Commentary

Success of organ donation after out-of-hospital cardiac death and the barriers to its acceptance

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Abstract

It is well documented that transplants save lives and improve quality of life for patients suffering from kidney, liver, and heart failure. Uncontrolled donation after cardiac death (UDCD) is an effective and ethical alternative to existing efforts towards increasing the available pool of organs. However, people who die from an out-of-hospital cardiac arrest are currently being denied the opportunity to be organ donors except in those few locations where out-of-hospital UDCD programs are active, such as in Paris, Madrid, and Barcelona. Societies have the medical and moral obligation to develop UDCD programs.

It is well documented that transplants save lives and improve quality of life for patients suffering from kidney, liver, and heart failure. But in many countries, moral courage and public health policies have not kept pace with need. In a recent issue of *Critical Care*, Fieux and colleagues [1] demonstrate remarkable results obtained through a coordinated effort to obtain viable kidneys from people who suffer out-of-hospital cardiac arrest in Paris.

In the US, over 100,000 people are currently awaiting organs and some 28,000 transplants are performed annually. However, lack of organs results in 8,000 patients who die or become too sick to receive a transplant every year. Furthermore, recent trends suggest the number of patients awaiting organs is increasing by several thousand yearly. Similar experience is documented worldwide [2].

In 2006, the US Institute of Medicine (IOM) suggested that the transplantation community pursue donations from non-heart beating donors in the out-of-hospital setting (that is, uncontrolled donations after cardiac death (UDCD)) to meet the demand for solid organs [3]. At the time, such conclusions were based on case series experience from the US [4] and Spain [5,6] demonstrating that this pool of potential kidney donors yielded transplantation outcomes similar to that of donation after neurological determination of death (DNDD) and controlled donations after cardiac death (CDCD). Although Fieux and colleagues [1] report high rates of delayed graft function compared to the Madrid UDCD program [5], it is encouraging that, even using cold perfusion techniques, they achieved similar excellent rates for graft survival.

The current strategies of CDCD and living donation have practical and ethical limitations. Using donors where care is withdrawn in a hospital setting (that is, CDCD) has raised issues about how the time and manner of death will be determined and whether the patient is actually 'dead' [7]. Living donation raises its own set of concerns: the closer the donor is to the recipient, the more concerns emerge about coercion; the more distant the donor, the more worries about commodification. As the recent scandal about illegally purchased organs in the US illustrates [8], need dictates action; illegal, mercenary, or altruistic. Furthermore, neither of these approaches has generated the numbers of organs needed. Current CDCD strategies still yield less than 1,000 organs annually in the US, and the number of living donor kidneys has been steadily declining since 2004 [2]. It is clear that present strategies cannot meet the need.

CDCD = controlled donations after cardiac death; DNDD = donation after neurological determination of death; IOM = US Institute of Medicine; UDCD = uncontrolled donations after cardiac death.

UDCD programs avoid the dangers of live donation and evade the controversy that surrounds CDCD. UDCD respects the 'dead-donor rule' and complies with the deep medical traditions of respecting life at all costs and respecting the body after death. During resuscitation, Emergency Medical Service rescuers must focus completely on their task of restarting the heart to achieve the return of spontaneous circulation in a patient in cardiac arrest. Fortunately, techniques for resuscitation have advanced and survival after out-of-hospital cardiac arrest has improved greatly in the past years (New York City Fire Department, unpublished data). When survival is no longer a possibility, and the decision to terminate resuscitative efforts is made independently of organ donation considerations, the ethics clearly allow for the pursuit of UDCD.

If it is evident that UDCD is an effective and ethical alternative to existing efforts (that is, living donations, CDCD, and DNDD), why has UDCD not been more widely accepted? In order for organs to remain viable, interventions for organ preservation must be initiated within minutes after pronouncement of death. It may be difficult to obtain necessary consent for these interventions from grieving family members. To address this challenge, countries such as France and Spain have passed legislation allowing 'presumed consent' for preservation. Therefore, preservation measures may be initiated unless the patient has specifically 'opted-out'. This works well within a society comfortable with the notion of presumed consent. Other societies should consider first-person consent for organ donation (as may be indicated through organ donor consent registries or on donor cards such as drivers' licenses). The latter approach is that advocated for the US in the recent work by DuBois [9] and the New York City UDCD Study Group [10].

Currently, people who die from an out-of-hospital cardiac arrest are denied the opportunity to be organ donors except in those few locations where out-of-hospital UDCD programs are active. The results reported by Fieux and colleagues in this journal, and the continuing success of the Madrid and Barcelona out-of-hospital UDCD programs, demonstrate the viability and reproducibility of such protocols. The IOM conservatively estimated that in the US about 22,000 decedents could become UDCD donors [3]. It is conceivable that widespread dissemination of UDCD could obviate the waiting list for kidney transplants [11]. Thus, societies have the medical and moral obligation to develop UDCD programs.

Competing interests

The authors declare that they have no competing interests.

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