Dr. Dev S. Pardanani

UG 1953

Urology, Retired

Mumbai

Dr. Pardanani's narrative intertwines seamlessly with the rich tapestry of myths and legends found in diverse cultures, reaching back as far as the 2nd century B.C. These tales frequently involve the metamorphosis or substitution of body parts and the transference of qualities.

Yet, it was Sushruta, an ancient Indian surgeon, who introduced the surgical dimension to these narratives by pioneering skin autografts for rhinoplasty. This marked a monumental stride in medical history. Surgeons from various corners of the globe, including Greece and Italy, swiftly followed suit, contributing their insights and skills to address intricate surgical challenges, such as blood vessel anastomosis. Across generations, these surgical techniques were meticulously honed and perfected, laying the groundwork for ongoing advancements that persisted until the 17th century A.D.

The exploration of the immunological facet of this journey initiated with the discovery of the major histocompatibility gene complex in mice, an entity that governs the survival of transplants. This pivotal discovery formed the foundation for the Immunological Timeline, which fostered a vital comprehension of how the body's cells distinguish "self" from "non-self." Subsequent efforts were dedicated to navigating and managing this recognition process. The 20th century witnessed the emergence of the Immunosuppression and Tolerance Timelines, building upon the strides achieved in immunology over time.

Fast-forward to June 17, 1950, a historic date when Dr. Richard Lawler achieved an unprecedented feat by successfully performing the world's first kidney transplant. This groundbreaking event laid the foundation for global innovations in organ transplantation.

In step with global developments, India ventured into the realm of human organ transplantation. Guided by Dr. PK Sen, Mumbai's King Edward VII Memorial Hospital pioneered early kidney and liver transplants, even conducting pioneering experiments on canines during the 1950s.

In 1962, Dr. P. Raghavan's visionary initiative culminated in the establishment of the Nephrology Division, highlighted by the generous donation of an Alwall's hemodialysis machine. This innovative system played a pivotal role in advancing the pursuit of renal transplantation.

Dr. Pardanani's personal journey is studded with pivotal moments. He fondly recalls his MS Surgery exams in 1962, a period when his encounter with the esteemed surgeon Dr. R.N. Cooper left an indelible impression. Dr. Cooper was captivated by Dr. Pardanani's essay on organ transplantation, which catalyzed a series of events that saw his technical acumen refined through experiments in a canine laboratory. Merely three years following this encounter, Dr. Pardanani played a pivotal role in executing the first Cadaveric Kidney transplantation in 1965. Dr. Vidya Acharya and her proficient team offered valuable consultative support to the budding urologists of India during this formative period.

India's inaugural human kidney transplant unfolded in May 1965, orchestrated by Dr. P.K Sen, with Dr. Pardanani assuming the role of his first assistant. This marked the initiation of a transformative phase in the country's medical landscape. Dr. Pardanani's contributions extended to significant surgical milestones, each underscored by collaboration and collective effort.

The narrative of Dr. Pardanani's career underscores his multifaceted talents and adaptability. His engagement with the cardiac surgery team enabled him to oversee the intricacies of extracorporeal circulation, even culminating in his authorship of papers on the subject. Yet, as time progressed, he grappled with the potential dilution of his identity as a urologist. This inner conflict sparked a momentous conversation with Dr. P.K. Sen, where he expressed his desire to distance himself from operating the heart-lung machine.

Cadaveric Renal Transplantation

A Report Of Initial Experience

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Organ transplantation in general and renal transplantation in particular has aroused the interest of workers the world over for the last fifty years. With the demonstration of the feasibility of vascular anastomosis by Carrel in 1902, renal autotransplantation was carried out successfully by Carrel, Ullman and many others during the subsequent years. During the same period however, all attempts at renal homotransplantation met with uniform failure. The cause of non-survival of the homograft remained undetected till Medawar in 1944 by his pioneer work pointed out the immunological basis of the homograft rejection. Successful results have been achieved with transfer of kidneys between identical human twins (Merrill *et al* 1956, Murray *et al* 1958, Woodruff *et al* 1961). There have also appeared reports of prolonged survival of the renal homografts under various types of immunosuppressive therapy (Barnes 1965, Calne 1963, Couch *et al* 1966, Murray *et al* 1963, Starzl *et al* 1964, Woodruff *et al* 1961).

A more frequent application of the procedure as a therapeutic measure for irreversible renal diseases has led to greater appreciation of the important role played by other disciplines of medicine in this field. For successful accomplishment of renal transplantation, it is necessary to have services not only of a skilled vascular surgeon but also those of an immunologist, a nephrologist, a haematologist, a biochemist and a well equipped team for carrying out 'chronic' haemodialysis.

