Correspondence

Salmonella typhi Vi antigen-negative isolates in India and prophylactic typhoid immunization

In a recent issue of the Journal, Saha et al. reported the emergence of Vi antigen-negative isolates of Salmonella typhi. Based on the polymerase chain reaction (PCR) amplification of ViaB sequences of S. typhi, 2 isolates were genetically Vi-negative along with 74 phenotypically-negative strains. Irrespective of the role of any genetic factors that might mask the expression of Vi antigen in any strain, Vi antigen-negative isolates, genotype or phenotypic, pose a challenge for a successful prophylactic immunization against typhoid.

An inactivated Vi polysaccharide vaccine or the live, attenuated vaccine is being offered currently for prophylactic immunization. Parenteral vaccines containing Vi polysaccharide antigen as the exclusive immunogen would not offer any protection against infection by S. typhi isolates lacking Vi antigen. Such immunizations will not prevent gut colonization of the vaccinee with Vi antigen-negative strains. The vaccinee would propagate Vi-negative strains in the community. On the contrary, vaccines which elicit cell-mediated immunity such as the live oral vaccine based on the strain Ty21a or the newer and more immunogenic live vaccines with defined attenuating mutants would offer protection against both Vi-negative and Vi-positive strains on S. typhi. Constant surveillance on emerging Vi-negative S. typhi would offer the appropriate vaccine formulations against typhoid fever and be an asset to policy-makers.

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Transplantation of Human Organs Act 1994—Some observations

The Transplantation of Human Organs Act, 1994, was legislated 'to provide for the regulation of removal, storage and transplantation of human organs for therapeutic purposes and for prevention of commercial dealings in human organs'. Simply stated, this Act sought to (i) ban trade in organs, and (ii) to legalize the certification of brain death so that cadaver transplant programmes could be started. Years later, it is time for us to pause and review whether these twin objectives have been realized.

Chennai was one of the major cities in India where trade in human kidneys flourished before the Act came into force. The mainstream print media wrote about 'Kidney Bazaars' and 'Kidneywakkams' (reference to Villiawakkam, a place in Chennai, from where many poor people were lured to sell their kidneys). Chennai, incidentally, was also the centre from where voices of sanity, pleading for a ban on this unprincipled trade in human organs, were raised. The Act was the result of unrelenting campaign by several committed doctors.

One expected that the Act would ban unrelated organ transplants altogether. It did not. It merely legalized it. Though the main text was eloquent about criminal punishment for trade in human organs, it gave a loop-hole for unrelated transplants through a clause which permits organ donation from 'emotionally related donors'. An Authorization Committee would be appointed which would permit a totally unrelated person to donate his organs 'by reason of affection or attachment or any other special reasons'. In other words, what the Act sought to ban by the main text, it allowed through a sub-clause! Now all that is required for a recipient is to approach the committee with an unrelated donor and swear that he or she is emotionally related. Those who have experience of dealing with such government appointed committees will have little difficulty in understanding the grounds on which these committees would grant approval for unrelated transplants.

How a renal failure patient from, say, the North-East would suddenly become 'emotionally related' to a person from down South is a mystery known only to such committees! There is another angle to it. The choice of appropriate donor is no longer medical alone. It has become partly bureaucratic. How ethical is it to allow such bureaucratic decisions to interfere in what should be a purely medical decision is open to debate.

There is no doubt that after the Act came into force, there was a brief lull in the trade in organs. But today, knowledgeable persons in the field of transplantation agree that the number of unrelated transplants are almost the same as they were before the enactment.

The exact number of patients that approach these committees and the number that are granted permission and the grounds on which permission is granted are not known. Data of such nature are not published routinely. Greater transparency would definitely bring out interesting sociological trends in 'emotional' relationships!

As I was writing this, came the news report of at least 26 poor farmers of Andhra Pradesh selling their kidneys to escape debt-traps due to crop failure. All of them are from the same village and had their kidneys removed at an unnamed hospital in Delhi. Everything was arranged neatly by middle men. This sums up the role of the Act in preventing organs trade.

What about cadaver transplants? Those of us who actively campaigned for the Act, believed that once brain death certification was legalized, cadaver transplant would be an answer to the trade in human organs. Years later, our hopes lie shattered.

