ISOT Newsletter

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Editorial

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I have been an ardent proponent of minimally invasive techniques with advanced technology, and it reflects in my choice of being a urologist, then further subspecializing in robotics and renal transplantation. This aspect is extremely close to my heart, and I am tremendously passionate about the same.

In the ever-changing scenario of kidney transplants, challenges to providing a safe outcome involve a lot of teamwork. Fantastic advancements have been seen in immunosuppression protocols from the era of Azathioprine/cyclosporine to the present, but many challenges prevail on the surgical front. The benefits of “Minimally Invasive Surgery” (MIS) are well documented and translate into lesser surgical morbidity. By the turn of the century, “Laparoscopic Donor Nephrectomy” made its presence felt, gradually evolving to its present state, and is now offered as the standard of care the world over. The frail, cachectic, malnourished, and immunosuppressed recipient always underwent open surgery and was more prone to surgical complications like blood loss, pain, and wound-related complications like infections, poor healing, dehiscence, etc. We were determined to translate the MIS benefits to the CKD recipient, who needed them the most.

Way back in 2009, we were toying with the idea of providing a MIS approach for the recipient surgery, and a literature search revealed a select group of urology colleagues from our country already doing “Laparoscopic Recipient Surgery”. 1 The limitations to this procedure were the need to possess a highly advanced MIS skill set needed for laparoscopic vascular suturing and the resulting prolonged ischemia times that translated into suboptimal graft outcomes. The introduction of the surgical robot in kidney transplantation changed everything.

Why Robotics? The surgical robot provided the ideal platform for this complex procedure. It works on the principal of “Master (surgeon) and Slave (robot)” concept wherein the surgeon's hand movements are replicated by the robotic arms and instruments. The robotic instruments, like an Endo wrist, have 7 degrees of freedom of movement with the tip of the instrument moving like the surgeon's wrist and a steady camera with its 10X magnification and 3D imaging and the total absence of hand tremors makes complex vascular suturing easier in a comfortable OR setup (Images 1 to 4). The challenge was to combine our transplant and robotic experience to provide a minimally invasive platform for the recipient's surgery while providing an equivalent and safe outcome. We introduced “Robotic Kidney Transplantation with Intracorporeal Hypothermia – The Medanta Vattikuti Technique” to the world in 2012.2,3