With the availability of the above mentioned facilities at our hospital, both in respect to personnel and equipment, we set forth with a programme of renal transplantation. The aim of this paper is to report our initial experience with two cases of cadaveric renal transplantation.

CASE REPORTS

CASE NO. I

G.B.M. (Blood group O Rh +), a Hindu male aged 55 years was admitted on 13th May 1965 for haematuria. There was no history of trauma, pain or burning sensation during micturition. He had undergone right nephrectomy on 15th December 1959 for renal cell carcinoma. Since then he had maintained good health. On examination he was averagely built and nourished. His nails and conjunctivae were pink. Abdomen showed no distention and no mass was felt. The liver, spleen and the left kidney were not palpable. The external genitalia were normal. A scar of nephrectomy was seen on the right side.

The landmark cadaveric kidney transplant performed by Dr. P.K. Sen and Dr. Pardanani was published in the Indian Journal of Surgery in 1967.

Renal Transplantation : Progress and Problems

Dr. D. S. Pardanani and Dr. P. K. Sen

IN THE FIELD OF ORGAN TRANSPLANTATION, kidney trasplantation has made rapid progress and to date no less than 2,000 renal transplantations have been carried out at various centres of the world. Much of the information gathered from kidney transplantation is being currently applied to transplantation of other organs. However, it is necessary to realise that though renal transplantation is fast moving from realm of experimental surgery to one of definite clinical application, there are still certain problems, particularly the problems of tissue rejection, which have defied and continue to defy easy solution. Of late, however, encouraging results have been reported with the use of newer methods of tissue typing and immunosuppressive techniques.

Historical Background :

Alexis Carrel in 1902 demonstrated the feasibility of carrying out vascular anastamosis. This was soon followed by renal transplantation first in dogs (Carrel, 1904) and later in other animals. Jaboulay (1906) is reported to have transferred a goat and a pig kidney to two patients dying of chronic uraemia. It was observed that while autografts succeeded and functioned well for long periods, homografts and xenografts invariably failed and ceased to function in a matter of few days. It was due to historic work of Medawar and many others that immunological basis of rejection of the homograft was established. The first successful human transplantation between identical human twins in 1956 by Merril and Murray confirmed the findings of these workers. The years which followed saw much work done to overcome the immunological barrier to the acceptance of foreign tissues. It is due to these methods of immunosuppression that a growing number of successful cases are being reported from various centres.

Indications for Renal Transplantation and Selection of Recipients :

Irreversible renal damage resulting from renal infection (glomerulonephritis, pyelonephritis, tuberculosis), traumatic loss of a single kidney, obstructive uropathy including calculus disease, renal vascular disease,

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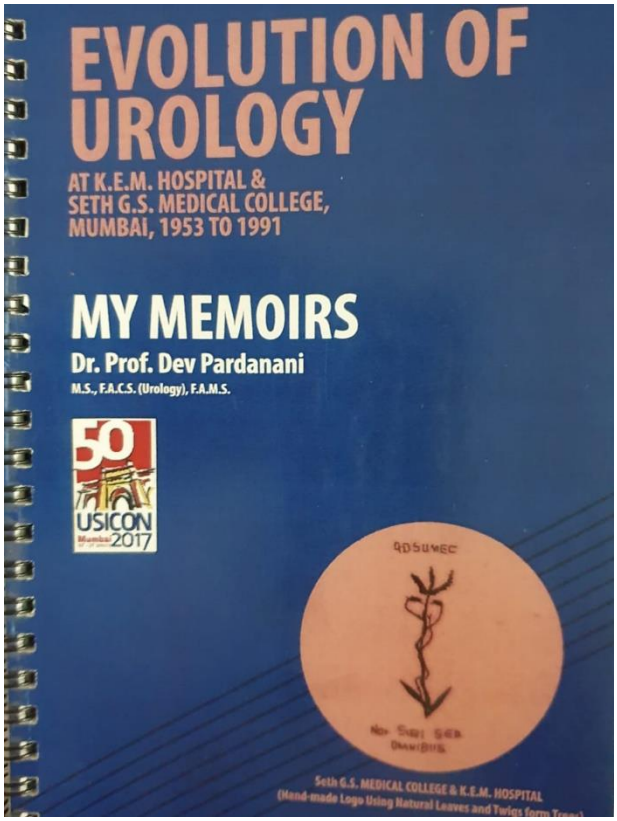
Maharashtra Medical Journal, Vol. XVI, No. 2, May 1969

