; *p*= 0.0013). On multivariate analysis neither of these retained significant predictive value probably because of small sample size

Conclusion: In this cohort of septic shock patients, low hepcidin levels at admission predicted mortality but not AKI while rising lactate levels over first 24 hours predicted need for RRT and mortality, only in univariate analysis. A larger study is required to verify these results.

Case: 1

ABO compatible kidney transplant masquerading as blood group incompatibility. Are weak blood groups important to look for?

Dr. Sachin Nikam, Dr.Vinayak Ukirde, Dr. Haritha Maru, Dr.Deepa Usulumarty, Dr. Parag Tilve, Dr. Shrirang Bichu, Dr.Viswanath Billa
Bombay Hospital Institute of Medical Sciences, ICMR-NIIH, Mumbai.

Background The principles of ABO compatibility are fundamental to organ transplantation. In this case, the donor and recipient blood groups were mislabeled by conventional techniques due to failure to identify weak blood groups. Detailed analysis identified the correct blood groups thus avoiding the need for unnecessary desensitization.
Case: A 38-year-old woman was worked up for a kidney transplant from her mother. Pretransplant work-up showed the donor as O+ and recipient as B+. A day prior to the surgery, blood grouping was repeated in the transplanting hospital by the CAT method which reported the donor as A+ and recipient as B+ and by ICMR-NIIH donor was reported as 'A'_{weak} and the recipient as 'A_{weak} B'. Molecular analysis was also done which identified gene mutations in both the donor and recipient. Cross matching between the donor's red cells and the recipient's serum was negative and recipient anti A titres were low. The transplant was done after two plasmapheresis sessions and standard induction immunosuppression. The surgery was uneventful and the kidney is functioning well 6 months post-transplant.
Conclusions: ABO typing is an essential assessment for kidney transplantation and cannot be relied on CTT method alone. CAT should be routinely done and when in doubt, advanced methods should be used to identify weaker blood groups. Weak A group accounts for 0.02% of the people with blood group A and can create confusion in reporting. Antibody titers should be assessed before and after surgery. Transplantation can be successfully performed in such situations without the need for desensitization.

Case: 2

Differential Diagnosis of Post-partum AKI: It's Complicated!

Dr. Vipul Chakurkar, Dr. Rakesh Patil, Dr. Sagar Kulkarni, Dr. Valentine Lobo
Renal Unit, KEM Hospital, Pune.

Introduction:
Post-partum acute kidney injury (AKI) can have variety of causes and differentiating between them is often difficult.
Case:
A 27-year-lady delivered by LSCS at term, after an uneventful antenatal course. Next day, she had fever along with decreased urine output and was referred to our hospital. She was oligo-anuric and had BP of 110/62mmHg. She required dialysis for acidosis and oliguria. Evaluation showed low platelets, raised lactate dehydrogenase (LDH) but hemoglobin 10.4 g/dl, elevated transaminases, direct bilirubinemia and no schistocytes on peripheral smear for 3 occasions. Levels of ADAMTS-13, Anti-Factor H antibody, C3 and C4 were within normal limits. Over next 3 days, LDH and platelet count showed improving trend. So, plasma exchange was not done. She continued to be anuric & dialysis-dependent. Renal biopsy done at 3 weeks showed severe acute tubular necrosis (ATN). So, dialysis was continued. Over next 4 weeks, she had serial, though slow improvement in urine output while creatinine remained around 5.5mg/dl. Patient was off dialysis by 8^{th} week. At 3 months, creatinine was 4.5mg/dl. Multiplex-Ligation Probe Assay for complement genes showed homozygous deletion of various exons of *CFHR1* and *CFHR3*.
Though kidney biopsy showed only ATN, patient's clinical course (slow and incomplete recovery of renal function) along with demonstration of homozygous deletion of *CFHR-3* raise the possibility of patchy, thus unsampled, cortical necrosis secondary to pregnancy-associated aHUS.
Conclusion:
Differential diagnosis of post-partum AKI is often difficult owing to similar presentations of various diseases. In the absence of better tests to differentiate, an early plasma exchange with clinical suspicion alone might be a useful strategy.