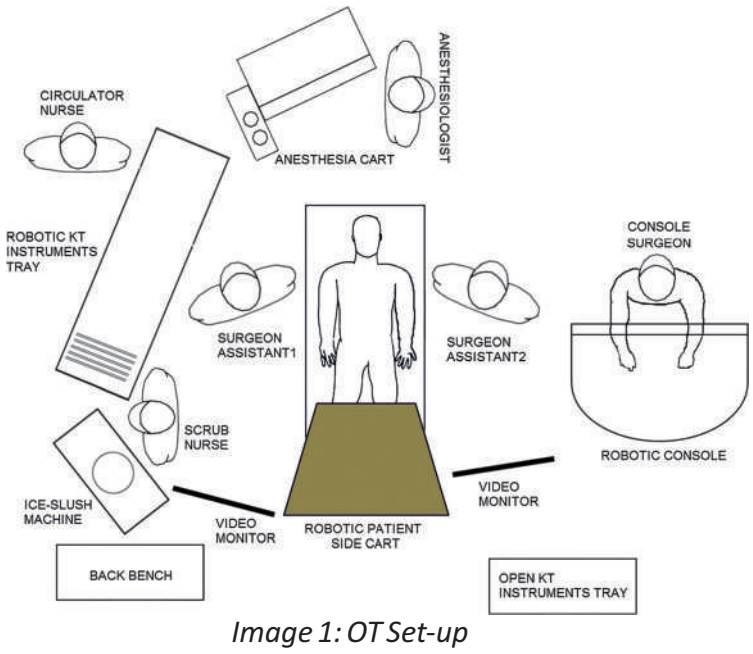

Image 1: OT Set-up

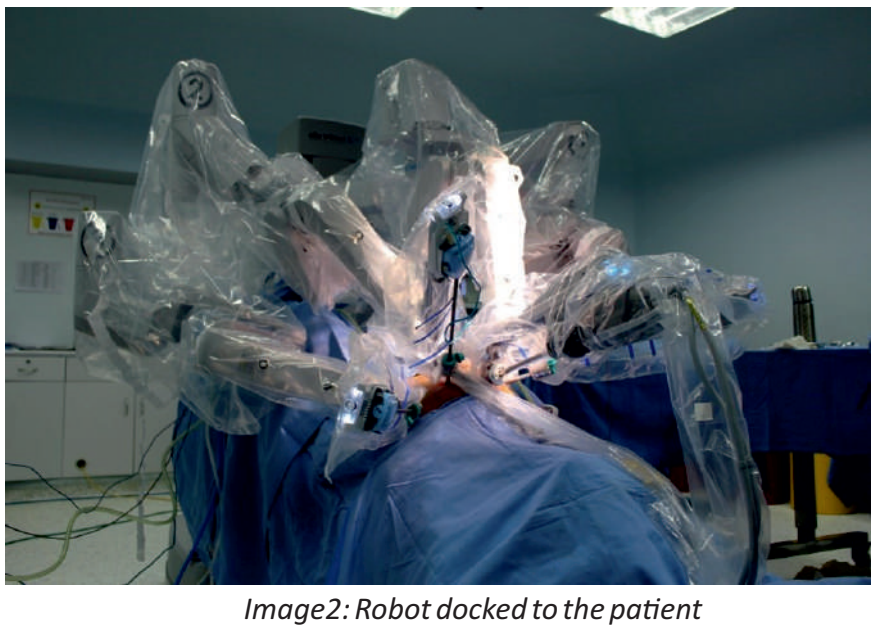

Image2: Robot docked to the patient

Image 3: Dual Console Robotic System for teaching purpose

Image 4: Surgical assistants and scrub nurse seated comfortably

The introduction of any new surgical technique involves a lot of justifications, evidence, debates, reviews, ratifications, and consensus. The 'IDEAL Guidelines"2 were the perfect platform to shape our research. After a lot of discussions, critical analysis of our proposed technique, revisions, and consensus, we were given clearance by the Institutional Review Board and the Ethics Committee of our institution. We began our phase 0 (pre–human) trials in 2011. This was followed by phase 1 study at our institution in February 2012. Phases 2 and 3 were carried out until 2019.3-6 These were feasibility studies and a non-inferiority trial that we conducted, and the results of which, although comparable, could not improve the outcomes of standard open kidney transplantation. We simply do not have enough data or evidence to say that robotic kidney transplantation (RKT) is better than open kidney transplantation, but surely it is a feasible and safe alternative. Presently, we are in the process of analyzing data for a phase 4 RCT from our center.

More importantly, the outcomes of these studies proved that robotic kidney transplantation is feasible and is a safe MIS alternative with equal functional outcomes, a significant reduction in surgical morbidity in terms of blood loss, pain, wound infections, and an early return to work (Fig. 1a and b). This procedure gained rapid acceptance by most of the large transplant centers across our country that had access to the surgical robot, and by conservative estimates more than 1,250 procedures have been done collectively across institutions mostly localized in the north and west of the country till date. Centers, especially in Europe and the US, followed. Peer-reviewed publications and critical analysis across these centers put the feasibility and safety of this procedure beyond doubt.5,6 These results were replicated globally by almost all centers performing RKT.

