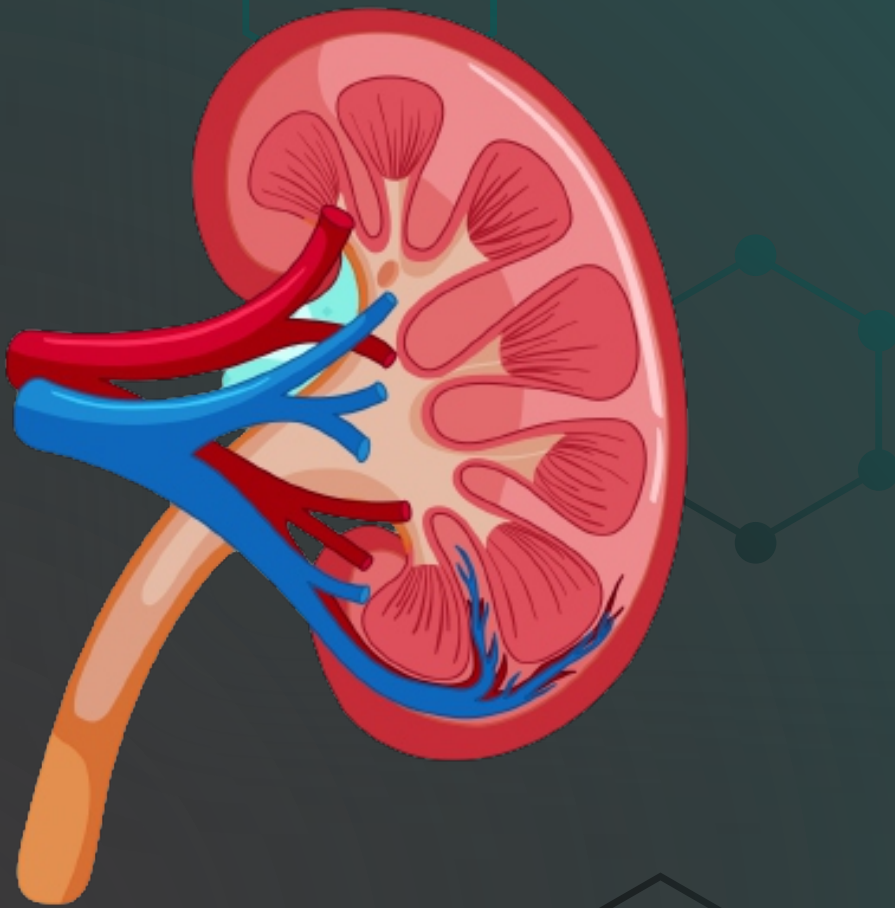




NAK BULLETIN

VOLUME 2





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MESSAGE FROM EDITORIAL TEAM



Dr. Vinod Nagesh

MD, DM Nephro(PGI Chd)

Consultant Nephrologist and Transplant Physician
Narayana Health City, Bommasandra, Bangalore

We are pleased to present the second edition of the NAK Bulletin, where we continue our journey of exploring the dynamic landscape of nephrology. This issue brings forth a collection of insightful articles, NAK recent activities and aims to capture the transformative developments among our NAK community.

In this edition, our contributors dwell into a diverse range of topics. We begin with presenting memorandum to our two beloved nephrologists who sacrificed their lives during Covid epidemic. As we navigate the pages of this bulletin, we will encounter articles that underscore the evolution of deceased donor program in Karnataka and incredible journey of 50k kidney biopsies. Additionally, our esteemed expert share their experiences in his journey of ABO incompatible transplant program.

We extend our heartfelt gratitude to all senior nephrologists for their constant advice and all contributors, reviewers, and the dedicated editorial team whose unwavering commitment has brought this edition to fruition. It is through their collective efforts that we continue to provide a platform for the exchange of knowledge and ideas that drive the nephrology field forward.

We invite you, our esteemed readers, to immerse yourselves in the content of this bulletin, to engage with the clinical insights, and thought-provoking discussions it offers. Let this edition inspire meaningful conversations, spark innovative research endeavours, and ultimately contribute to the enhancement of patient outcomes and the advancement of nephrology as a whole.

Thank you for your continued support and readership.

Sincerely,

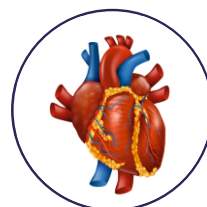
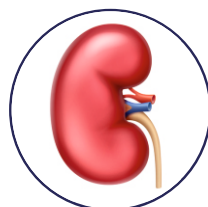
Dr Vinod Nagesh

MD, DM Nephro(PGI Chd)

Consultant Nephrologist and Transplant Physician
Narayana Health City, Bommasandra, Bangalore



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In Memoriam:
Prof. K. S. Siddaraj
(1947-2020)

It is with deep sorrow that we remember our dear friend, Prof. Kodihalli Shankarappa Siddaraj, who left us on 20th September 2020. Born on 2nd July 1947 in Kodihalli, Tumkur district, Karnataka, he was a trailblazer in the field of Nephrology.

Dr. Siddaraj's journey in the medical world began with exceptional academic achievements. He completed his MBBS from Bellary Medical College and soon became the first Member of the National Academy of Medical Sciences (MNAMS) in Medicine from Karnataka. His passion for Nephrology led him to pursue a specialized course in DM Nephrology from the prestigious Postgraduate Institute of Medical Education and Research (PGIMER) in Chandigarh, where he became the first from Karnataka to achieve this distinction.

