

# Correspondence

## Liver transplantation in India

The authors of the editorial<sup>1</sup> on liver transplantation in India make the unexceptionable statement that 4 prerequisites for a heart and liver transplant programme in India are (i) an enabling law, (ii) medical expertise, (iii) transparency and (iv) economic justification. However, they do not provide any evidence that the latter 2 objectives have been met.

### The technological imperative

The availability of the necessary medical expertise seems to be the main factor driving the transplant programme in India. If, as the authors state, there was a 'general feeling'—one that presumably included medical professionals who were otherwise unable to establish a cadaver transplant programme—that a law to enable organ transplants was required, cadaveric organ donation should have become common after the law was enacted. Instead, 12 years after the passage of the Transplantation of Human Organs Act (THOA) in 1995, which was supposed to kick-start the cadaver transplant programme, live donation continues to be the most common form of organ transplantation in India. The medical community must take some responsibility for this state of affairs.

Thus, instead of a comprehensive transplant programme (including for heart, lung and other organs that can be transplanted only from cadavers), the field is dominated by a thriving renal transplantation programme and is now seeing the entrance of liver transplantation—procedures that do not depend on a cadaveric donation programme.

### Risk

Live donation always entails some risk to the donor. In effect, every time surgeons perform a live donor transplant they are faced with the ethically difficult position of putting the donor at risk—a risk that is taken at least partly because the medical community has failed to develop a cadaver-based programme. The fact that the risk to the donor is greater in some procedures than in others—for example, adult-to-adult liver transplant compared to adult-to-child—has not prevented the promotion of the riskier procedure.

The authors do not provide any reference in support of their statement: 'In India, liver transplantation has generally been ethical and reports of malpractice are extremely rare.' Ethical concerns regarding liver transplantation have been expressed in this journal.<sup>2</sup> Concerns have also been expressed about the background of the two recorded donor deaths mentioned by the authors.

The authors provide some valuable information on the number of liver transplants done in India till May 2007. Readers of this journal would also have benefited from an explanation of how the information was gathered. Also, how many of the live donor transplants were adult-to-adult? What are the rates of reported morbidity and mortality in the various centres? The authors write: 'It is difficult to report what the results have been nationwide ... for obvious reasons...' Readers may be moved to ask what these reasons are and what this implies, both for science and ethics.

The authors note that success rates for liver transplant in India vary from 0% to 92%—a wide range, indeed. The success rate of any complex surgical procedure, in any given surgical centre, depends at least partly on the number of procedures done at that centre.<sup>3,4</sup> Given current costs and impediments, it is worth considering whether the numbers in many of these centres will ever increase sufficiently to

make the procedure safe. One would also want to know more about the quality of training and infrastructure in these centres.

### The public-private intersection

We would like every health intervention to be available to all people who need it, regardless of their economic and other circumstances. It is also true that government hospitals have played a socially valuable function by developing and establishing complex medical and surgical techniques, training students in their use and, at one time, making them available to poor patients. However, not only does organ transplantation entail a huge investment in infrastructure, it is also not a one-shot affair. Patients have to remain on expensive immunosuppression for life. Any government initiative that does not factor this will lead to a programme where surgical success is inevitably followed by clinical failure of the organ due to lack of the required medical support. In this context, the authors do not provide any data to suggest that this is a wise way for the government to spend an already inadequate health budget. Nor would it seem a reasonable option for most of those people with liver failure who depend on public hospitals.

In the past, government hospitals have been used to hone the expertise of medical teams who then shift to the lucrative private sector. This has been the story of open heart surgery, total joint replacement and renal transplantation. As one of the authors has put it elsewhere: 'The private health sector in India has made some impressive strides but has done so at the cost of the public sector.'<sup>5</sup>

The authors might wish to comment further on the implications of the information that they provide: that the majority of liver transplants are in the private sector, and the majority of transplants are from living donors. Is it possible that the pressures of the market have driven the use of live donation?<sup>6</sup> And if so, is this cause for concern?

Finally, while the authors make some important suggestions on amendments to the THOA to facilitate organ retrieval and increase cadaveric donation, we must ask ourselves whether these amendments could have any major impact given the absence of a social commitment to a cadaver-based programme and given the technological and commercial imperatives driving live donor programmes.

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**Competing interests:** The journal with which the authors are associated has published a complaint regarding a live donor adult-to-adult liver transplant resulting in the deaths of both recipient and donor. (Srinivas AV. Living donor liver transplantation. *Indian J Med Ethics* 2005;2:89-90.)