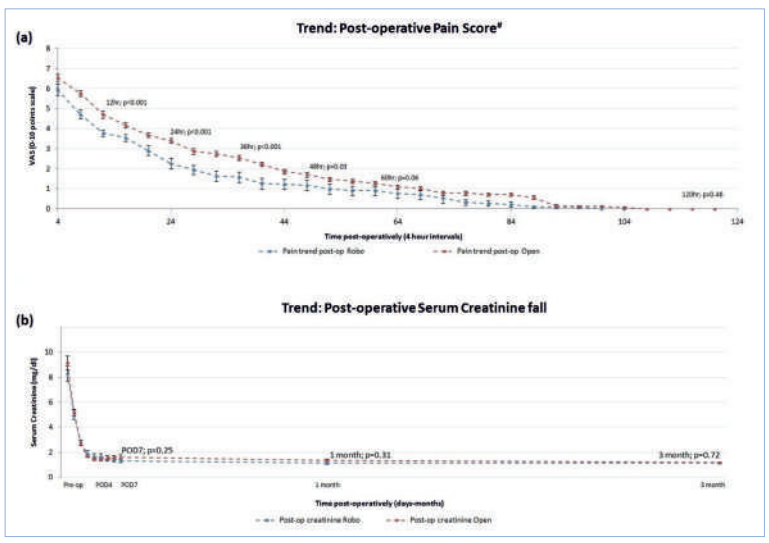

Figure 1 (a and b): Functional outcomes

Looking forward, in a country as large as ours, with more centers getting officially recognized as transplant centers, the surgical volume will increase proportionately. Considering the rapid technological advances in surgical systems for conducting minimally invasive surgery, RKT will surely gain acceptance with most of the surgical fraternity. Most urology departments in our country already have or are in the process of acquiring a surgical robot, and those with an active transplant programme will not remain untouched by this advanced technology. As we evolved, we started expanding our inclusion criteria, and now we do grafts with multiple vessels, ipsilateral or bilateral iliac fossa dual kidney transplants, pediatric transplants, auto transplants, and are further pushing the envelope into orthotopic transplants and complex vascular reconstructions. In the present scenario, the unavailability of the robot, lack of robotic surgical training, high acquisition cost, lack of infrastructure, and slight hesitation by the medical fraternity are perceived roadblocks, but considering the relative ease of doing the procedure with all the benefits of MIS will incentivize its wider acceptance.

Open kidney transplant is the backbone and will remain the mainstay of the surgical technique, but it cannot stay untouched by the rapidly advancing technology. Embracing the change gently and gracefully is the essence. Real change is troublesome; it is destabilizing; it is scary; it pulls one out of the "comfort zone," but being an eternal optimist, I will always believe that what we all create in the present is what we wish will flourish in the future.

References

1. *Modi P, Rizvi J, Pal B, et al. Laparoscopic kidney transplantation: an initial experience. American Journal of Transplantation. Jun 2011;11(6):1320-4.*
2. *Menon M, Abaza R, Sood A, et al. Robotic kidney transplantation with regional hypothermia: evolution of a novel procedure utilizing the IDEAL guidelines (IDEAL phase 0 and 1). European Urology. May 2014;65(5):1001-9.*
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Editor's pick

Introducing ChatGPT: Your Smart Conversation Partner for Limitless Discussions!

Dr. Sunil Shroff
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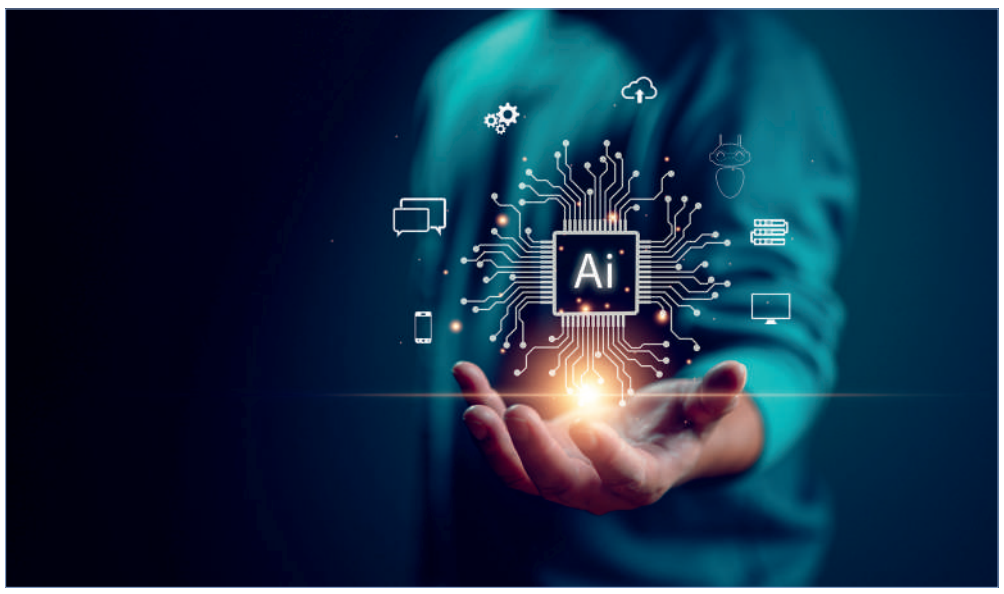
ChatGPT is based on the OpenAI GPT-3 model, which was trained on a dataset containing hundreds of gigabytes of text data, equivalent to hundreds of thousands of books. The exact number of text pieces or information sources used for training is not disclosed, but it's safe to say that it was exposed to an extensive and diverse range of text content. GPT stands for "Generative Pre-trained Transformer." It is a type of AI language model developed by OpenAI that uses transformer architecture and is pre-trained on a large corpus of text data, allowing it to generate coherent and contextually relevant text-based responses.