As he embarked on his career, Dr. Siddaraj's dedication to Nephrology became evident. He played a pivotal role in establishing the Nephrology unit at Victoria Hospital in Bangalore, which laid the foundation for kidney care in the state. His commitment to public service and patient care made him the first Government Nephrologist in Karnataka. His visionary leadership and ability to inspire others resulted in the growth of the field, benefitting numerous patients and medical professionals alike.

A highly respected teacher, Dr. Siddaraj served as the Professor and Head of the Department of Medicine at Bangalore Medical College. His exceptional teaching methods and mentorship skills endeared him to his students and colleagues. Throughout his career, he continued to guide and support fellow medical practitioners, nurturing the next generation of nephrologists.

Prior to retirement Dr. Siddaraj assumed the role of Superintendent at the renowned Government Victoria Hospital in Bangalore. Despite retiring from administrative duties, his passion for patient care and medicine remained undiminished. He continued to practice Medicine and Nephrology, selflessly dedicating his time and expertise to helping numerous patients with kidney-related ailments.

Beyond his clinical achievements, Dr. Siddaraj was an ardent advocate for the advancement of Nephrology in India. He co-founded the Nephrology Association of Karnataka, a platform that promoted knowledge-sharing, research, and development in the field. Dr. Siddaraj actively participated in various academic programs, workshops, and conferences, contributing significantly to the growth of Nephrology in the region.

In addition to his professional commitments, Dr. Siddaraj was a warm-hearted and compassionate individual. He was known for his gentle nature, always willing to lend a helping hand and offer sage advice. He stood as a pillar of support for colleagues during challenging times, providing unwavering encouragement and guidance.



The year 2020 brought unprecedented challenges with the outbreak of the Covid-19 pandemic. Dr. Siddaraj, being on the frontline as a medical practitioner, bravely faced the pandemic's uncertainties. Despite taking all necessary precautions, he contracted the virus. In the face of adversity, he fought valiantly, displaying immense strength and determination. Sadly, on 20th September 2020, we bid farewell to this gentle giant, leaving an irreplaceable void in our society and in the hearts of his loving family.

Prof. Siddaraj's legacy extends beyond his professional accomplishments. He was a devoted family man, and his love and care for his wife, Manjula, and their two daughters, Rashmi and Swetha, knew no bounds. Settled abroad, they continue to cherish the memories of a loving husband and a caring father who played an integral role in their lives.

In his leisure time, Dr. Siddaraj found solace in gardening, nurturing the beauty of nature and finding joy in its wonders. He took great delight in playing with his little granddaughter, Ira, who brought immense happiness into his life.

The loss of Prof. Siddaraj is felt deeply by all who knew him, both professionally and personally. We not only mourn the departure of an exceptional colleague, but we also grieve the loss of a mentor, a thoughtful friend, a caring husband, a devoted father, and a doting grandfather. The impact of his work and the memories he created will forever remain etched in our hearts.

On behalf of the Nephrology Association of Karnataka and the Indian Society of Nephrology, we extend our heartfelt condolences to Dr. Siddaraj's family. May the Almighty grant them the strength and courage to bear this profound irreplaceable loss. As we bid farewell to this illustrious soul, may his noble contributions to the medical field continue to inspire and guide future generations of nephrologists.

Om Shanti Om Shanti!

Dr Sundar Sankaran MD DNB FRCP FISOT
Director, Aster Institute of Renal Transplantation
Founder member of Nephrology Association of Karnataka
Former Chairman Indian Society of Nephrology SC



Obituary to Dr Balaji Prasad

With the most incredible sadness, on behalf of the Nephrology Association of Karnataka, I acknowledge and mourn the passing away of our friend and colleague, Dr. Balaji Prasad, at the young age of 54 on the 5th of December 2020, after a long and brave fight against the deadly virus, both as a doctor and a patient. Dr. Balaji, hailed in Times of India as one of Bangalore's Covid Warriors and Lockdown Heroes, became part of the tens of thousands of victims Covid 19 has claimed in this country.

I knew Dr. Balaji as a quiet man who kept to himself but was never without a cheery word or greeting for his colleagues whenever there was an opportunity for interaction. He was also a hard-working and dedicated doctor who felt deeply for his nephrology patients and did everything he could to ease their pain and anxiety. Small wonder, then, that his fellow doctors in the Association contributed over 35 lakh rupees to help fund the lung transplant he needed. Other contributions poured in from Nephrology Associations in neighboring states and through crowdfunding from the general public via Ketto.org. Unfortunately for all of us, particularly for the loving family he left behind – his wife Hemali and teenage sons Hrishit and Niryan – he succumbed to the illness before a donor lung could be made available.

Those who knew him well knew this born-and-bred-in-Bangalore boy as a lover of music and nature, an eager foodie, and a keen gardener. His classmates at National College, Basavanagudi, Dr. Ambedkar Medical College, Bangalore Medical College, and Jaslok Hospital, Mumbai, remember him as a brilliant fellow student and doctor.

We convey our deep sympathies to his young family and pray that the Lord gives them strength to carry on, sustained by the beautiful memories of the loving husband and caring father he was. We shall miss Dr. Balaji and pray that his soul rests peacefully.

Dr. K. C. Gurudev

Professor of Nephrology
President Ramaiah Memorial Hospital
Ramaiah Medical College
Bangalore

Enriching journey of a Milestone

- 50k Renal Biopsies!



