Medical Xpress

'Significant' untapped potential for newborn organ donation in UK

March 17 2014

There is "significant" potential for organ donation to be made from among UK newborns, reveals research published online in the Fetal & Neonatal Edition of the *Archives of Disease in Childhood*.

But it is going untapped because of current guidelines on the definition of brainstem death, which run counter to those used by many other developed countries, say the authors.

There are fewer children than adults on the waiting list for donated organs, but there are also far fewer potential donors for any child, particularly those of a younger age for whom only small sized organs can be used, the authors point out.

But size is not the only limiting factor in the UK, because current death verification and certification national standards effectively prohibit the use of brainstem death (DNDD) as a valid definition in infants aged between 37 weeks and two months.

This is because national guidelines from the Academy of Medical Royal Colleges suggest that it is 'rarely possible to confirm death using neurological criteria in infants under two months of age,' although this is done in many other European countries, Australasia, and the USA.

Newborn organ donation is possible after a definition of circulatory death (DCDD), but in practice does not happen for this age group, say the authors.

The authors looked at all the infants who died in neonatal or paediatric intensive care at one large specialist tertiary children's hospital between 2006 and 2012.

They reviewed all the documentation for each case to see whether the child might have been a potential DCDD organ donor or whether they fulfilled the criteria for brainstem death and so might have been a potential DNDD donor.

During the study period, 84 infants aged between 37 weeks and two months died in intensive care at the hospital, over half of whom (54%) could have been potential organ donors.

Thirty four (40%) were potential DCDD donors; 11 were potential DNDD donors.

The potential DNDD donors all had extensive brain damage, had been in a coma, were not breathing on their own, and had evidence of brainstem impairment. All of them died within minutes of their life support being withdrawn, and would theoretically have fulfilled the criteria for brainstem death, calling into question the validity of the current guidelines, say the authors.

Of the rest, a further 10 infants were possible but unlikely donors, and 29 were not suitable donors because they had had cancer or metabolic disease, or had not had life support withdrawn.

"These results suggest a significant proportion of neonates who died in one children's hospital were potential organ donors," write the authors. "..Even with a conservative conversion rate of 50%, these organs would significantly increase the overall total of small sized organs donated in the UK," they say.

"This is especially important as for many potential recipients there are so few organs of this size being donated that they are not currently being listed for transplantation," they add.

The authors point out that there must be unrealised potential in other centres across the UK, and if the guidelines were revised and training in organ donation given to neonatal teams, the numbers of both DNDD and DCDD organ donations would increase.

More information: The potential for neonatal organ donation in a children's hospital, *Archives of Disease in Childhood*, Online First, DOI: 10.1136/archdischild-2013-304803

Provided by British Medical Journal