ChatGPT uses an AI-powered language model for text-based interactions with humans. Utilizing machine learning algorithms, it crafts responses to questions or statements by drawing on patterns and information from vast amounts of text data.

In essence, ChatGPT functions as a highly knowledgeable and intelligent conversation partner. It can comprehend and respond to a wide array of topics, from simple inquiries about weather or current events to more complex dialogues on subjects like science, technology, and philosophy.

ChatGPT is not a physical thing. Instead, it is a software programme in the cloud that can be accessed through different chat platforms, such as messaging apps or websites, and is available to anyone with internet access.

As a whole, ChatGPT serves as a potent resource for providing information, support, and entertainment worldwide. Its capabilities continue to advance as the machine learning algorithm evolves and learns from additional data.

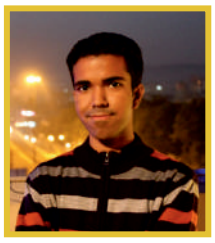
The implications of ChatGPT for content writing are considerable. Capable of generating high-quality, human-like responses, ChatGPT can be employed to produce blog posts, news articles, product descriptions, or even entire websites or e-books. However, it's important to recognize that ChatGPT is not infallible and has its limitations. Though it can generate natural-sounding and coherent text, it can also produce irrelevant or nonsensical responses. Consequently, human writers will likely still be required to edit and refine the content generated by ChatGPT.

Moreover, ChatGPT is not a substitute for human creativity and innovation. While it can generate text based on pre-existing patterns and information, it cannot develop entirely new ideas or concepts. As a result, creative and critical human writers will continue to hold value in the content writing industry.

"You will live on even after you are gone.
Take a simple step, Donate your organ."

Resident's Corner

“Fighting The Gods"



Dr. Debarun Choudhary
DrNB Resident,
Sir Ganga Ram Hospital,
New Delhi.

“What is a human but an ingenious machine designed to turn, with “infinite artfulness, the red wine of Shiraz into urine?” - Seven Gothic Tales by Isak Dinesen

During my MD days, I read an article by the renowned nephrologist Dr. M.K. Mani, "What we should do for chronic renal failure in India". It is thought-provoking. Much has been done, and much more remains to be done. Kidney transplantation is an exciting option but comes at a price. Patients believe it is their panacea; it is not. The battle of two unfamiliar cells is like A Song of Ice and Fire. There is science, and then there are gods (for all things "idiopathic"). We, as doctors, bend the rules of nature, transferring organs from one human to another, and now from animals too! Some patients go back to their "normal lives", some die, and some live with a "failed graft." We do not have all the answers. But we sail on, driven by the little that we know, seeking more wisdom. ABO incompatible? Unacceptable antigen? Impossible is nothing; it is how much we can put at stake. It is for our patients' sake that we will keep fighting, even against the gods.