Case: 3

An interesting case of persistant left superior venacava

Dr. Appu Jose, Dr. Hardik Shah, Dr.A L Kirpalani, Dr. Dilip Kirpalani, Dr. Durga Deorukhkar
Bombay Hospital and Medical Research Centre

Introduction: Internal Juglar vein is the most commonly used temporary vascular access for emergency haemodialysis. Although rare, awareness of anatomical variations of neck vessels is essential for avoidance of potential complications. Persistant left superior venacava (PLSVC) is the most common congenital thoracic venous anomaly with a prevalence of 0.3 to 0.5% in general population and 4% of patient with congenital heart disease.Here we report a case of Persistant Left SVC detected accidentally during non-cuffed catheter insertion
Case: 45-Year-old male presented to emergency with fluid overload and Uremic symptoms. He was a known case of chronic kidney disease diagnosed 6 months back when his creatinine was 9mg/dl and then lost follow up. Currently his admission creatinine was 25mg/dl and Urea was 245mg/dl with hemoglobin of 5.3gm/dl. Patient was planned for initiation of hemodialysis through right IJV non cuffed triple lumen catheter. Procedure was uneventful except for mild resistance during insertion of guidewire. A check

radiography showed abnormal position of catheter (figure 1). The catheter had good flow and analysis of blood gas was suggestive of venous blood (pH-7.28 pO2 -40mmHg and pCO2-60mmHg), Hence dialysed was done and was uneventful. Patient later underwent 2D Echo and CT angiography and was diagnosed and PLSVC.

Discussion: PLSVC, the most common thoracic venous anomaly is a persistent congenital remnant of vein of Marshall, which serves as a counterpart of superior venacava (SVC) in early embryonic development. It was first reported by Edwin et al n 1950.

Clinical and practical implications: The presence of PLSVC has important clinical implications. Especially in the absence of right sided Superior vena cava a PLSVC may be associated with a variety of other congenital malformations of heart and great vessels, hence appropriate investigations should be undertaken once discovered. The chest X-ray may commonly show the presence of a widening of the mediastinum, an enlarged aortic shadow or a paramediastinal bulge below the aortic arch on a posterior-anterior plain film. An echocardiography can show a marked dilatation of the coronary sinus.

Introduction of a central venous catheter into the PLSVC may be mistaken for placement in either the subclavian or carotid artery, the mediastinum, the pericardium, the left internal mammary vein or superior intercostals vein. The technical difficulties associated with PLSVC may lead to complications, especially in cases PLSVC with absent right SVC and when right IJV cannulation is attempted. Central venous perforation and pneumothorax have been reported especially due to forced insertion. So, when resistance is felt during catheter insertion don't insert forcefully and vascular anatomy should be reassessed.

Conclusion: In view of increasing insertions of dialysis and central venous catheters all clinician should be aware of the anatomical variation and it should be anticipated when difficult line insertion or abnormal position of catheter is encountered. The aim is to avoid alarming misinterpretation of confirmatory radiographs, or unnecessary removal of appropriately placed catheters, as well as to become familiar with all the potential complications arising from the manipulation of wires and catheters though a PLSVC. Once PLSVC is diagnosed it should be appropriately investigated as it may be associated with a variety of other congenital cardiac and vascular malformations.

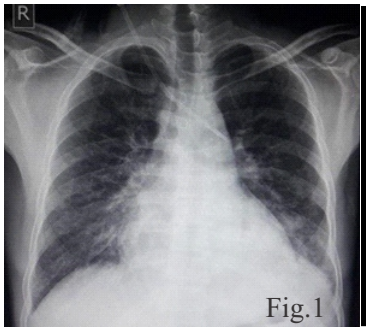


Fig 1. Chest radiography showing right sided non tunnelled haemodialysis catheter
Fig 2. CT Angiography showing catheter tip in PLSVC which drains into dilated coronary sinus

Case: 4

A Case of successful transplant despite positive crossmatch

Dr. Shruti Tapiawala, Dr. Prashant Rajput, Dr. Zaheer Virani, Dr. Hepal Vora, Dr. Hitesh Gulhane, Dr. Ishan Parekh, Dr. Neil Saldanha, Dr. Saumya Vishnoi, Dr. Bharat Shah.
Global Hospital, Mumbai

