



Status of Nephrology Services in Bihar

Abstract

In Bihar, nephrology services began in 1976–1977 at Patna Medical College and in 1984 at Indira Gandhi Institute of Medical Sciences, Patna, but with limited facilities. In the last 10 years, significant growth in nephrology services has been seen in Bihar. Many dialysis units were established, including 35 centers under Pradhan Mantri National Dialysis Programme providing free or subsidized dialysis. All districts now have dialysis units. Kidney transplant services, which first started at Indira Gandhi Institute of Medical Sciences (IGIMS), are now being performed at three more centers. More than 180 transplants have been performed; all live except for one deceased kidney transplant done at IGIMS. Although nephrology services at present are inadequate, recent years have seen an exponential growth in nephrology services in Bihar.

Keywords: Bihar, Dialysis, IGIMS, Nephrology, Transplant

Introduction

Bihar holds a unique spot in the history of the development of kidney care services in India. Shri Gopeshwar Prasad Sahi, the Maharaj of the former Hathwa state, was instrumental in acquiring a hemodialysis machine and became the first person in India to undergo hemodialysis at Christian Medical College, Vellore, in May 1961.¹

Another prominent personality in Bihar to receive HD was the “Lok Nayak” Jayprakash Narayan. He was diagnosed with chronic renal failure in October 1976 at Jaslok Hospital, Mumbai. At that time, nephrology services, including dialysis, were non-existent in Bihar.² The government of Bihar then tasked the Late Professor Indu Bhushan Sinha with his treatment and dialysis after receiving specialized training in nephrology at Christian Medical College, Vellore, AIIMS, New Delhi, Jaslok Hospital, Mumbai, and Royal Liverpool Hospital, UK. Dr. Sinha is also considered the father of nephrology in Bihar and is credited with setting up a dialysis unit at Patna Medical College Hospital (PMCH), Patna.³

Early nephrology services (1976–2012)

The first nephrology unit in the state was started in 1976–77 at PMCH, Patna, the largest hospital in Bihar. The unit was attached to the Department of General Medicine. A kidney transplant unit was also

established at PMCH, Patna, on March 31, 1987, but remains unutilized to date.³

The Department of Nephrology was established on July 30, 1984, at Indira Gandhi Institute of Medical Sciences (IGIMS), Patna, by Prof. Jai Prakash, who moved to the Institute of Medical Sciences, Banaras Hindu University. The primary objective was to develop an apex center for delivering health and medical care of the highest standard in the field of nephrology.⁴ However, nephrology in Bihar progressed slowly, with services limited to just two government hospitals in Patna [Table 1]. Dialysis services were started in the private sector at Magadha Hospital and Ruban Memorial Hospital in 2002–2003.

Growth of nephrology services in Bihar (2012–present)

With the need for expanding nephrological services in Bihar being recognized by the government of the state, new nephrology departments were created at Nalanda Medical College and Hospital, Patna, Jawaharlal Nehru Medical College and Hospital, Bhagalpur, Sri Krishna Medical College Muzaffarpur, and Anugrah Narayan Magadh Medical College & Hospital Gaya, in 2013–14. Hemodialysis services were started in 18 out of 38 districts in private–public partnership in 2016.⁵ By 2021; this

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Table 1: Details of nephrology facilities in Bihar

Year	Number of practicing Nephrologists	Number of districts (out of 38) with Nephrologist	Number of transplant center	Number of institutions providing Nephrology fellowship (DM/DNB)	Number of Nephrology fellowship seat per year	Number of centers with intervention Nephrology facility	Number of research papers
1990	4	1	0	0	0	0	3
1995	5	1	0	0	0	0	5
2000	6	1	0	1	2	0	5
2005	8	2	0	0	0	1	5
2010	10	2	0	0	0	1	5
2015	16	4	1	0	0	2	8
2020	37	12	3	1	3	2	29
2024 (till June)	42	16	5	3	9	7	51

DM: doctorate of medicine; DNB: diplomate of national board.

facility was available in 35 districts with 175 hemodialysis machines for free hemodialysis under Pradhan Mantri National Dialysis Programme.⁶ Currently, 38 out of 40 districts have been covered under the program. These 38 dialysis centers, equipped with 289 dialysis machines, provided 18,020 sessions of dialysis in March 2024. To date, they have provided a total of 4,55,896 dialysis sessions to 6545 patients. (Source: State Health Society of Bihar).