Women in Transplantation

Dr M. Sreelatha
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We are all aware that kidney transplantation is the most effective treatment for chronic kidney disease (CKD) G5, whether male or female. The current world population is approximately 800 crores. Females account for 49.1% of this total. As a result, females outweigh males in the population. If we consider CKD, around 850 million individuals worldwide have some sort of kidney disease, with 85 lakh patients suffering from CKD G5, awaiting kidney replacement therapy.

When it comes to individuals having kidney replacement therapy (20 lakh out of 85 lakh), 71% are men and only 29% are women. The condition of transplant patients is still getting worse. Females account for only 27% of the 1.3 lakh kidney transplants performed worldwide each year. The scenario is not different in India. Only 32% (8,000) of the 25,000 kidney transplants performed in India each year are performed on women. Why are women underrepresented in the field of transplantation?

Why are women not getting the best treatment for kidney failure? Are they taking a step back because they do not want to burden their family? Are they accepting their disease as their fate and remaining silent, like they do in all other family matters? Do they think that the family should not have to spend money on her therapy, therefore affecting the family's economic budget?

Or is it the family's decision that the women in the family do not require or are not worthy of receiving appropriate treatment? Most often, she is not the family's primary source of income. There are some households where the wife divorces after being diagnosed with kidney illness, believing that her husband cannot bear the extra burden of her treatment.

All these mindsets must be altered in this era of sexual equality. Both male and female income providers are now present in 75% of families. So, at times of anguish and disease, she should be given an equal position in the family. Women must speak up, understand that they are not the only ones suffering, and demand adequate and equal consideration in the family and society. They should not constantly be hidden behind the curtain.

If we look at the donor profile, we can see that females donate kidneys in 90% of cases. Only 10% of donors are men, whereas 90% of beneficiaries are men. Why does the wife always give to the husband in spousal transplantation? Is it because of family pressure, and donation of one kidney has become critical for her survival in that family? Women believe that donating a kidney to a family member is their obligation.

The field of transplantation is dominated by male nephrologists, with only a few female nephrologists active in the field. Only 10–20% of the more than 60 lady nephrologists in Kerala are participating in kidney transplantation. Why?

We ought to search for answers to all these questions. Under the leadership of Dr. Urmila Anand and Dr. Manjusha Yadle, the wing of WIN (Women in Nephrology) India is a very active organisation. We hope that WIN India will look into all of these matters in the field of transplantation and bring our women's community of patients and nephrologists to the forefront.

Patient advocacy

A Mission Dedicated to Serve the Suffering Humanity

Bimal Kr. Jain
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It gives me immense pleasure to know that the second bimonthly bulletin of this year's ISOT is going to be published and feature this article. Drawing inspiration from the words of wisdom "They alone live, who live for others, others are mere dead than alive" of revered Swami Vivekanand, I take this opportunity to express my gratitude towards the selfless and persistent efforts of Dr. Sunil Shroff and Dr. Vivek Kute for spreading awareness about the importance of organ donation not only through their words but also through their actions. Both of them, having envisioned mobilizing a nationwide movement to highlight the importance of organ donation, have relentlessly been working towards such a goal for the last 20 years. I was left overwhelmed to know about the exemplary contribution of Dr. Vivek Kute, in the field of organ transplant. I seek blessings for him from the almighty for making such a noble contribution to society.

As per our rich ancient tradition, Maharshi Dadhichi is considered to be the first body donor of the universe, who donated his body to end the demonic nature and protect the creature. Apart from being a great ascetic, Maharshi Dadhichi is a source of inspiration for all of us who have sacrificed and donated our entire bodies for the welfare of the world.

In modern times, human organ transplantation is achieved through a complex surgical procedure wherein a healthy organ from a living or deceased person is transplanted into an individual suffering from end-stage organ failure. Vital organs like the heart, liver, kidneys, pancreas, intestine, lungs, etc. can be donated if we die of brain death; however, cornea, skin, bones, cartilage, heart valves, and other tissues can be donated after cardiac death. Organ donation is a life-giving opportunity for those who are at the end of their lives of hope.

