

Five patients benefit from India's first "domino" kidney swap

Cheryl Travasso

Mumbai

A team of 10 nephrologists and 20 urologists has performed India's first domino kidney transplantation.

The operations were carried out on 25 June in 10 operating theatres in three hospitals in Mumbai and involved five patients—four from Maharashtra and one from Rajasthan.

Currently only one patient in 10 who develops kidney failure in India has a kidney transplantation, 95% of them receiving the organ from a living family donor. In developed countries most kidney transplants (about 90%) are from cadaveric donors.

To increase access to kidney transplantations, five nephrologists in Mumbai set up the Apex Swap Transplant Registry (ASTRA) to facilitate swaps between incompatible recipient-donor pairs.

For a nominal fee these pairs can register on the ASTRA website, which then uses a mathematical model to match donor-recipient pairs who can swap organs. For example, if there are two families A and B, the donor of family A gives a kidney to the recipient in family B, while the donor in family B gives a kidney to the recipient in family A. Once a match is identified, the two primary nephrologists of the patients plan the operations. In the 30 months since its inception the registry has facilitated 27 such swaps.

What made the operations on 25 June unique was that this was the first case of a domino kidney swap—a complex chain of kidney transplantations between five donor-recipient pairs. However, Viswanath Billa, a leading nephrologist and director of Apex Kidney Care, said it had been “an uphill task” to convince administrators and officials that a domino swap was merely “a swap at the wholesale rather than the retail” level.

The Indian Supreme Court ruled in early 2011 that kidney swaps were legal, although it did not mention “domino swaps.” The first domino swap was planned for November 2011, but in the time it took to obtain the required permissions one of the patients died, and the swap collapsed.

The operations on 25 June involved four husband-wife pairs and one father-daughter pair. Two operations were carried out at the Hinduja Hospital, and four each at Bombay Hospital and Hiranandani Hospital. The matched donor and recipient were brought together under one roof for surgery. So far all the recipients are doing well.

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