

## DISCUSSION

Response to Shroff and Navin's article on "brain death" and "circulatory death" in *IJME*

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It was refreshing to read about the relevant real-life situations that we face in the ICU addressed by Drs Shroff and Navin in the October 2018 issue of *IJME* (1). I would like to highlight four different issues related to brain death and organ retrieval.

### 1. Death as a biological process

The Transplantation of Human Organs Act (THOA), 1994, states in Section 2 (e), that "deceased person" means a person in whom permanent disappearance of all evidence of life occurs, by reason of brain-stem death or in a cardio-pulmonary sense, at any time after live birth has taken place (2). I would argue that this statement is problematic in the first place. The reason is that, "permanent disappearance of all evidence of life" does not occur in brain-stem death. The ongoing heart-beats and other organ functions are evidence that these cells are not dead. Neither does death of the whole being, truly and completely, happen when organs are retrieved after cardio-pulmonary death, as the cells within the retrieved organs have not really "died" in the true sense. It is the irreversibility of the catastrophic neurological damage and the impossibility of bringing this individual to independent life that is verified and certified in brain-stem death. It is the inability of the circulatory system to function, even with chemical support that leads to cardio-pulmonary death. It is important to realise that although legally, death – whether brain-stem or cardio-pulmonary – happens at a point in time; biologically, death is a process. It is from the beginning of this point in time till the end of the process that successful organ harvesting is performed. The duration of this process varies among different organs of the same individual.

### 2. Brain death and withdrawal of ventilator support

It is true that brain death has been described only in the context of organ donation, within the legal framework in

India. Shroff and Navin (1), the authors, state a commonly voiced concern that "ICU doctors do not want to venture into testing for the second time if the family does not verbally consent to organ donation after the first apnoea test is done". The pre-supposition that brain-stem death testing needs to be done only once, in case organ donation is not happening, is an incorrect extension of that understanding. I would argue that:

- If brain death needs four doctors to certify and repeat it after six hours, then that should be done, irrespective of whether organ donation is happening or not. The reason being, if the law states that it needs to be done twice then, it simply, needs to be done twice before death is finalised.
- Legally, the end of the second test determines the time of death; therefore, the second test needs to be performed.
- It is faulty to argue that only when organ donation is to take place, the test needs to be done twice to make sure that a person is "truly dead"; and that if organ donation is not being carried out, it does not really matter!

Is it ethical to continue to treat a brain-dead patient and wait for cardio-pulmonary death to occur? What if this takes a couple of days? Is it not unethical to ventilate and treat a brain-dead patient, when a second brain death test could have been performed six hours later and care withdrawn?

As an extension, in case organ donation proceeds and say, for whatever reason, only the kidneys are harvested, then at the end of harvesting the anaesthetist/intensive care physician will switch off the ventilator after the retrieval process. The removal of a kidney per se, will not usually lead to imminent death of the individual. If that is acceptable in law, then switching off the ventilator even when organ donation does not occur should not be a legal issue, provided the family have accepted that their relative has died. What if the potential donor is taken to the theatre for organ harvesting and none of the organs are harvested for some reason? We disconnect the ventilator at the end of the procedure, in these patients. If that is legal, why would disconnecting the ventilator, outside the context of organ donation in a brain-dead person, be perceived to be illegal?

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### 3. Relatives not acknowledging brain-death

If the patient's relatives refuse to acknowledge brain stem death, then clearly one cannot disconnect the ventilator without consultation or without the confidence of the relatives. However, if the doctor strongly believes that brain stem death is death, then s/he should not be forced to "treat" someone against her/his conviction. S/he should be given the option to either let some other willing doctor take charge; or the relatives should be given the option to take the patient to another willing hospital. These are the options available in comparable situations like medical termination of pregnancy or treating a Jehovah's Witness who refuses blood transfusion. What if the nurse/paramedic on the shift has a strong objection to "treating" a "dead body"? Is it appropriate to force her/him to continue to care for and treat the brain-stem dead patient rather than providing final end-of-life care?

As an extension, consider the situation where the family were to take this patient to another hospital, (after two positive brain-stem death tests have been performed) as they do not believe in "brain death", or want a "second opinion". Should they be provided with a death certificate along with a discharge summary? How does the receiving hospital deal with a patient brought in with a death certificate?

### 4. The Kerala situation

The state of Kerala has the rule wherein both the brain-stem death tests need to be attended by four doctors and video recorded for verification by the Kerala Network for Organ Sharing (3). Two of the doctors should be empanelled government doctors. This has led to a situation in Kerala where, when brain-stem death is suspected, the treating doctor performs an "informal" brain-stem death test. The "informal" test is performed because of the logistical difficulty in summoning the empanelled doctors and organising the recording mechanisms for each and every suspected brain death. If the test is positive, the doctor then informs the relatives of the possibility of brain death and broaches the subject of organ donation. If the family is willing to donate organs, then the required number of qualified doctors are summoned and the first set of tests is performed. When this is positive, then the next sets of tests is performed six hours later. So, for all

practical purposes, three sets of brain death testings have to be performed in Kerala before proceeding to organ donation (as of October 2019). If the family is not willing to donate the organs, then care is withdrawn on the grounds of futility, in consultation with the family. The process of "withdrawing care" can vary based on the physicians' interpretation of THOA and include one or more of the following:

- switching off, or not reloading, or not escalating inotropic support;
- weaning off ventilator support and oxygen concentration, but stopping short of disconnecting from the ventilator; and
- Continuing the same level of organ support and allowing circulatory death to take place in due course. (Personal communication).

As Shroff and Navin point out, organ donation should be delinked from brain death. Brain-stem death testing and subsequent withdrawal of life support needs further legal clarity in India. The first step towards this should be an ongoing discourse both within the medical community and among the general public. I would argue that once legal clarity is obtained, brain-stem death testing would (and should) be widely practised, irrespective of the possibility of organ donation. There should also be stringent and transparent mechanisms in place to prevent abuse. This will lead to increased confidence not only within the general public, but also certain disenfranchised elements within the medical community.

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