ORGAN DONATION – A ROLE FOR PARAMEDICS?

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Introduction

Organ donation remains a space that is yet to be explored in paramedic practice. It is important to note that the associated ethical, logistical and professional considerations are multi-faceted and complex, thus inhibiting the ease of program implementation, and delineating a role within them for paramedics. We pose an important question: do paramedics have a professional obligation to play a role in the organ donation process? This question has previously been raised by one of the authors, but the issues remain largely unexplored.(1) In this article, we aim to shed some light on the organ donation process, and highlight some potential barriers to paramedic involvement. We also reflect on potential solutions to these barriers, and look to the future.

DBD vs DCD

Donation after circulatory death (DCD) involves recovering organs for transplant after death has been confirmed by following specific criteria. Donation after brain death (DBD) is considered the current standard model for donation after death, but as the demand for organs is increasing substantially, DCD schemes are being reintroduced in many countries globally.(2) Previously known as non-heart beating donation and donation after cardiac death, DCD pertains to death which has been confirmed by the patient being in irreversible, permanent cardiorespiratory arrest whereas DBD refers to brain circulation.(3) Furthermore, DCD can be broken down into two categories known as uncontrolled and controlled. Donors who are considered uncontrolled are those whose death occurred suddenly and unexpectedly. Controlled DCD occurs after life-sustaining therapies have been discontinued. Although DCD was incorporated into practice in the 1950s confirmation of death using neurological criteria or DBD moved donation away from DCD. In the United Kingdom there has been an increase in the amount of organs donated from DCD with success due to a decreasing number of people who meet DBD criteria.(3)

Challenges associated with utilizing DCD include identifying potential donors and acquiring consent while supporting grieving family members. Healthcare providers need to remain professional and ethical while following legal guidelines. It is expected that a steadily increasing aging population with associated illness and organ deterioration will result in a higher demand for organ donation especially with advancements in transplant technology. Unfortunately there are some uncertainties associated with DCD. Determining time of death utilizing the criteria is a major concern for most. The thought of a potential return of spontaneous circulation (ROSC) or responsiveness of nervous tissue due to restoration of cerebral blood flow remains.(2)

Decisions involving organ donation should always be in the best interest of the patient when withdrawing life-sustaining treatment. Patient care should be performed without bias and should remain consistent regardless of whether or not the patient meets criteria for organ donation. Unfortunately, there are ethical and legal considerations associated with DCD which may leave healthcare providers uncomfortable with working with this form of donation. Additionally concerns about the quality of organs from DCD donors remain which results in variation of organ retrieval and utilisation.(3)

Healthcare providers in Canada were asked about their beliefs surrounding performing specific procedures in order to increase the chances of successfully retrieving organs before or after the patient has died. Over 80% did not believe it was acceptable without consent from next of kin; however, when consent was obtained 93% supported performing medical interventions to improve or preserve organs for donation.(4)

Considerations

Perhaps the largest barrier to organ donation in the pre-hospital setting can be attributed to the complexity of the associated ethics surrounding such programs. In addition, these ethical considerations can be further convoluted by personal values, religion and culture, which are in turn integral pieces of the organ donation process.

Religious and cultural beliefs (or their absence) are often the foundation around which patients and families build their perspective of life and death, which poses a first important question; how do we determine death? Some define death by the absence of brain activity and a person's inability to interact with the outside world, which is consistent with the practice of organ donation from DBD. Others associate death only with the absence of a heartbeat, thereby creating discordance with the aforementioned definition. In this case, DCD may be more acceptable, however it too comes with its ethical and logistical challenges. Joffe highlights the complexity of DCD and defining death when he states *"if the patient is dead after 2-5 minutes after cardiac arrest, then patients in identical physiologic states actually are dead or alive depending on the context; the state of death is contingent on a future event (whether resuscitation is attempted), and the commonly used meaning of irreversible as 'not capable of being reversed' is abandoned."*(5)

Universally defining death may be a critical condition for the understanding and acceptance of death, which may in turn increase the willingness to consent to organ donation by families. The literature highlights that a lack of understanding and education regarding death delineates a boundary to consent.(6) Dhanani emphasizes the importance of a comprehensive definition of death that is objective and applicable to all persons despite religious and cultural beliefs. He adds that *"death in itself in a certainty, and to remove the certainty of when it occurs is simply to perpetuate its reality"*.(7)

The four principles of medical ethics, namely Autonomy, Beneficence, Non-Maleficence and Justice, are a prominent consideration as they relate to organ donation, specifically to the pre-hospital environment.

Autonomy defines the right that every person has to decide what happens to their bodies, either during or after death. In situations of pre-consent to organ donation, do we not have an obligation to act in accordance with these wishes for our patients? It is safe to say that paramedics acting against DNR wishes would be wrong; is the same principle then applicable to organ and tissue donation wishes? It is worth considering that denying this wish to our patients may be unethical in itself? Beneficence delineates the idea that our role as healthcare providers is to do the most good for our patients, while acknowledging that what is best for one may not be the best for another. This can be traced back to a patient's pre-consent to organ donation and expressed resuscitation wishes, which will vary by patient, and in turn vary our duty as professionals. Lastly, the principle of *"first, do no harm"*, or non-maleficence is an imperative consideration, as it is easy to side with the argument that organ donation and the processes in place to aid its success do in fact, cause harm. This may also be consistent with the doctrine of *the double effect*, which states that a treatment intended for good may unintentionally cause harm.