### REFERENCES

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### Reply

Thank you for inviting us to answer the points raised by Dr Thomas and Sandhya Srinivasan. Our comments are as follows.

#### 1. Transparency and economic justification

We agree that the results from all the centres in India are still not transparent, i.e. not widely known by the general public or other doctors. However, there are provisions in the Act (Chapter IV, Section 13) that include in the Appropriate Authority's powers in para iii 'to enforce such standards, as may be prescribed, for hospitals engaged in the removal, storage or transplantation of any human organ' and in para v 'to inspect hospitals periodically for examination of the quality of transplantation...'. Although results are being monitored by representatives of the Appropriate Authority when they inspect a centre when it applies for renewal of registration, these results are not made generally known. Whether more transparency would be beneficial for the development of transplantation (as well as other medical procedures) in India is for the medical profession and the government to decide.

The economic justification for liver transplantation was discussed in our editorial: '...it saves young, productive lives, the procedure in India is done at a fraction of its cost abroad and the declaration of brain death saves precious resources from being wasted on the resuscitation and maintenance of what are essentially heart-beating cadavers.' The setting up of a liver transplant unit in New Delhi by the armed forces supports the fact that the policy-makers are recognizing this need.

#### 2. The low number of cadaver organ donations and risk to living donors

We agree that after 12 years of the Act there are still very few cadaver organ donations and we also agree that the medical community must take some responsibility for this state of affairs. However, we are making headway in many parts of India. We have been told that the MOHAN, FORTE and other voluntary organizations in Tamil Nadu and Bangalore are being more successful in convincing relatives to agree to the harvesting of organs from brain-dead cadavers and some centres such as the Global Hospital, Hyderabad have mainly done deceased donor liver transplants. We also hear that in Gujarat kidneys were harvested from 100 brain-dead cadavers in the year 2006. Both the medical profession and the government should promote widely the importance of cadaver donation so that living donors are not put to any risk. However, till more cadaver organs become available we must continue to do living donor liver transplants (LDLTs). The alternative is to allow the potential recipients to die from liver failure.

#### 3. Unethical practices and living donor liver transplants

We believe that malpractice in LDLTs is rare because (unlike kidney transplantation) the difficulty of the procedure and risk to the liver donor is of a much greater magnitude and it would be a brave surgical team that would indulge in an unethical liver

transplantation especially because there is so much publicity attached to each operation. Two donor deaths have been recorded in India and the circumstances of their occurrence have been extensively discussed. However, donor deaths have occurred in nearly all countries where LDLT is practised including Europe, the USA, Turkey and Korea. The ethical justification for the procedure and the 'acceptable' risk to the donor have also been widely debated. Interestingly, whereas transplant surgeons have placed the acceptable level of risk of donor mortality at 1%, a survey of the American public put it at 20%!<sup>1</sup>

#### 4. Data from India

We contacted most of our colleagues who are involved in liver transplantation personally, by telephone and by e-mail. We also scoured the published literature for Indian results. However, we did not go into any more detail such as asking the transplant units about their mortality and morbidity because we felt that many of them would be unwilling to share their results with a wider audience especially if these did not meet certain standards. These are the 'obvious reasons'. Although more detail would be outside the scope of an editorial, we do agree that all centres setting up or running liver transplant programmes should conform to standard International guidelines on the requirements of infrastructure and multidisciplinary expertise. Furthermore, ideally, it should be mandatory for all recognized centres to send their morbidity and mortality data of recipients and donors regularly to a national registry. This would increase transparency, provide useful information to funding agencies such as the government and health insurance firms, and ultimately, translate into better care for the patient at a reasonable cost.

#### 5. The public-private intersection

Although in an ideal world every health intervention 'should be available to all people who need it, regardless of their economic and other circumstances', this is just not achievable in any country whether developed or underdeveloped. We are unable to provide adequate housing and food to our population and the equitable distribution of healthcare, especially for a resource-intensive operation such as liver transplantation, is again outside the scope of the editorial. Government hospitals have previously played a socially valuable function but very few are now 'developing and establishing complex medical and surgical techniques' not only because of a shortage of funds but because of a lack of will and incentive. Whereas previously many of the newer advances in medical technology were first introduced in the public sector, this is now essentially happening in the private sector, which includes liver transplantation. Of course the 'pressures of the market' have played a role but the result of these pressures has also been to make many medical advances available to middle class Indians who would not have been able to afford the exorbitant costs abroad.