I have always been fascinated with the renal system right from my MBBS and later on the post-graduation program at PGIMER, Chandigarh. The unique facility of “Medical Autopsy” and regular weekly Clinicopathologic meetings held in this Institution has been the icing on the cake that further kept my interest alive and burning; we are truly indebted to the family attendants for consenting to the autopsy procedure that many a times unraveled things that were clinically silent.

The residency programme at PGIMER was arduous, enriching, interdisciplinary; it kept us on our toes and changed my complete perspective about pathology. I quote an incident from my post-graduation days that inspired me to take up Nephropathology as a specialty. A great teacher is one who instills passion and shows the path to reach the destination. I am reminded of a late evening during my residency when Prof Dr Kusum Joshi, my teacher, walked into the resident's room to see a renal biopsy. Madam narrated the clinical presentation of the index case by looking at histologic findings even before I could read-out the clinical details from the request form. I treasure this lesson of going through the slides in an unbiased manner, and wish everyone to follow it. Case-based biopsy discussion rounds held with the clinical nephrology team led by Prof Dr Vivekanand Jha bridged the gaps of clinical understanding, addressing the intricate issues of patient management. My joy knew no limits as I stepped into portals of Cedars-Sinai Medical Center (at Los Angeles, USA) for a fellowship program where I learnt nuances of the subject from stalwarts like Late Prof Dr Arthur H Cohen, Prof Dr Cynthia Nast and Prof Dr Mark Haas (the authors whose books/review article, I would often refer to). I was fortunate to be trained and mentored by the authorities in this field who have authored several text books.

When my training was nearing its end, the need to find an appropriate placement started to hound me. I chose Bangalore to test my skills and joined Manipal Hospitals; as one of my childhood friend, Dr Sreedar Reddy apprised about the concerns on outsourcing of renal biopsies at that point of time. Regular fortnightly case-based discussions with colleagues in Nephrology dept at the hospital, and with other Nephrologists at the month-end meetings held by Nephrology Association of Karnataka, reminded me of my alma mater - PGIMER. Practicing histopathology of select two organs is a norm abroad, and I am grateful to Prof Dr Sudarshan Ballal for giving me the liberty to follow a similar practice which further strengthened my focus in this field.

Nephropathology is a segment in which prerequisites of clinical presentation are mandatory, failing which interpretation becomes puzzling. For e.g. a normal looking glomerulus could be minimal change disease in a case of nephrotic syndrome, or capillary basement membrane abnormality evident only on electron microscope in a case of isolated hematuria. Most of the renal diseases are managed with immunosuppression. Histologic diagnosis & prognostic information are key drivers to balance the level of immunosuppressive medications. Hence, our role becomes even more challenging in such scenarios. Similarly, the value of renal allograft histopathology is of paramount importance in managing transplant patients.

As a pathologist, I am blessed to be surrounded by a wonderful team of clinicians. It's our primary responsibility to have a conversation over a phone call with clinicians to enquire about any other organ system involvement or guide them to perform relevant lab/genetic investigations based on histology. A footnote or a comment or consultative services on the morphologic pattern and possible etiology can add so much value to the report, and could narrow down the differential equations that a clinician may be dealing with. Clinicians are always cordial and friendly to reciprocate and it reinforces the team-work for better patient management.

Electronic media like SMS, WhatsApp, telephonic conversation has become an integral part of our practice to expedite communication to the clinical counterpart. WhatsApp has helped immensely in tele-pathologic consultation, especially the deceased donor renal biopsy assessment, however data privacy and confidentiality is something that we need to be mindful of while using these platforms. In the early years of practice, I would often fall back on my mentors through email / conference meetings to discuss the challenging cases. Second opinion matters most in such scenarios esp when clinical presentation doesn't match with the histologic abnormalities. The job has been made easier in the later years by sharing such cases with Drs. Vinay, Kiran & Shweta to have their views.

The Journey of 50k has been very immensely rewarding, personally and professionally. Some of the cases have been published in national and international journals. Histo-technicians are pillars in our routine practice. A fine, thin section stained with different colors of cytochemical stains is a treat to our eyes. The quality work of our technicians has helped me showcase the work in National and International conferences. Few of them have been rare and exceptional cases like Cryoglobulinemic glomerulonephritis, Small Vessel Vasculitis, IgG4-TID, Crystalloid glomerulonephritis, LCAT deficiency, Intravascular Lymphoma, Lipoprotein glomerulopathy, Allograft Rejection, Deceased donor renal parenchymal assessment etc. A tiny pivotal role in the process of auto-transplantation has been a great learning experience. Diagnoses of such cases have enormously rewarded the patients and it is in this area where the role of a Nephropathologist is unparalleled with far-reaching benefits.

Irrespective of subspecialty, one always gets wiser by accepting the feedback from the clinicians on the case, and it's a two way learning process. It may be a critique on content of the report, a follow up investigation, turnaround time or a surprise histologic finding that paved the way to an unexpected diagnosis.

Constant update in the field of renal pathology is mandatory to keep abreast with the new discoveries. Electron Microscope is one of the scopes in Nephropathology that I wish to get involved in. Unfortunately, the cost of this technology has kept it beyond my reach as of now.

In this exciting professional journey of mine, a few moments are truly unforgettable like the satisfaction of staying late at night to complete the days work, or the thrill of reaching a diagnosis which is quite rare and described only in a handful of literature. The felicitation by Manipal Hospital and the Nephrology Association of Karnataka, in recognition of my passion and commitment to the field of nephro-pathology has been truly heartwarming and humbling.

Learning never stops! and I am eagerly looking forward to the next 50k soon (hopefully much sooner than the previous 50k)...!!