Introduction: A positive crossmatch is known to be a strong contraindication for kidney transplantation due to the risk of hyperacute rejection (HAR). We hereby present a case where we proceeded with a successful transplantation despite the positive crossmatch.
Case: A 41-year-old male who was on maintenance dialysis for 3 years and listed for deceased donor transplantation was offered an organ in March 2020. A crossmatch was ordered in preparation for the transplant. The crossmatch was reported as: class I negative, class II positive. This was new to us because normally we would receive cross match report as positive or negative. The patient's sensitization status was reviewed. This was his first organ transplant and he had not received any blood transfusions in the past. His Panel reactive antibodies for class I and II HLA antigens were negative. So here we had a non-sensitized male patient whose crossmatch was reported as class II positive. In these circumstances, one would not go ahead with the transplant
We discussed with the laboratory personnel regarding the situation. They notified us that they had performed the crossmatch with lysate method and that it was strongly positive. We requested them to do the usual CDC crossmatch which was negative. We then decided to go ahead with transplant. The allograft was healthy on unclamping and there were no signs of HAR. The patient was discharged with acceptable renal function and continues to do well 6 months after transplant without any episode of rejection
Conclusion: A positive crossmatch should always be analysed with history and solid phase assays and assays with lysate method should be avoided.

Case: 5

Surprising cause of severe acute symptomatic hypercalcemia: Fullers earth ingestion.

Dr. Sandhya Suresh, Dr Sishir Gang, Dr Abhijit Konnur, Dr. Umapati Hegde
Department of Nephrology, Muljibhai Patel Urological Hospital, Dr Virendra Desai Road, Nadiad, Gujarat, India

Introduction: Fuller's earth is used in textile industry and in cosmetics. Common components are calcium montmorillonite, kaolinite, and attapulgite. Here is a description of an unusual case hypercalcemia due to ingestion of Fuller`s earth.
Case: A 45-year-old morbidly obese lady was admitted with dyspnoea slowly increasing-3 months, decreased urine - 1-month, pedal oedema - 1 week. Decreased appetite and nausea for 1 month. She had lower back ache for 1 week. No h/o altered sensorium or loose motion. There was no history of flank pain, fever, haematuria, pyuria and retention of urine. She had diabetes for 5 years, fairly controlled. She had poorly controlled hypertension. She had acute kidney injury, 2 years ago, due to urosepsis and her kidney function improved to 1.3mg/dl with treatment. O/E she had pallor, grade 1 pedal edema, no lymphadenopathy. pulse of 90/min, BP- 210/110 mmHg. she had bilateral basal crackles. Her serum creatinine was 6.78 mg/dl, with Serum Calcium -16.9 mg/dl. Her serum electrophoresis, iPTH, 25 OH Vitamin D and 1, 25 Vitamin D were with in normal limits. Sarcoidosis was discarded when chest X ray didn`t show any lymphadenopathy and her serum ACE level was normal. Meanwhile after some encouragement, she revealed eating Multani Mitti - 500gm daily for 3 months along with milk products to increase her health. She was diagnosed with hypercalcemia due to fuller`s earth ingestion. She was treated with oral hydration and intravenous furosemide. Her serum calcium improved from 16.9mg/dl to to 10.5mg/dl over 15 days.
Discussion: *Fullers earth* contains anhydrous aluminium silicate and small amounts of magnesium and calcium oxide and alkali which can cause hypercalcaemia similar to milk alkali syndrome.

Case: 6

Native kidney Xanthogranulomatous pyelonephritis in a renal transplant recipient.

Dr Abhishek Kadam, Dr Umapati Hedge, Dr Mohan Rajapurkar, Dr Shishir Gang, Dr Hardik Patel, DR Abhijit Konnur, Dr Shailesh Soni, Dr Amit Jojera
Department of Nephrology, Muljibhai Patel Urological Hospital, Dr Virendra Desai Road, Nadiad, Gujarat, India