I further take the opportunity to apprise you that an all India meet of all the NGO's working in the field of organ donations was held on September 3–4, 2022, at Delhi under the chairmanship of Sri Alok Kumar, Chief Patron of Dadhichi Dehdan Samiti, Delhi, and National Working President of Vishwa Hindu Parishad, wherein more than 46 NGO's representing 22 states and 10 government departments related to health and organ donation participated. It was the first national initiative where Union Health Minister Mr. Mawandia, Sri Sushil Kumar Modi, Sri Ganga Prasad, the then Governor of Sikkim, Dr. Harshwardhan, the former Union Minister of Health, and Hon'ble Vice President of India Sri Jagdeep Dhankhar graced the occasion.

One national committee was formed under the chairmanship of Sri Alok Kumar to sensitize the organ donation campaign throughout India and repeal all the obstacles of law, as well as infrastructure, awareness, medical facilities, etc.

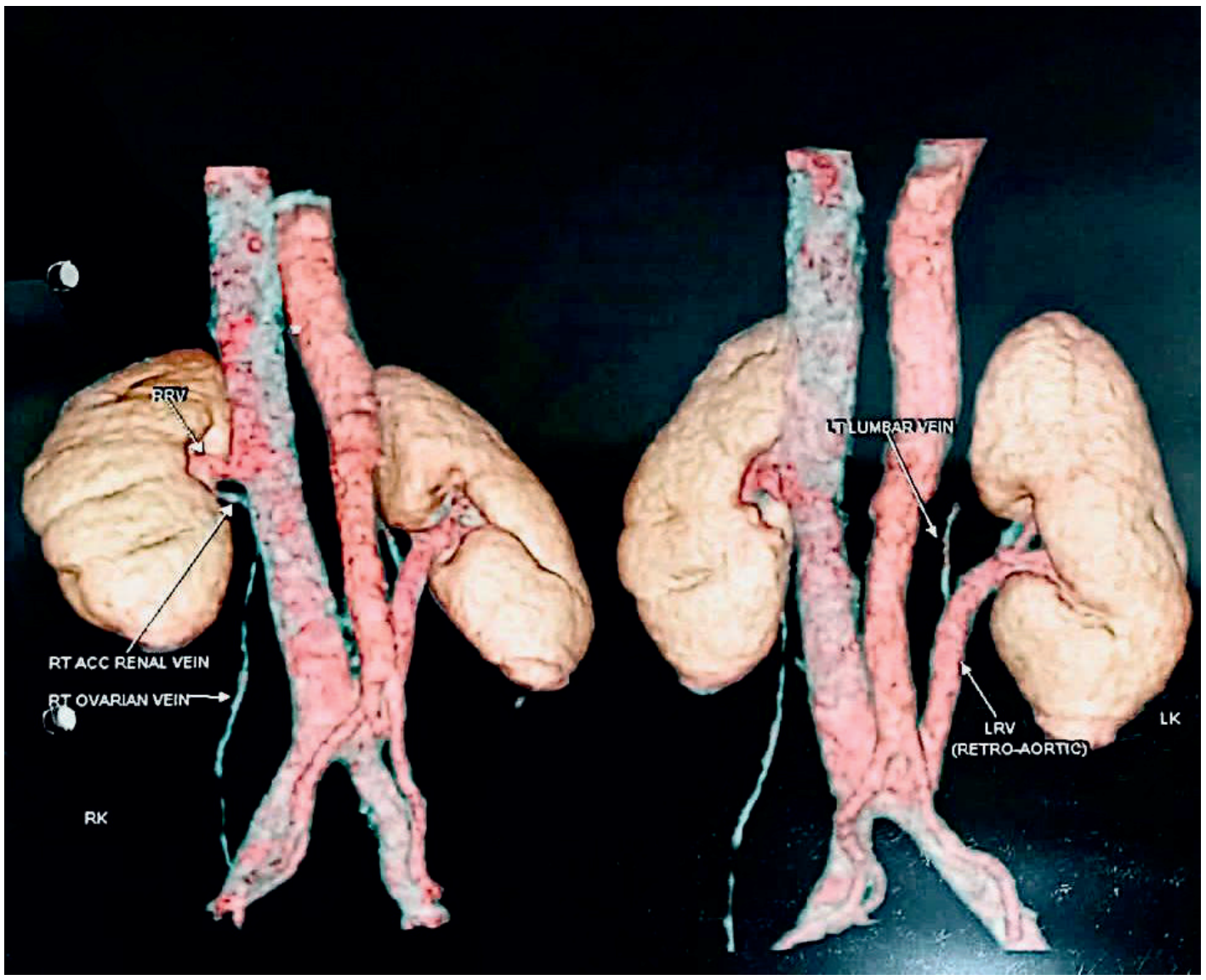
We express our deepest appreciation towards Mr. Nilesh Mandelwala, of Surat, who has successfully contributed to the donation of 1106 organs and tissues, including 460 kidneys, 197 livers, 8 pancreas, 45 hearts, 32 lungs, 4 hands, and 360 corneas, giving a new lease on life and vision to 1012 organ failure patients through "DONATE LIFE". Recently, Honble Prime Minister Sri Narendra Modi Ji, during his 99th "Man Ki Baat," expressed his considerate view on organ donation. He has insisted that we try to formulate one law regarding organ donation and spread awareness campaigns on a pan-Bharat basis. We look forward to initiating a nation-wide congregation through which the importance of organ donation could be popularised and the general public could be motivated to donate organs in a phased manner, starting with eye and corneal donations, with the objective of eradicating such problems and suffering related to eyes and corneas within 7–10 years. I am of the firm opinion that our concerted efforts in this direction would yield great welfare for society. At last, in Hinduism, special emphasis has been laid on the power of charity. God has given him life and, in the end, handed it over to him. You can play the second inning of life by donating an organ. GIVE IMMORTALITY TO THE DECEASED.