My gratitude to each and every patient who consents and lends tissue for examination that teaches us in honing our professional skills. I owe this journey to my mentors, clinical colleagues and patients to whom I will always remain indebted to.

Dr. Mahesha Vankalakunti
Senior Consultant Nephropathologist
Manipal Hospitals, Bengaluru

ABO INCOMPATIBLE KIDNEY TRANSPLANT

- My Quest and Journey Along the Less Treaded Path



Dr. Deepak Kumar Chitralli

Consultant Nephrologist & Transplant Physician
Manipal Hospitals, Yeshwanthpur unit
Bengaluru

When faced with an inevitable situation wherein a kidney transplant has to be performed between a donor and the recipient with different blood groups, ABO incompatible Kidney Transplantation (ABOi KT) offers a possible solution.

Evolution

Things once considered impossible have become possible with medical evolution and ABOi KT is one such evolution, because transplanting across different blood groups was considered an absolute contraindication until 1980s.

In early 2000, ABOi KT gained popularity in Japan and Europe, later spread across the globe. The first reported ABOi KT procedure in India was performed in Hyderabad at Kamineni Hospitals on 19 July 2011. Over the last decade, various transplant centers across Karnataka have successfully performed ABOi KT and now majority of transplant centers do not reject a case for transplant citing incompatible blood groups.



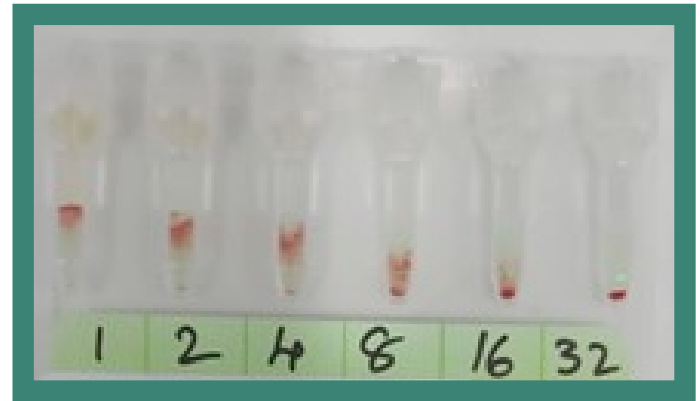
We performed our first case of ABOi KT in early 2018 at Columbia Asia Hospital, Yeshwantpur (presently Manipal Hospitals). The case was challenging since it involved reconditioning the whole system to this relatively new concept, and requiring co-ordination between various teams: Nephrology, Transplant surgery, Blood bank and others. It was a gratifying experience as the patient did extremely well after transplant, thus opening the door for us to perform more such transplants.

Over period of years, we have developed our own protocol for ABOi KT which could be tailored as per the recipient's clinical profile. Till date, we have performed 40 ABOi KTs with good outcomes.

Taming the titers

Isoagglutinins titers (ISA) against the donor blood group are of paramount importance in the process of ABOi KT and its removal during peri-transplant period is the cornerstone for success of these transplants.

This involves estimation of isoagglutinin titers prior to transplant using the gel card method and planning a suitable method of ISA eviction. ISA removal can be done by the ISA suppression (rituximab) and ISA eviction - Plasmapheresis (PP) or Immunoabsorption (IA). The number of sessions of PP or IA depends on baseline ISA titers and the patient profile. Target titers to be achieved are 1:8 or less on the day of surgery and we chose to do PP/IA if titers rebounded more than 1:64 during first one week after transplant.



Immunosuppression therapy involves Antithymocyte Globulin (ATG) as an induction agent at a dose of 2mg/kg body weight as standard and triple immunosuppression as the maintenance regimen (similar to blood group compatible KT).

Blood products used are Fresh Frozen Plasma (FFP) - AB blood group or the donor blood group and Packed Red Blood Cells (PRBC) of recipient group.

This has led to a unique cohort of 40 cases, as it involves a single method of immunosuppression; immunoadsorption procedure (Glycosorb column) and Plasmapheresis (Centrifugal PP).

Concluding remarks

ABOi KT expands the donor pool and minimizes the shortage of kidneys for transplant. With improved and standardized desensitization protocol it has led to excellent patient and graft survival.

The journey so far has only been possible with guidance from my mentors at St Johns Medical College, including Dr Gokulnath; Dr Anil BT with whom I performed the first ABOi KT at BGS Global hospitals. I also thank Dr Ajit Huligol, Dr Sudarshan Ballal, Dr Sankaran Sundar and all the NAK members for their support and for whole heartedly for encouraging me throughout.

Thank you



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Evolution of Deceased donor program in Karnataka



Ms Lijamol Joseph

Chief Transplant Coordinator
Jeevasarthakathe
SOTTO - Karnataka

The roots of organ donation in Karnataka trace back to the establishment of the Foundation for Organ Retrieval and Transplant Education (FORTE) in 1995. This noble initiative laid the groundwork for a burgeoning movement. In 2005, the program underwent a transformation, becoming the Zonal Coordination Committee of Karnataka for Transplantation (ZCCK), further amplifying its impact. A significant milestone was reached in 2017 when it was formally registered as a society under the name Jeevasarthakathe. This step marked the organization's evolution into a streamlined entity dedicated to orchestrating efficient and effective organ transplantation processes. The culmination of these efforts occurred in 2022 when Jeevasarthakathe received recognition from the Central Government, earning the title of State Organ and Tissue Transplant Organization (SOTTO) Karnataka.