Introduction: Xanthogranulomatous pyelonephritis (XGP) is a rare condition and is still rare in renal transplant (RTX) recipient, characterised by the replacement of normal renal parenchyma by foamy macrophage. We present a case of Xanthogranulomatous pyelonephritis is in the native kidney of a RTx recipient.
Case: A 35-year-old lady renal allograft recipient was admitted with h/o left side flank pain, intermittent fever for 15 days. She underwent LRRTX in 2007, and was on maintenance immunosuppressant consisting of Tacrolimus, Azathioprine and prednisolone. She was maintaining good graft function without any rejection episodes (Sr Creatinine 1.1-1.2mg/dl). In the last 3 years, she had multiple episodes of urinary tract infections; with isolation of various organisms (mainly Escherichia coli and Pseudomonas aeruginosa). In 20018, she had increased frequency of urine, urgency, overflow incontinence for 15 days and diagnosed as bladder outlet obstruction (meatal stenosis) resulting in hydronephrosis of the graft. She underwent meatotomy and bladder drainage for 3 weeks. Physical examination was normal. Laboratory results showed raised WBC of 14300/mm^3, liver enzymes were normal. Her serum creatinine was 1.53mg/dl. Urine revealed leukocyturia (15-20 pus/HPF) with urine culture showing pseudomonas. Ultrasound discovered echogenic left kidney showing hypoechoic lesion measuring 30 x 19mm, without increased vascularity. Abdominal CT scan confirmed peripherally enhancing hypodense lesion in the upper pole of the left native kidney, intercommunicating toe perinephric region. Left-sided laparoscopic radical nephrectomy was performed, Histopathological examination showed necrotic area with inflammatory infiltrate surrounded by thick desmoplastic tissue suggestive of Xanthogranulomatous pyelonephritis.
Result: Her graft function improved to 1.25mg/dl by intravenous antibiotics and nephrectomy

The Great Leveler

Dr Shivnarayan J Acharya

She is young, fresh and exciting.
She is intriguing! People are trying hard to know her true identity but she remains illusive. No one really knows her true credentials, where did she come from, where is she likely to go, who her ancestors are, how does she look like, everyone is very much fascinated about her but the moment she appears, people just faint.

She is very friendly; she likes to meet people, loves to expand her circle fast, but even before someone realizes who she is, she just inundates.

She is a great leveler. For her, everyone is same; whether a person is king or pauper, prime minister's wife or a simple house wife, she just does not care.

You can be young or old, female or male, Hindu or Muslim, Sikh or Christian, she does not care. Poor or rich, owner of a seven star hotel or a waiter, white collar professional or a labourer - every one is the same for her.
You could be a master of science or an illiterate, she simply gives a cold shoulder. Mandir, Masjid, Church or Gurdwara she can intrude all these places with equal ease. Priests, Imams, Pundits or Devotees, she has dwarfed everyone. She just gobbles up her target without reservation, she does not differentiate between Scheduled caste, Schedule tribe, Maratha, OBC or Brahmin. All are same in her eyes.

She pooh-poohs your nationality, whether you are Chinese, Italian, Japanese, American, Korean or Indian does not matter to her. Your location means nothing to her; whether you are in Rome or Itwari, Paris or Goregaon, New york or Gondia, she just does not mind. This predator is just ready to pick up her prey.

She is powerful, extremely powerful and single handedly has brought nations to a standstill. Schools, colleges, malls, movie halls have closed down. People are afraid to go out and party, hug or kiss. Boundaries are closing. No one dares to mess up with her.

She is the frightful devastatingly stunning, She is beastly, frightful, loathsome CORONA!

Corona represents universal truth. She has shown us that enough is enough, now its time to behave, remember the good old customs or just die. No mercy, prayers, donation, bribes or leniency, she just paints a kiss of death.

She ordains us in no uncertain terms that cleanliness is next to godliness. Keep your environment clean. She commands us to have mercy on animals, just don't mercilessly kill animals, have sympathy. She tells us to spend time with our family, play with kids instead of sending them to play zones. Discover the joy of family instead of partying.
Slow down. Do not stress. Life still goes on and its beautiful. If you turn a blind eye to her, she is sure to push you in darkness forever.

Corona, you are really novel, novel in many ways. You have broken many myths - myth that man is supreme and invincible. You have grounded not only the flights and wrecked business empires but also the human ego.

Dear Corona, you send shivers down the spine!

The Spirit of Nagpur

Nagpur is a beautiful city known for its orange farms, tiger sanctuaries, temples and pristine sightseeing attractions. Nagpur is the third largest city of Maharashtra and stands in the forefront of industrial and commercial contributors to the state.The city of Nagpur is beautiful and dotted with cultural heritage landmarks, known for extravagant festivals and is gateway to the famous places like Tadoba National Park, Kanha National Park, Shirdi and Panchmarhi. Nagpur city is very fascinating and diverse in terms of travel and cultural experience. Food lovers and shopping enthusiasts would love to come here to enjoy the street side attractions and various famous restaurants. Apart from sightseeing attractions, one can also laze around picnic spots like Waki Woods, Adasa and Ramtek.

