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Brain death

This refers to the article 'Brain death and our transplant law' by Sunil K Pandya (1) in which Dr Pandya concludes by saying we need a separate transplant law which defines brain death clearly, and this definition must supersede the older definition of cardiopulmonary death.

The problem with brain death is that the patient is still hooked to a life support system and the heart continues to beat. Doctors are unwilling describe such patients as dead and use the word 'dead' synonymously with brain stem death. Vague terms such as 'deeply unconscious' are preferred. In my experience brain death is not clear even in the minds of doctors. Such patients lie for weeks and months in the ICU and even doctors are not willing to certify them as dead. Hope springs eternal in the human heart and relatives who have heard stories, seen movies, are gullible and believe that one day their patient will open his eyes and start talking to them. People believe a miracle will happen. No doctor is willing to counter this thinking.

The law on transplant is not so bad and many people are also willing to donate organs but the medical profession must be re-educated and urged to declare a brain dead person as dead. Further, they should tell the patient that the life support machine will only be kept on if they want to donate organs. Let us hope that this happens soon.

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Cadaver transplantation

It has been correctly pointed out by Harsha Deshmukh in her article Cadaver transplants: ground realities (1) that very few cadaver transplants have been performed even after the Human Organs Act 1994 removed a major legal hurdle by recognising brain death.

As suggested by Ms Deshmukh, a central body with a transparent protocol for putting patients on a waiting list and distributing organs would work wonders if help is taken from the information technology drive sweeping the world.

In this respect I would like to refer the readers of *Issues in Medical Ethics* to a report by R.V. Petrov in *Me or not me*, a book on immunology, in which countries cooperate and use computer technology to save lives (2). The selection of the donor-recipient pair is accomplished not by choosing a donor for a recipient but by selecting a recipient for a donor.

Dr Van Rood, an immunologist from the Dutch city of Leiden, describes the functioning of the international organisation Eurotransplant: Data on patients in need of a renal graft, their leucocyte and blood groups and other relevant information, are stored in a computer. Every month printouts listing recipients according to their blood cell groups are sent to centres affiliated with Eurotransplant. If one of the centres has a potential donor, it telephones the closest most suitable recipient. The doctor in charge of the donor contacts the doctor supervising the patient. Sixty-seven patients have already obtained kidneys through Eurotransplant's card indices. The organs to be grafted were on an average two to five times more suitable than those chosen by other means.

Of course it is difficult to find a kidney, to say nothing of a heart. But a patch of skin to cover a burnt surface, bone marrow for treating leucosis or radiation sickness, or blood, can be supplied by virtually any healthy person. In these cases success is based on overall typing. Many countries have started typing antigens vis-a-vis compatibility among large groups of people. In the not so distant future, passports will carry, in addition to blood group and Rh sensitivity, information on the four basic tissue compatibility antigens.

To treat radiation sickness by means of bone marrow transplantation, Professor Good from Sloan-Kettering Institute, New York, uses a card index containing data of 20,000 typed donors. Radiation sickness develops because leucosis or blood cancer can be treated only by irradiating a patient with X- or Gamma rays. It can be cured only by grafting bone marrow compatible in all known antigens. This requires screening several thousand donors to find a compatible one. However, bone marrow transplantation does away with the need to suppress immunological responses with medicines toxic to the entire body.

But what is to be done for heart transplantation? A compatible donor for this cannot be found even through Eurotransplant. A heart for transplantation can be taken only from a patient who is dying in a most sophisticated equipped hospital, dying, for instance, of a cranial-cerebral trauma: the brain is already dead, while breathing and heart beat are sustained artificially. Transplantation should be effected immediately. To get a donor under these circumstances is an extremely rare event.

Dr Petrov's article was published in 1987. Much has developed in the field of medical technology since then. In order to tackle a medical problem such as cadaver transplantation, such approaches could be the subject of serious debate. There is scope for getting the data required for kidney transplantation centrally located and made available to needy patients in spite of our social and political problems.

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References

1. Deshmukh Harsha: cadaver transplant: ground realities. *Issues in Medical Ethics* 2001; 9: 53.

2. Petrov RV: *Me or not me* **other details**