FORTE (Foundation for Organ Retrieval and Transplant Education 1995)



ZCCK (Zonal Coordination Committee of Karnataka 2005)



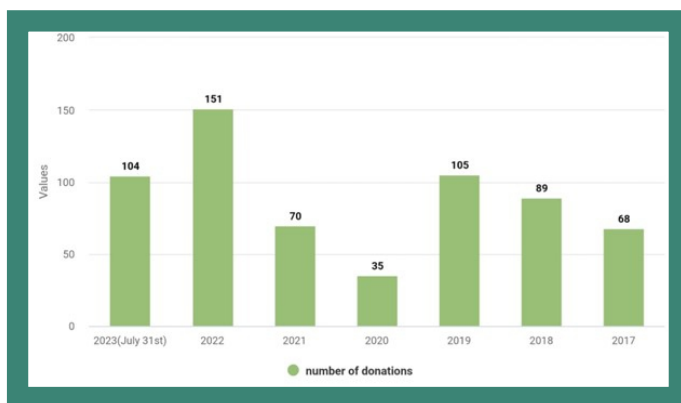
JEEVASARTHAKTHE (2017)



SOTTO (State Organ and Tissue Transplant Organization 2022)

SOTTO Karnataka operates under the guidance of the Appropriate Authority for Transplant in Karnataka, led by the Commissioner of Health & Family Welfare Services, Government of Karnataka. The organizational framework includes a General Body and an Executive Committee, alongside organ-specific advisory committees. This structure embodies their mission to drive public awareness, ensure seamless coordination, and maintain a transparent system, all of which contribute to saving lives and instilling hope in those grappling with organ failure. In its pursuit of excellence, SOTTO Karnataka has strategically divided the state into five zones: Bengaluru, Mangaluru, Mysuru, Hubballi-Dharwad, and Kalaburagi, with Bengaluru serving as the central hub. SOTTO Karnataka's unwavering commitment to its mission has yielded outstanding results over the years. The recent organ donation data for 2022 indicates significant progress, with 151 brain-dead donors and multiple successful transplantations, including 233 kidney transplants, 124 liver transplants, 12 lung transplants, and 46 heart transplants. The program has also facilitated cornea transplantations, benefiting 246 individuals.

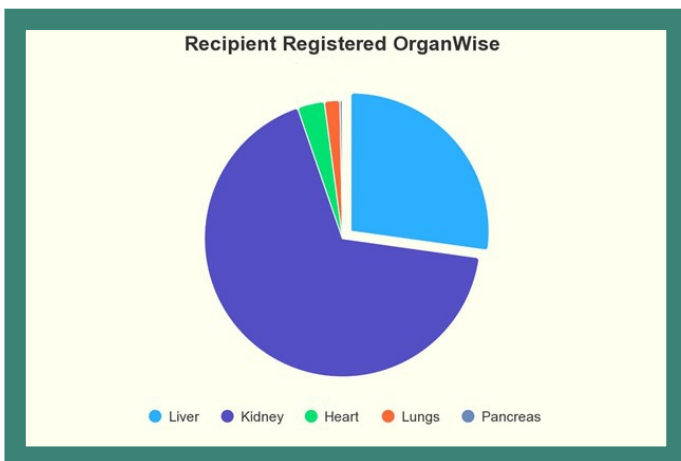
Current donation Status



The rising demand for organ transplants reflects the harsh reality of the scarcity of organs. Despite the remarkable increase in organ donations, the number of patients still on the waiting list for life-saving transplants is overwhelming. This disparity between the supply and demand highlights the urgent need to address the obstacles that hinder organ donation. One such challenge arises from the persistent myths and misconceptions surrounding organ donation, especially at the time of death. These unfounded beliefs often include concerns about disfigurement of the body or the soul being hindered in moving onto the afterlife due to delays in cremation.

Many religious organizations across the world have embraced this call to compassion, promoting awareness and education about organ donation within their communities. By registering as organ donors and making their intentions known to their families, people of all faiths can ensure that their wishes will be fulfilled and countless lives may be saved.

Current waiting list of organs



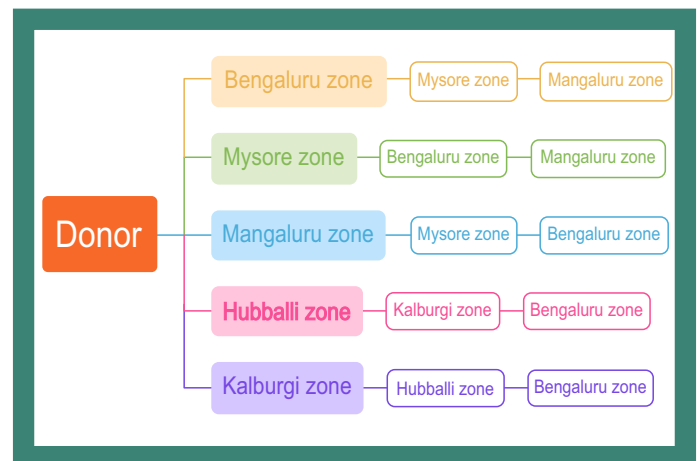
Self-Sustaining Nature of the Karnataka Organ Donation Program

The success and sustainability of the Karnataka organ donation program, under the banner of SOTTO Karnataka, can be attributed to a well-structured framework, comprehensive coordination, and a relentless commitment to raising awareness. The program's self-sustaining nature is rooted in its multifaceted approach and dedicated efforts.