The city takes pride in the history that spans back to 5000 years. There are evidences of life existing during megalithic era. The first written inscription about the settlement of Nagpur comes from a 10th century copper plate found in Wardha district. According to another inscription found in Ramtek, Nagpur and its surrounding regions formed the part of the thickly wooded country called Jhadimandala under Yadavas of Devagiri.

The city of Nagpur came to existence in 18th Century by the leader of Gond Dynasty named Bakht Buland Shah. Over the time, multiple dynasties captured and modelled the art and architecture of the place in their own style. The city was plunder twice and razed to the ground. However, despite the attacks and wars, development of Nagpur continued. In 1817, The British annexed the city from the Marathas. After the Independence, Nagpur district became the capital of Madhya Pradesh and later the city transferred to the state of Bombay. After State of Bombay split into Maharashtra and Gujarat, Nagpur remained with the former and became an important commercial town. Nagpur is named from the Nag River. This river passes through the old part of Nagpur and flows like a snake.

People and Culture of Nagpur

Nagpur has a rich culture, which reflects the cultures from different parts of the country.

Climate

Nagpur has tropical savannah climate with dry conditions prevailing for most of the year. It receives about 163 mm of rainfall in June. Summers are extremely hot, lasting from March to June, with May being the hottest month. Winter lasts from November to January, during which temperatures drop below 10 °C (50 °F).

Cuisine

The Vidharbha region has its own distinctive cuisine known as the Varhadi cuisine or Saoji cuisine. This traditional food is famous for its spicy taste Santra Barfi is also a famous dish, arising from orange which is produced locally in Nagpur. Mominpura area of the city and it is famous for its Mughal dishes and Biryani. The city is also famous for rare black chickens called Kadaknath Chicken which are cooked in varhadi style. Nagpur is also famous for tarri poha and Samosas are also famous in Nagpur and is available at many restaurants and food spots. Another famous food is Patodi and Kadhi.

Museums

The city also has some museums which are Nagpur Central Museum and Narrow Gauge Rail Museum. Raman Science Centre is a premium Science Centre of Central India, that has of late become a must see feature on the city's tourist landscape with many scientific experimental edutainment installations which also has a planetarium and a unique facility called the Science on a Sphere inside. Amusement parks such as Fun N Food Village, High Land Park, Fun Planet and Dwarka River Farms and Amusement Park are located in the city.

The Orange city

Nagpur is famous for oranges and is also known as Orange city or Santra city. It is known as the 'orange capital' because it is a major cultivator and trade centre of oranges. Orange is Nagpur's famous fruit and there are several plantations where its cultivation done. Many such plantations offer tour to their farms where they show the procedure of cultivation, sample various products like jam and syrups made from oranges along with a traditional lunch.

The Tiger Capital

Nagpur is surrounded by many tiger reserves and acts as a gateway, hence called Tiger capital of India. Tiger reserves such as Pench Tiger Reserve is situated around 100 km from the city. Tadoba National Park is situated south of the city. Umred Karhandla Wildlife Sanctuary, Bor Wildlife Sanctuary, Navegaon National Park, Melghat Tiger Reserve and Kanha Tiger Reserve are the other tiger reserves which are located at a radius of 200 km from the city. The city has its own reserved forest area at Seminary Hills and Gorewada.

Zero Mile Stone

It is a monument built by British during Great Trigonometrical Survey (GTS) of India in 1907 in Nagpur, Maharashtra. The Zero Mile Stone, historic monument, consists of a pillar made up of sandstone and another small stone and four stucco horses. Four horses are representative of the four cardinal directions, adorn the pillar giving it a distinctive look. It has withstood the changing tides of time

and stands majestically, spreading awe among its numerous spectators. Nagpur is precisely at the geographical centre-point of India and the zero-mile marker is located here. The distances of various major cities which are measured from here are carved on the pillar erected at this zero-mile site. Hence, Nagpur is called the zero-mile centre. The inscription on the vertical face of the monument's pillar reads GTS STANDARD BENCH MARK. 1907, and the inscription on the horizontal stone reads "The height of the top of this pillar is 1020.171 feet above the mean level of the sea."

