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CORRESPONDENCE

Potassium chloride for medical assistance in dying followed by organ donation

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To the Editor,

In a recent review of Canada's first cases of organ donation following medical assistance in dying (MAID), we noted that there was no mention of patients receiving potassium chloride.[1]

The usual MAID medication regimens in Canada include benzodiazepine, propofol, and a neuromuscular blocker. Some MAID providers add lidocaine to the mix, while some include bupivacaine. At London Health Sciences Center, our MAID program and its small number of providers have completed over 300 MAID cases. The MAID provider group is confident about the comfort provided to dying patients (and their families) by the above combination(s) of medications. It was only during a few index cases where MAID was followed by organ retrieval for transplantation (and where an arterial catheter had been placed) that it was recognized that it was taking a long time (10–20 min) for complete circulatory arrest to occur in some patients. In a regular MAID case, this is not a concern—i.e., the patient dies with comfort and dignity, and is apneic and pulseless within a few minutes of the MAID medication administration. Nevertheless, organ donation following MAID is different.[2] When organ procurement follows MAID, the prolonged time to complete circulatory arrest can cause excessively long warm ischemic time to the transplantable organs, and thus can be potentially harmful to the recipient—clearly contrary to the wishes of the donor.

Our hospital MAID committee reviewed this concern and agreed to a protocol change that allowed the use of potassium chloride (after adequate anesthesia) for all MAID organ donation cases.

Several months after this change, a 46-yr-old female operating room nurse with advanced amyotrophic lateral sclerosis requested organ donation following MAID. During a MAID assessment, the idea of potassium chloride administration was presented to her, with the goal of reducing warm ischemic time. She was completely supportive, and she and her husband provided written consent for her case to be published.

The patient was given that same anesthetic drug regimen described above, followed by 200 mEq of intravenous potassium chloride. Her arterial catheter showed an apulsatile blood pressure near 0 within 60–90 sec. The five-minute hands-off period was observed followed by successful organ retrieval.

We believe that potassium chloride is a useful adjunct to the usual MAID medication protocol of anxiolytics, intravenous anesthetics, and muscle relaxants. The MAID organ donor's goal is to undergo a comfortable death that also allows organs to be donated in the best condition possible. Potassium chloride facilitates this. We have received criticism for including this medication which draws parallels to its use in some jurisdictions during involuntary euthanasia of convicted felons. This is an emotional argument that is without medical or ethical merit. A second criticism is that potassium may cause pain from cardiac ischemia. The administration of potassium by experienced personnel after very high doses of anesthetic and anxiolytic agents mitigates this risk.

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When initially considering its use, we were uncertain about what dose of potassium to use. One of our MAID providers used 80 mEq in a case and the cardiac monitor showed a brief run of asystole followed by the spontaneous resumption of normal sinus rhythm. As a result, we now use 200 mEq as our standard. As Canada and other countries consider heart retrieval after circulatory death determination,[3–5] and potentially after MAID, the effect of potassium chloride administration on a transplanted heart will need to be addressed.

In patients wishing to donate organs after MAID, we recommend that potassium chloride be administered in a high dose after anxiolysis and deep anesthesia have been assured.

Conflicts of interest None.

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