Coordinated Deceased Donor Donations- SOTTO Karnataka serves as the central coordinating body for deceased donor donations across the state. This centralized approach ensures an organized and efficient process for organ retrieval and transplantation. By maintaining a network of medical professionals, coordinators, and advisory committees, SOTTO streamlines the complex logistics involved in organ donation, minimizing wastage and maximizing opportunities.

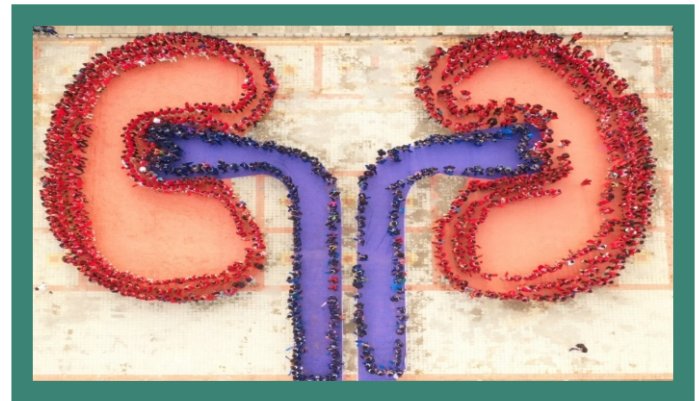
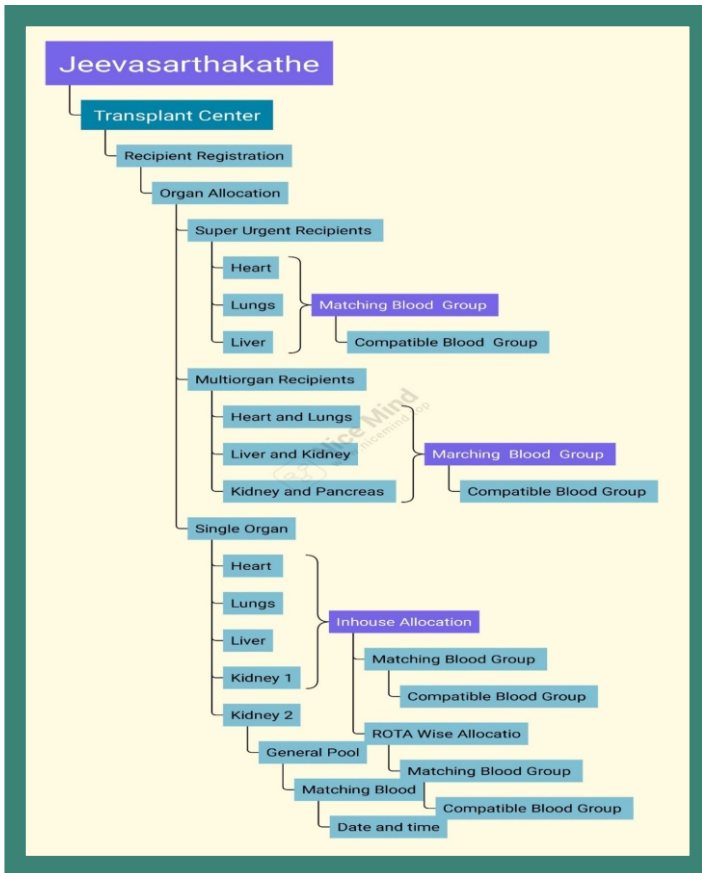
Maintenance of Pledge Registry- The organization diligently maintains a comprehensive pledge registry, meticulously documenting received pledges.

Zone-Based Allocation policy- To ensure optimal usage of organs and clinical decisions, Karnataka is divided into five zones with organ allocation priority to the same zone. Zone-wise allocation and approval mechanisms guarantee transparency and fair distribution of organs.



Recipient Registry Management- SOTTO Karnataka meticulously manages the recipient registry, a repository for heart, lungs, liver, pancreas, small bowel, and kidney transplant recipients, facilitating efficient allocation.

Designing Organ Allotment Guidelines- The organization formulates guidelines that ensure fair and ethical allocation of organs, guaranteeing transparency and equitable distribution.



(Kidney shaped human chain by over 5000 people during awareness drive in Bengaluru in Aug 2022)

Collaboration for Optimal Organ Distribution- SOTTO Karnataka collaborates closely with ROTTO & NOTTO to ensure effective organ distribution, minimizing organ wastage and maximizing the opportunity for life-saving transplants.

Facilitating Cadaver Transplants- When notified of a brain-dead patient, SOTTO's coordinators step in, providing counseling and seamless coordination for cadaver transplants, emphasizing compassionate care.

Coordinated Transplantation - Expert Transplant Coordinators liaise between deceased donors at retrieval centers and recipients at respective hospitals. They manage cross-matching, involve police personnel, and collaborate with airport authorities when necessary.

Spreading Awareness- The emphasis on awareness programs sets SOTTO Karnataka apart. Even during challenging times, such as the pandemic, the organization utilized online platforms and innovative events to spread awareness. Notable initiatives, like the human chain involving medical professionals and prominent dignitaries, demonstrate the commitment to reaching the masses and garnering public support. The engagement of governmental figures and collaboration with local communities solidify the program's roots.

1. Quiz Program for nephrology resident doctors

NAK had organized a quiz for resident doctors and this meeting witnessed active enthusiastic participation from all resident nephrology doctors from all institutions. After the initial screening round, four teams were selected for the quiz. Our quiz masters, Dr. Aravind Canchi, Dr Garima Aggarwal, Dr Jairam, Dr. Girish from Ramiah hospital with their engaging and thought-provoking questions ignited curiosity and challenged every minds and made learning an exciting adventure. All participants received certificates.