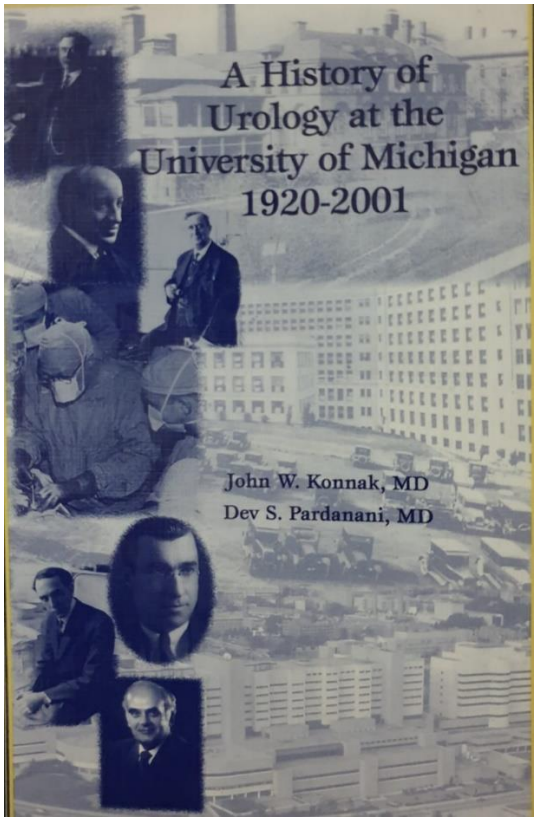
In May 1969, Dr. Pardanani, alongside Dr. P. K. Sen, authored a pivotal paper on cadaveric renal transplant surgeries in the Maharashtra Medical Journal. This seminal work was unveiled at the annual meeting of the Association of Surgeons of India in December 1968, adding a crucial chapter to the evolving landscape of medical literature and innovation.

Dr. Pardanani's trajectory is a testament to perseverance and progress. His career bore witness to the triumphant conquest of formidable challenges encompassing grafting procedures, immunology, and public perception. He navigated through opposition, even in the face of misinformed labels like "Neo-Cannibalism." Although this setback cast a temporary shadow over the trajectory of cadaveric transplantation, it ultimately failed to hinder its progress.

The absence of a dedicated "Human Organ Transplantation Bill" in India prompted the Transplantation of Human Organs and Tissues Act (THOTA) of 1994. Amended in 2011, THOTA assumed the mantle of authority over organ transplantation, addressing concerns like illegal trade and enforcing ethical practices. The establishment of the National Organ Transplant Program (NOTP) further fortified the network of transplant organizations, hospitals, and tissue banks across different tiers, facilitated by a dedicated registry for efficient organ distribution.



Upon retiring from KEM and concluding an impactful tenure at Nanavati Hospital, where he adeptly led the Urology team and championed numerous renal transplants, he and his wife embarked on a new chapter by relocating to the US. This move was driven by their desire to be closer to their children. Throughout his retirement, he maintained an unwavering connection to the medical community. He would traverse the distance from his Ann Arbor residence to attend medical conferences at the University of Michigan, illustrating his enduring commitment. This endeavor was made possible by the gracious invitation extended by Jim Montie MD, the chief of urology during that era, who welcomed him to participate in conferences and engage in case discussions.



In the early stages of retirement, a serendipitous opportunity beckoned. He was tasked with documenting the history of urology at the University of Michigan. Displaying his characteristic determination and expertise, he adeptly accomplished this ambitious undertaking in a mere 18 months. The culmination of his endeavors was a comprehensive book that chronicled the evolution of urology at the university. Notably, his involvement extended beyond the content itself; he personally designed the book's cover. This creative endeavor drew upon the computer and Photoshop skills he and his wife acquired through courses at a local community college during their time in Michigan.

Upon his return to Mumbai from the United States, Dr. Pardanani continued to ardently pursue his writing endeavors. Even in his nonagenarian years, he embarked on the exploration of Sufism, emboldened by his insatiable intellectual curiosity.

Dr. Pardanani's legacy is that of a trailblazer, a visionary, and a prolific author who transcended the confines of medicine, extending his influence into the realm of humanities. As he steps into the sunset years of his life, our heartfelt wishes for his well-being are accompanied by the hope that his journey will serve as a guiding light for the next generation of medical aspirants, trainees, and practitioners. May they find inspiration in his extraordinary example and forge their own indelible paths within the ever-evolving fabric of medicine and human understanding.