Study Examines Ethical Issues Surrounding Conjoined Twin Seperation

GLOBE NEWSWIRE - The case of a pair of "craniopagus" twins (conjoined at the head) illustrates the complex bioethical issues involved in deciding whether to attempt separation surgery, according to an article in the October issue of *Plastic and Reconstructive Surgery*, the official medical journal of the American Society of Plastic Surgeons (ASPS). "Although separation of craniopagus twins is exceedingly rare, the principles discussed apply to a variety of cases in craniofacial and pediatric plastic surgery in which life-threatening procedures are carried out for conditions that affect the quality of life but may not be life threatening," comments ASPS Member Surgeon Dr. Devra Becker and colleagues of the Rainbow Babies & Children's Hospital, Cleveland.

The authors outline the bioethical issues faced by their multidisciplinary medical team as they assessed whether to attempt surgical separation in a pair of craniopagus twins from Italy. The operation posed daunting medical and surgical challenges. The smaller twin was conjoined to the back of the larger twin's head. The larger twin had most of the brain blood flow; the smaller twin had two kidneys, while the larger twin had none. After separation, the larger twin would require either a kidney transplant or lifelong dialysis.

In deciding whether to attempt separation, the researchers performed an in-depth evaluation of the traditional ethical principles that traditionally guide medical decision-making:

- Autonomy and informed consent. Since the children were less than three years old at the time, they were "neither capable or competent" of making an informed decision about the proposed surgery. Nevertheless, the medical team, along with the parents, tried to focus on the children's role in the informed consent process. The intense media coverage of the case posed special challenges but the team took steps to keep the twins' best interests in focus.
- Beneficence and non-maleficence. Under these two intertwined ethical principles, any treatment should be beneficial and cause no harm to the patient. The issues were particularly complex, as the proposed separation had a "double effect": the operation could potentially cause irreversible harm to one twin while improving the quality of life for the other.
- Justice. The team considered the ethics of devoting such enormous medical resources to the children's treatment. Rainbow Babies & Children's Hospital made the decision to cover most of the costs of the rare procedure, in the hope that the procedure would advance scientific knowledge.

After careful consideration, the family and medical team elected to proceed with the attempted separation. However, the procedure was halted because of unanticipated surgical difficulties, which altered the balance between doing good and doing harm. "The risk of death outweighed the gain in quality of life," according to Dr. Becker and co-authors. The twins recovered with no complications from the attempted procedure.

Craniopagus twins are extremely rare, occuring approximately four to six in 10 million births. Although several papers have reported on the medical aspects of separating conjoined twins, few have addressed the ethical dilemmas. This is particularly relevant to plastic surgeons, who are often the leaders in organizing complex multi-disciplinary teams evaluating conjoined twins for possible separation. "Once organized, these teams find that the ethical issues involved may be more relevant than the medical issues, since separation cannot proceed without clear understanding and documentation of the former both by health care providers and the family," Dr. Becker and colleagues write.

They hope their experience will be of value to other surgical teams, as the ethical principles involved apply not only to rare and complex separation procedures, but also to more common plastic and reconstructive procedures involving children.

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