2. Insights of research activities in NAK community

The NAK meeting was held on 22nd June with the theme of “Insights of research across NAK”. The following topics were presented:

(1) Ferrotoxicity and its amelioration by vitamin D in acute kidney injury: in vitro and in vivo studies by Dr Chandrashekar

(2) Utility of Reteplase in Dysfunctional Vascular access. 6 month follow up and Ultrasound guided Vascular access salvage procedures by dr Girish from INU

(3) Application of USG waves across the dialyser membrane for study of clearance by Dr Girish (Manipal Hospital)

(4) “Clinicomicrobiological profile and outcomes of Carbapenem Resistant Urinary Tract Infections at a Tertiary care hospital in South India” by Dr. Rahul Sai.(ramaiah hospital team)

3. Interesting cases presentation by Hubli Dharwad team

This NAK meeting witnessed a series of interesting cases presented by Hubli Dharwad team. The following cases were discussed

1) 'Out of the blue' transplant case involving multiple transplant centres - Dr Nagraj Naik, SDM College of Medical Sciences and Hospital, Dharwad

2) "Sheep in Wolf's clothing" : a case series" - Dr Chetan Mudarbettu, Suchirayu Hospital, Hubli



3)'Taming the rise of the sleeping giant' : Challenging case of acute graft dysfunction in early post transplant - Dr Shreyas Pickle, PG KIMS, Hubli





4. CME on Interventional Nephrology

NAK conducted CME on interventional Nephrology on 27th August. The domains of interventional Nephrology from performing kidney biopsy, Tunnelled dialysis catheter insertion, Peritoneal dialysis catheter insertion, AVF creation by nephrologist and AVF salvage procedures were discussed.



Nephrology Society of Karnataka

In association with

Emcure

Cordially invites you for the Scientific Session on

Interventional Nephrology

 Sunday
27th Aug '23

 09:30 PM
01:00 PM

Program Agenda

TOPIC	TOPIC
Trouble Shooting in Kidney Biopsy	Perils in Tunnelled Catheter Insertion
Dr. Pooja Prakash Prabhu Ramaiah Medical College	Dr. Prashanth D Apollo Hospitals
TOPIC	TOPIC
Simplified Steps in PD Catheter Insertion	New horizons in Fistulogram and Fistuloplasty
Dr. Vinod N Narayan Health City	Dr. Girish INU
TOPIC	TOPIC
Catheter Directed Thrombolysis	Avfistula Creation by Nephrologist
Dr. Madarakki	Dr. Manjunath Doshetty

Program Followed by Lunch

Radisson Blu Atria, Bengaluru





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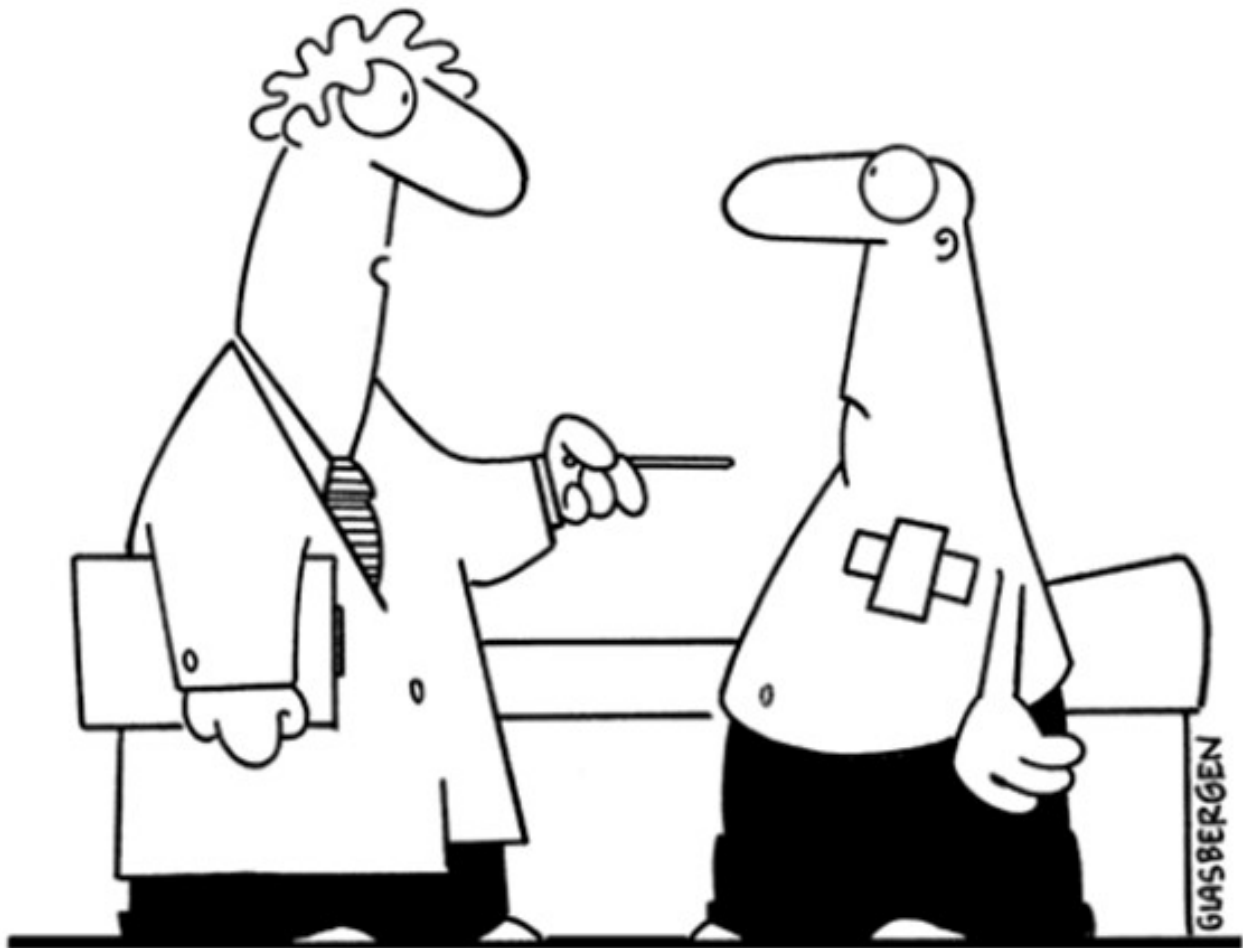
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Biotin with Essential Vitamins Tablets