Religious places

Nagpur boasts many religious structures that hold importance for differing religious beliefs. Deekshabhoomi and Dragon Palace are important religious places for Buddhists across India and the world. Dragon Palace Temple is situated at Kamptee which is around 15 km from the city and has a state of the art Vipassana centre. Other prominent religious structures include Ramtek Fort Temple at Ramtek which is a temple built inside a fort and is 55 km away from Nagpur, Adasa Ganpati Temple located near Savner is one of the eight Ashta Vinayaks in Vidarbha, Baba Tajjuddin Dargah, Shri Shantinath Digambar Jain Mandir at Ramtek, Shree Ganesh Mandir Tekdi, located near Nagpur Railway Station and one of the Swayambhu temple of Lord Ganesha, Sai Baba Mandir at Wardha road, Telankhedi Hanuman Temple, Swaminarayan Temple, Koradi Temple, located at Koradi, Shri Poddareshwar Ram Temple, Balaji Temple, All Saints Cathedral and Gurudwara Guru Nanak Darbar.

Deekshabhoomi

It was construct in the year 2001 and is the third largest hollow Buddhist Stupa in the world. It is spread over almost 1,74,240 sqft area. The central place is called a *Stupa*, it is a spectacular 120 feet height, the dome too has 120 feet in diameter made of marble, granite and the pink Dholpur stone. The dome is hollow covering a

large circular hall of over 4,000 sqft. A beautiful blue clad image of the Buddha statue is established at the centre of circular hall, lovely art works and sacred tree are a few of the important highlights of this famous tourist spot. This is the place where *Dr. B. R. Ambedkar* along with five million people embraced Buddhism on 14 October, 1956. The day 14 October is celebrated as *'Dhamma Chakra Pravartan Din'* (Mass Conversion Ceremony Day). Millions of people throughout India visit this place on this celebration day

Shri Swaminarayan Temple

Also known as Akshardham Temple is located on the Ring Road in Nagpur. It is the largest among the over 1000 temples that have been set up by Swaminarayan sanstha across the world. The temple is facilitated with a huge kitchen, parking, a restaurant and a kids play area. It is advised to visit the temple after 4 in the evening owing to its impressive lighting and decor. The temple is spread over two floors and boasts of a striking architecture.

Swami Vivekananda Smarak

Swami Vivekananda memorial is an island made on lines of prominent Swami Vivekanand Kendra at Kanyakumari, at overflow point Ambazari Lake. Also, it is the Origin of Nag River and emerging as a new Sunset point of the city. It rises up out of the Hilly rock. A statue is surrounded by the beautiful garden. Railings in the garden and premises of the statue have been built by utilizing red sandstone and fine art. Stone light has been utilized outside the garden. A course wellspring is comprised of red sandstone and limit of the premises is made by curb stone in red sandstone. One of the best sculptors in the country, Ram Sutar and his and his son

Anil, have crafted the statue. With 30feet pedestal, the exact height of statue is 51feet from ground level. Highlight of the memorial is 21feet tall bronze statue of Vivekananda. The statue is crafted with pose and type of dress that Vivekananda wore at the Chicago meet.

Vidarbha Cricket Association Stadium

Nagpur is a big centre for cricket in Vidarbha owing to the presence of the Vidarbha Cricket Association. Vidarbha Cricket Association (VCA) is the governing body of cricket activities in the Vidarbha region in Maharashtra. Vidarbha Cricket Association Stadium is affiliated to the Board of Control for Cricket in India., inaugurated in 2008 is situated in Jamtha, Wardha Road on the outskirts of city. It has a seating capacity of 45,000 people It is one of the fifteen test cricket venues in the country. Vidarbha Cricket Association Ground has been the venue for the 1987 Reliance World Cup and 1996 Wills World Cup. Vidarbha Cricket Association Stadium has been the venue for the 2011 Cricket World Cup and 2016 ICC World Twenty20. The stadium also hosts certain matches of the Indian Premier League and had been the home city for the now defunct Deccan Chargers in the 2010 season and was also the home city for Kings XI Punjab along with Mohali in the 2016 season. Vidarbha Cricket Association also has a cricket academy at the main centre in Vidarbha Cricket Association Ground and three more centres

Lakes and Gardens

The city consist of various natural and manmade lakes. Khindsi Lake, Ambazari Lake and Gorewada Lake are the natural lakes of the city while Futala Lake, Shukrawari Lake, Sakkardara Lake, Zilpi Lake and Sonegaon lake are the manmade lakes. The city also has various gardens which consist of Ambazari Garden, Telankhedi Garden, Satpuda Botanical Garden, Japanese Garden and Children's Traffic Park.