#### 6. Changing the law

We believe that minor changes in the law such as delinking the recognition of hospitals which are allowed to diagnose brain death from those which are allowed to perform organ transplantation might make a huge difference to the number of cadaver organs available. A large number of hospitals have intensive care units (ICUs) and only a very few of these have been allowed to or will be interested in performing transplantation. If the hospitals with ICUs were allowed to diagnose brain death the organs could be harvested locally and transported to the transplant centres, which may be in different parts of the country, by commercial flights. At present—what we think is a gruesome practice—the whole cadaver is taken by ambulance to a local transplant centre for the declaration of brain death and organ harvesting.



We thank Thomas and Srinivasan again for their incisive critique of our editorial and for highlighting some of the logistic and ethical problems of doing liver transplantation in India.

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## REFERENCE

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## Acute shortage of medical teachers: What's the solution?

We read with interest the article 'Acute shortage of teachers in medical colleges: Existing problems and possible solutions' by Dr N. Ananthakrishnan.<sup>1</sup> We compliment the author on writing on an important topic. He has made some valid points, identified existing problems and suggested a few remedies. However, we would like to differ regarding the eligibility criteria for teachers. The author has suggested that the Medical Council of India (MCI) guidelines on the eligibility criteria for teachers of different designations 'may have to be reviewed and perhaps relaxed as a temporary measure to overcome the critical shortage of qualified teachers at the junior level'. We strongly believe that it is not only the quantity but also the quality that matters. We feel that once introduced, even as a temporary measure to tide over the present crisis, it would be difficult to reverse this trend when the situation improves and there is availability of qualified teachers.

The criteria regarding non-medical teachers can be revised as advocated by the article; but in our opinion, it should not be 'removed' as suggested by the author, and should never exceed 50% of the total required strength in each of these subjects as pre- and paramedical MB,BS teaching should not be done exclusively by non-medical persons. We would suggest appointing DNB qualified teachers (rather than MSc or PhD) and treating them on par with those holding a Master's degree (MD/MS).

Sharing of faculty among medical colleges should not be done. This unhealthy practice is what the MCI is trying to curb, as it leads to a false sense of adequacy and security. Besides compromising quality of medical education due to insufficient time and attention, some of these teachers may just appear on paper and may not be involved in teaching.

Further, we would suggest that for some time the MCI and the government should consider a moratorium on starting new medical colleges; at least, till the current problem of shortage of staff in the existing medical colleges is solved. Else, the problem of teacher shortage would be compounded manifold.

The retaliatory derecognition of foreign degrees by the Government of India, in our opinion, is a right decision. Doctors who had left the country on their own accord to obtain degrees (not recognized by MCI and the Government of India) or work abroad eyeing brighter and lucrative prospects but now want to come back or are being forced to return due to stringent policies and changes in rules abroad should not be given any undue benefits. If they are offered a teaching

job now, what is the guarantee that these same people will not leave again once the rules are favourable to them? Besides, they are not really oriented to teaching in the Indian scenario having been away for long. If their services are to be utilized they should be asked to take up teaching assignments but only after they pass a qualifying examination and undergo a minimum training in teaching-learning methodology. They may also be asked to sign a contract for a minimum duration, say 2 or 3 years.

We need to focus on long term goals and devise a strategy to overcome the problem of shortage of faculty. Measures need to be taken towards creating an environment to encourage medical undergraduates to take up postgraduation in pre- and paraclinical subjects. Assured job placement with a lucrative salary and incentives can be offered to those opting for these subjects. Downward revision of the fee structure may also be considered for postgraduation in these subjects. Preference based on merit, but not quota, for women candidates can be given in these areas. Medical students should be encouraged to take up research and teaching in the form of short projects and seminars. This would help in building up an aptitude for academic work and teaching rather than on purely being a clinician. We feel that altering the teacher student ratio in postgraduate courses as suggested by the author may not help as even now seats remain vacant. The need is to encourage people to pursue postgraduation in the pre- and paraclinical specialties so as to have a steady supply of teachers in future.

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## A possible solution of brain drain

I have been involved in advocacy to prevent brain drain among doctors for almost 7 years. I believe I have been reasonably effective and successful in this process. One of my former students from Bhutan was sent to India to study medicine after signing a bond which mandated her to work in Bhutan for 10 years after completion of her studies. She went back to her country after completion of her studies. I was disappointed when I received an email from her while she was