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Methylcobalamin 500 mcg

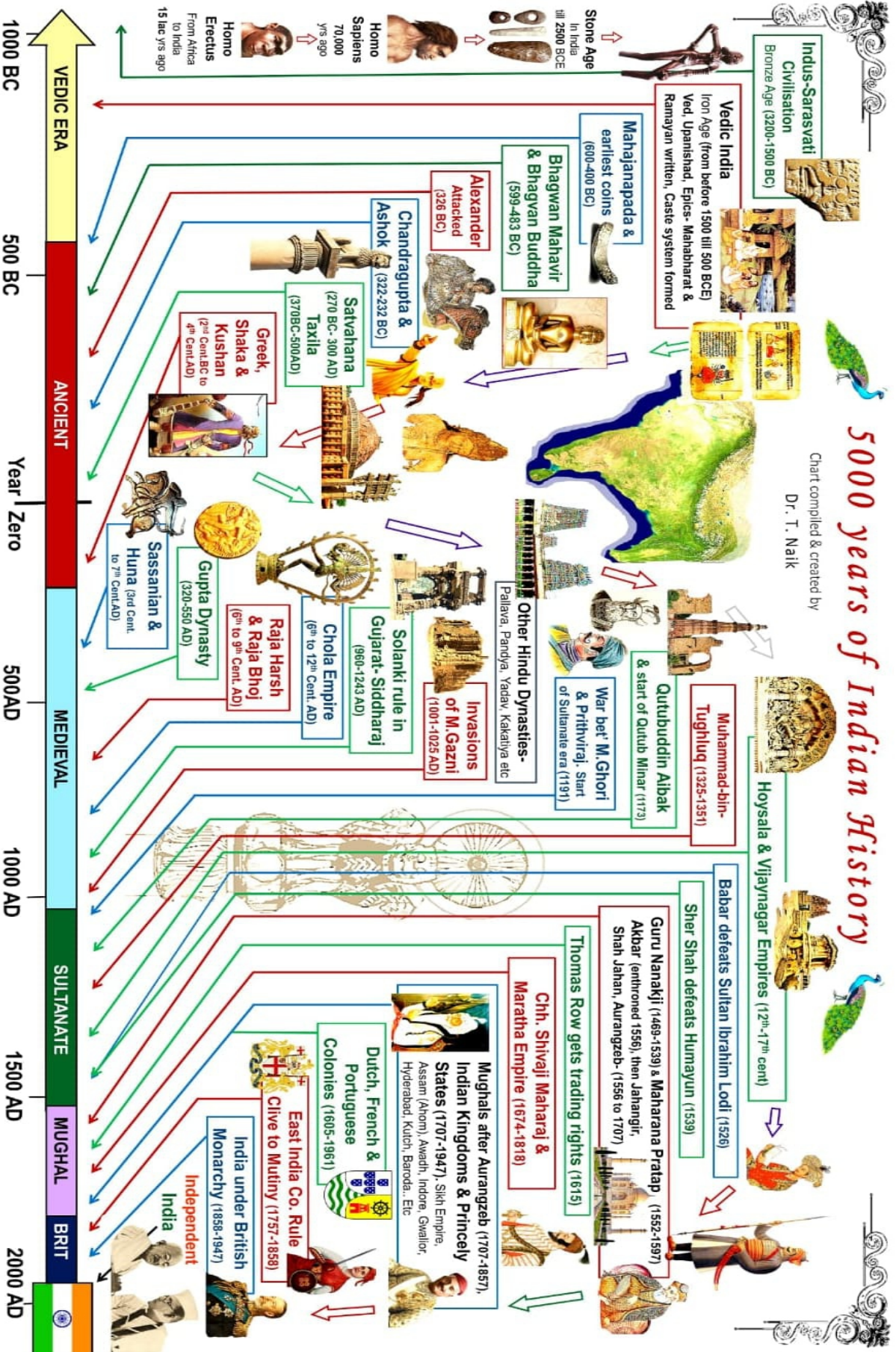


LAUGHTER
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NAK Upcoming Events

1. Felicitation of Dialysis Technicians for the contribution towards Dialysis care, teaching and innovations
2. Dr Talwarkar Oration next month
3. Dr Ajay Kher and Dr Vijay Kher – Guest Lecture on High Risk Renal transplants
4. Launch of NAK website
5. NAK Transplant Games

For any contributions and Reviews, please contact

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