Futala Lake

Tourist attractions

There are a number of tourist attractions in and around the city including Gavilgad Fort, Dragon Palace Temple, Forts of Balapur, Adasa, Maharaj Baug and Zoo. Gavilgad Fort, which is around 200-300 years old, lies close to the Chikhaldara hill station in Amravati district. It was originally built by the Hindu rulers at a height of about 370 ft above sea level.The Dragon Palace Temple on the other hand is situated in Kamptee, which is a satellite township within Nagpur district. It is the temple of Lord Buddha and a holy place for Buddhists. Another major attraction in this place is the Fort of Balapur, which is in the Akola district. The fort is built between the Mana and Mhais Rivers. It's a popular tourist destination and a place of pilgrimage because it is named after goddess Bala Devi

ISN-WZ 2020

19th & 20th September 2020
26th & 27th September 2020

Nagpur

Alniche

Alniche is one of the fastest-growing pharma company in India, which is bridging the therapy gaps with innovative global products. Alniche is amongst the top companies in **Renal Care, Critical Care** apart from significant presence in **Skinceuticals, Gastroenterology**, **Advanced Wound Care** & **Neuro-psychiatry.**

Alniche has collaborated with Delhi pharmaceutical science and research university **(DPSRU)** for **R & D** to bring the innovative products specially required for Indian masses.

Our efforts have been recognized by various national and international forum; Our prestigious brand **Complipro** has won the excellence in pharmaceutical brand management award in new product launch by **CPhI 2019**. Alniche has partnered with international companies to bring global brands in India.

Alniche

Our Flagship Brands

CompliPro®
Intradialytic Ready-to-Drink Protein Formula

RENOSAVE/P/Forte
Acetylcysteine 150mg + Taurine 500mg **Tablet** /
N-Acetyl Cysteine 600 mg **Tablet** /
N-Acetylcysteine 300mg + Pyridoxamine 75mg **Tablet**

Transfer rHuEPO
PFS : 2000 IU / 3000 IU / 4000 IU/ 5000 IU / 6000 IU / 10000 IU
VIAL : 2000 IU / 4000 IU / 10000 IU

DARBITOP
Darbepoetin 25 / 40 / 60µg **Injection**

KETOALFA
Alpha Ketoanalogue **Sachet / Tablet**

Biomyf/S
Mycophenolate Mofetil 500mg **Tablet** /
Mycophenolate Sodium 360mg
Enteric Coated **Tablet**

BIOMUS
Tacrolimus 0.25mg / 0.5mg / 1mg / 2mg **Capsule**

CURCUTOP
Curcumin Phytosome® 500mg **Tablet**

INSPIRED BY VALUE, DRIVEN BY VISION

Patent Applied

La Renon

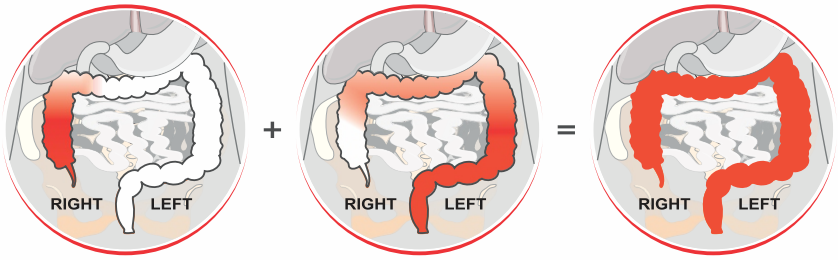
The Makers of...

FIDOTOX

Specially Formulated Oligosaccharide Enriched Inulin 10 g
and Betaine 0.3 g Oral Powder

THE COLON

Where does FIDOTOX work?



Oligosaccharide Inulin **FIDOTOX**

FIDOTOX contains specially formulated oligosaccharide Enriched Inulin which works specifically in the colon to remove Indoxyl Sulphate and p-cresol Sulphate.

USP OF FIDOTOX

- 1st Time in India
- Contains No Sugar & Available in delicious Vanilla Flavor
- Reduces 40.36% p-cresol and 22.71% Indoxyl Sulfate Serum level after 28 days of treatment in HD patients
- Safe and Effective

KOZA 91

LOTION

A Scientific Innovation for
the Management of Uremic Pruritus