Uncontrolled donation is the poster child for medical-ethical conflict. One concern is the need for ongoing cardiopulmonary resuscitation, in order to minimize warm ischemia time and maintain appropriate organ perfusion in order to pursue potential donation. Is this consistent with our duty to *first do no harm?* The Department of Health of the Welsh Assembly Government defines a person's best interest as being inclusive of their social, emotional, cultural and religious interests, and that should organ donation fall within these parameters, prolonged resuscitation for the purpose of donation would be ethical, thus perhaps further aligning to our duty to patient autonomy.(8)

The Paramedic's Role

A major setback to recruitment of potential donors is obtaining family consent after the patient has been determined to be dead.(9,10) Families are generally more willing to give consent on behalf of their loved one if they have positive experiences associated with the donation process. Moreover, if families are exposed to information regarding donation and are able to discuss this information with their loved one prior to death they tend to have a more positive attitude towards consent.(11) Furthermore it has been noted that families are more willing to consent to organ donation if the information is provided separately and does not occur simultaneously with discussions about death.(12) Typically family members are more willing to consent to donation if they have time to process the information. This is obviously not practical if the patient has a sudden or unexpected death. In these situations differentiating between the clinical reality of death and emotions of the loss of a loved one is difficult and consent is usually affected.

A previous study demonstrated that when families were given sufficient time to process information and they were given the opportunity to reconsider an initial refusal this typically led to a more balanced decision and potentially related increases in rates of consent.(13) When explaining a patient's clinical situation to family, healthcare providers should use straightforward and consistent terminology to ensure that family members truly understand that brain-stem death is death.(10) It is thought that clinicians should be educated in communicating specifically with family. Family communication needs to be well-rounded as being treated respectfully by staff who are empathetic and reassuring will leave family feeling supported and will generally be more likely to consent to organ donation.(14–16)

Although paramedics are not typically involved with the organ donation process, and are therefore not involved in family donation conversations, they still have the ability to ensure that families have a positive experience with the healthcare system. Regardless of the patient's outcome, paramedics are in a position to provide correct information and answer questions while providing physical and psychological support to family members. Paramedics need to be respectful and considerate of their patients' and families' cultural, ethnic, and religious beliefs when providing care and communicating about donation.

Trust between paramedics and grieving families can be easily broken if consent is assumed and there is a reluctance to be open to family views and beliefs. A percentage of the population are wary of trusting the government and the healthcare system. Having an opt-out system for organ donation would eliminate having to acquire consent from family but it does come with a potential risk of making the concept of donation harder to accept as some may feel they are having a

decision forced upon them which is typically hard to accept.(17)

Current practice in Ontario allow for a Termination of Resuscitation (TOR) phone consultation by paramedics, in conjunction with a Base Hospital Physician. This occurs only in the event that there is reasonable evidence to assume that cardiac arrest cannot be reversed, and attempts have been unsuccessful in the field. If TOR is deemed appropriate, do paramedics have a role to play in identifying these patients and considering on-going resuscitation and transport, despite probable futility, for potential donation?(1) This involves an additional level of complexity when faced with grieving family members, obtaining consent, all while operating with a certain degree of urgency to preserve organ viability.

Currently a paramedic's role in terms of resuscitation efforts is purely for achieving a potential return of spontaneous circulation. Paramedics either transport for a potential ROSC or terminate resuscitation on scene depending on patient presentation. Resuscitation efforts in the prehospital setting are not for the purposes of potential organ donation. What if, instead of terminating efforts on scene, paramedics could facilitate DCD? Paramedics already have the ability to determine the most appropriate receiving facility depending on their patient's needs, therefore adding the most appropriate facility for organ donation is not out of the question. In addition, paramedics have the ability to maintain end-organ perfusion for the optimization of organ quality during transport. There are significant ethical and legal roadblocks which would need to be addressed before this could become a reality. Clear and appropriate guidance, along with associated education surrounding potential DCD donors would also have to be implemented.(1)

Logistical concerns can also be considered, and include tying up paramedic resources for the sole purpose of transport for organ transplantation. Furthermore, appropriate transplant facilities with specialized intensive care units (ICU) are often limited to urban settings, thus limiting destinations for rural paramedic services. Potential solutions include the concept of Opt-Out Donation programs, whereby all persons are assumed to be organ donors unless they have explicitly opted out. The literature demonstrates that Opt-Out programs increase the donor rate, with positive results documented internationally. In one example, the Australian donor rate quadrupled after the implementation of such program. As of 2010, European countries with implemented Opt-Out donation programs such as France, Croatia and Portugal reported higher donation rates when compared to Opt-In countries.(18)

While organ donation may be an aspirational professional goal for paramedic involvement, some paramedic services in Ontario have adopted a death notification protocol in collaboration with the provinces governing body for organ and tissue donation, namely The Trillium Gift of Life Network. In this program, all deceased patients under the age of 76, with a time of death less than twelve hours before referral are eligible. Should consent be obtained with proper candidacy, this would allow for tissue donation after death in the pre-hospital environment. Tissue is viable up to 12-15 hours after death, and can include bone, ligament, eyes and heart valves.

Conclusion

To conclude, there is little structure to guide paramedics as we navigate the gray area of potential pre-hospital organ donation programs. The idea is confounded by ethical, professional and logistical considerations and conflicts. A comprehensive definition of death along with the exploration of presumed consent would provide clarity for paramedics as it relates to our role in organ donation, while eliminating some of the ambiguity regarding the ethics of this process. Finally, there is no question that our role as healthcare professionals is rooted in our moral and professional obligations to preserve life; therefore, is it not conceivable that paramedics have the responsibility of both saving life and enhancing lives through the ripple effect of organ donation? We think so. CP

Disclaimer

The views and opinions expressed in this article are those of the authors and do not necessarily reflect the official policy or position of their employers or organisations.

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