अंत में,

"एक ऐसा कार्य, जो स्वयं नहीं कर सकते भगवान।
स्वेच्छा से अंगदान, जो कर सकता है सिर्फ इंसान।।

Make your diagnosis

What form of renal vein anomaly do you see here? In renal vein anomalies, where does the adrenal vein drain?



[Credit: Dr. Vel Arvind Subramaniam, Senior Consultant Nephrology, Pine Apple Dialysis Care, Karur Bypass Road, Trichy]

What is your diagnosis?

Keep an eye out for the answer in the upcoming edition

DONOR CARD

Name: .....

Age: ..... Blood Group: .....

After my death

A) Any part of my Body ☐ or

B) My Corneas ☐ Kidneys ☐ Heart ☐ Lungs ☐ Liver ☐ Pancreas ☐

May be used for the treatment of others

Signature: ..... Date: .....

In Emergency, Contact:

.....

..... Tel: .....

Keep this card with you at all times. Please inform your relatives/family about your wish.

"You give but little when you give of your possessions.
It is when you give of yourself that you truly give."
- Khalil Gibran
Be an organ donor

Spot the diagnosis

Four months Post transplant with

- Dry Cough
- Fever
- SpO_2 - 82%

[Credit: Dr Anand Dharaskar - Fellowship in Clinical Transplant, UK]

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Or scan the QR code

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April 19 -20, 2023

Rome, Italy

17th International Conference on Urology and Nephrology (ICUN) 2023

May 15 -16, 2023

London, United Kingdom

19th World Nephrology Congress

May 25 -26, 2023

Singapore

American Transplant Congress 2023

June 3 -7, 2023

San Diego, CA, United States

Submission Guidelines

Members of ISOT are invited to submit articles, personal perspectives, and stories related to the field, which may include intriguing cases, appealing images, jokes, and cartoons, as well as news regarding regional and state meetings. The maximum length for submissions is between 800 and 1,000 words. Please include a statement stating that your entry does not violate any copyrights. Kindly submit to isotnewsletter@gmail.com

All newsletters will be made available on ISOT website (www.isot.co.in)