The largest hospital in Tamil Nadu, and one of the largest in South-east Asia, the Government General Hospital, Chennai (with a bed strength of around 2000 and an exclusive 40-bedded trauma ward with an average of 25 trauma admissions a day) could certify brain death in only 3 cases during all these years! The record of other government hospitals is even more dismal. There are 10 government medical colleges with 38 attached hospitals with a bed strength of 18832. Further, there are 26 district headquarters hospitals in the state, 3 of them have more than 500 beds each. With this huge infrastructure, only one case of brain death was certified in all these years (apart from the 3 mentioned earlier). This, too, was from another medical college hospital in Chennai. This is even more distressing, considering the fact that the criteria to certify brain death are all simple bedside clinical tests that do not need any sophisticated gadgets.

One of the main obstacles we faced in starting a cadaver transplant programme in a government hospital was certification of brain death by neurologists. To begin with, the Tamil Nadu Government autho-
ORIZED only certain unit chiefs of neurology and neurosurgery department in medical college hospitals. Later, it permitted all qualified neurologists and neurosurgeons in teaching hospitals to certify brain death.

We could recognize a certain reluctance on the part of the neurologists and neurosurgeons to identify and certify brain death. Many of them, though not all, assume that certifying brain death is a favour they do to transplantation teams. And since they get nothing in return, they are generally not very enthusiastic about it. We feel that routine diagnosis of brain death and certification, independent of the transplantation potential, would go a long way in rational utilization of scarce resources; for example, disconnecting the ventilator from a brain dead individual to use it on a salvageable patient. Besides, such certification would also give us an idea of the number of brain deaths in a given hospital in a year. No such data is available at present from any government hospital.

The level of ventilatory care in many government hospitals leaves much to be desired. This is understandable, given the fact that many of these institutions do not even have basic facilities such as round-the-clock blood gas analysis. Hence, maintaining a brain dead victim on a ventilator with good organ perfusion becomes difficult. Some of them die before organ retrieval can be arranged. Many of them do not survive even the mandatory period of 6 hours that is needed for the second certification of brain death.

The medico-legal formalities pose significant problems in retrieval of organs. The police officials are reluctant to issue autopsy requests unless formal clinical death is certified. The forensic officials do not perform an autopsy unless they receive the formal request from the police authorities. All these result in long delay in handing over the body to the relatives. We feel that protocols must be devised in such a way that autopsy can immediately follow organ retrieval in the theatre itself, obviating the need for re-opening the cadaver once again. After all, on-the-spot autopsy is a recognized forensic procedure and hence there is no reason why this would not be extended to cadaver transplant programmes.

There is no incentive to organ donation at present. This is unfortunate, considering the fact that vasectomized and tubectomized persons (as well as their motivators and doctors!) are offered incentives by the government. We feel that some form of non-monetary incentive such as job reservation for the dependent of the deceased would be a nice gesture on the part of the government.

However, experts like Dr M. K. Mani feel that donations of such a nature should be "a natural act of charity to help suffering humans" and hence "no reward should be expected". Contrary to popular belief, education or social status had nothing to do with organ donation. In fact, all those who had donated their organs were very poor. After all, it is only the poor and the unlettered that end up ultimately in government hospitals. But this does not deter them from organ donation.

Finally, since there is no long term dialysis programme in government hospitals for those who do not have first-degree relatives, the harvested kidneys are grafted to those patients who already have a willing relative. This is unfair. Procedures must be streamlined to ensure that only those who do not have any other option of treatment get cadaver kidneys.

These observations are based on our experience with a cadaver transplant programme in a government hospital. We feel that more discussion on these and related issues would pave the way for a vibrant cadaver transplant programme in India.

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An AIDS Helpline

The Centre for Community Medicine, All India Institute of Medical Sciences, New Delhi through its AIDS Education and Training Cell has started an interactive AIDS helpline called Shubhchintak. This helpline aims to create awareness about AIDS and answer queries from the general public about AIDS and HIV infection.

This service works between 10 a.m. and 5 p.m. on all working days from Monday to Friday. This telephonic service is available on 011-6852785.