In December 2022, the Department of Nephrology was created at AIIMS, Patna. In the corporate sector also, there has been growth in nephrological services, with Paras HRMI having a full-fledged nephrology department in 2014, Big Apollo Spectra in 2019, and Jay Prabha Medanta Super Speciality Hospital in 2020. Apart from Patna, only Begusarai, Bhagalpur, Darbhanga, Gaya, Muzaffarpur, Nalanda, Purnia, Sasaram, and Sitamarhi districts have private nephrology centers provide basic nephrology services. Due to the lack of a registry or central monitoring system, the exact details of facilities and the number of patients who benefitted remain underestimated.

Nephrology: Teaching and training

The DNB Nephrology course at IGIMS was started in 2003. Two students were admitted to this super specialty course. However, due to a faculty shortage, this course was discontinued in 2005. After a gap of 14 years, the National Medical Commission, on May 28, 2019, permitted the intake of three students for DM nephrology at IGIMS.⁷ Following inspection during the examination of the first batch in 2022, these seats were recognized. Till now, six candidates have passed out, and four of them are serving in the state of Bihar. An increase in the number of seats for the DM course to five per year from the existing three is being processed.

In 2023, the DM course in nephrology started in the newly established nephrology department at AIIMS Patna, with an annual intake of 3 students.⁸ Similarly, in 2023,

one DNB (nephrology) seat was permitted at Paras HMRI Hospital Patna, making it the only private hospital to run a DNB course in Bihar.⁹ Thus, seven nephrology trainees per year are admitted to various institutes in Bihar [Table 1].

Kidney Transplantation

Attempts to do kidney transplants in Bihar started in 1987, when a Kidney Transplant Unit was inaugurated at PMCH, Patna, on March 31, 1987. This unit remains unutilized to date. Compared to other states, Bihar had to wait for a long period before its first successful kidney transplant was performed. The “barriers” to kidney transplants included a lack of trained manpower, a lack of suitable laws, a lack of infrastructure, and a lack of administrative will.³

A major hurdle in kidney transplantation was addressed when the Bihar government enacted the Transplant of Human Organ Act, 2002, in October 2013.¹⁰ IGIMS, after developing the needed infrastructure, was granted a certificate of registration for performing transplantation (Form 16) on February 15, 2016.

The first kidney transplantation in a government institution in Bihar was done on March 14, 2016 at IGIMS, Patna.¹¹ It is noteworthy that the first recipient is maintaining good kidney function and leading an active life. Ruban Memorial Hospital also performed live-related kidney transplantation in December 2016. Again, leading the way, IGIMS Patna, is the only institute where a deceased donor kidney transplant has taken place in March 2020.

Besides these two hospitals, Paras HMRI Hospital, Patna, and Big Apollo Spectra Hospital, Patna are also performing live-related kidney transplantation. Jay Prabha Medanta Superspeciality Hospital, Patna, too, has been granted a certificate of registration for performing transplantation.¹² Till December 2022, a total of 183 kidney transplants had been performed in Bihar, 60% of which were performed at IGIMS and 29% at Paras HMRI Hospital.

Conclusion

Nephrology as a sub-specialty in Bihar is in its growing phase. With over 13 crore people, Bihar ranks low in the number of nephrologists per million people. However, with the start of nephrology training (DM/DrNB courses), it is expected that the number of nephrologists in our state will grow, also with the government initiative to start nephrology departments in various medical colleges, the access to nephrology services for the general public will also increase. Various institutes have made attempts to start ABO-incompatible transplants as well as paired kidney donations. SOTTO, with all stakeholders, is also trying to increase the number of deceased donations so that the unmet need for organ shortage may be reduced.

Bihar can boast of producing many nephrologists of National and International repute, achieving the highest positions in nephrology societies, with special mention of Prof. Vivekanand Jha and Prof. Narayan Prasad. In the coming years, the nephrological services in Bihar are expected to be on par with those of other developed states in the country.

Conflicts of interest

There are no conflicts of interest.

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