O
n the afternoon of July 8, 2003 Ladan and Laleh Bijani died in Singapore following a 53 hour surgery to separate them despite efforts by a team of 28 doctors and 100 medical assistants. The 29-year-old twins were warned that their chance of survival was only 50%, yet regardless of this fact, they decided to go through with the operation. The surgery was the first time since 1952 that medical doctors had tried to separate adult craniopagus twins. Conjoined twins are categorized into one of eight groups: Cephalopagus, thoracopagus, omphalopagus, ischiopagus, parapagus, craniopagus, pygopagus, and rachipagus. Craniopagus twins are identified as being joined at the head only and are considered the most rare, while thoracopagus, which are joined at the chest, are the most commonly occurring classification. Perhaps the most famous conjoined twins are Chang and Eng Bunker, also known as the “Siamese Twins.” These two were joined at the side, making them parapagus twins by definition. Though the formation of conjoined twins is very rare, female conjoined twins are much more common, being three times more likely to occur than male conjoined twins. There is little evidence that a person’s predisposition for the formation of monozygotic conjoined twins is hereditary. Though no one is certain about the mechanism by which conjoined twins form, there are two sound theories. The first of these theories states that monozygotic conjoined twins may arise from the incomplete fission of a single zygote.
These twins typically share the same placenta and may or may not have their own amniotic sac. This process usually occurs at approximately three to four week gestation. The second theory suggests that two monozygotic embryonic discs may collide and fuse. According to this theory, where these discs collide and fuse typically determines what kind of conjoined twins is formed. With monozygotic conjoined twins occurring in approximately 1 out of every 50,000 to 100,000 births, issues concerning the treatment of these anomalies have grown ever more prevalent.

**Moral and Ethical Dilemmas Concerning Conjoined Twins**

Ladan and Laleh Bijani’s decision to separate despite the fact that they were 29, gives us great insight when considering the ethical and moral issues that arise when dealing with conjoined twins. Both knew that their chance of survival was about fifty percent, however the prospect of leading individual lives was too promising. Ladan was quoted as saying “If God wants us to live the rest of our lives as two separate independent individuals, we will.” Apparently, even the prospect of death seemed a favorable outcome when compared to the prospect of never leading truly independent lives. This grim outcome can be contrasted with the recent separation of yet another set of craniopagus twins just last month. Although the two-year-old boys had separate brains, they shared many vital blood vessels. They remain in good condition to this day with a promising future. With this insight, several questions involving the decision making process must be considered:

- What is the parent’s role?
  - Is it ethically right for parents to make the decision to separate?
  - If possible, should the conjoined individuals be allowed to reach maturity and then decide for themselves whether or not to separate?
  - Is it morally right for the parents to choose to not separate if imminent death is a likely result of not separating?

- What is the role of the medical profession in the decision making process?
  - How should the doctor(s) use his/her influence in affecting these decisions?
  - If only one individual is likely to survive surgery, should separation be permitted?


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