

Case 12

The Fletchers, a couple in the UK recently received permission from the UK's Human Fertilisation and Embryology Authority (HFEA) to screen embryos to help their ailing toddler. The HFEA regulates and inspects all UK clinics that provide in-vitro fertilization, donor insemination, or the storage of eggs and sperm. It also licenses and monitors all human embryo research conducted in the UK.

The Fletcher's two year old son Joshua, has the potentially fatal congenital hypoplastic anemia, called diamond black anemia in the UK. This progressive anemia, of unknown cause, appeared in Joshua's first year of life and resulted in a deficiency of red blood cell precursors in an otherwise normal bone marrow. Temporary treatment consists of continuous blood transfusions, but the only cure is transplanting stem cells of a compatible donor, that could stimulate Joshua's body to make healthy red blood cells.

Joshua's parents (i.e. Mr. and Mrs. Fletcher) and his five year old brother Adam are not close enough genetic matches to donate the stem cells Joshua needs. If the Fletchers were to try having another child, the chances that any future sibling would be compatible with Joshua are only one in four. The Fletcher's thus requested, and the HFEA allowed them, to improve the odds to approximately 98% through pre-implantation genetic diagnosis (PGD). Under this process, Mrs. Fletcher's eggs and Mr. Fletcher's sperm will be mixed in a petri dish, the resulting embryos analyzed to determine compatibility with Joshua, and compatible embryos inserted into Mrs. Fletcher's womb. Umbilical cord blood from the newly born sibling, which contains bone marrow stem cells, will then be transplanted into Joshua.

The HFEA's decision to allow the use of PGD in the Fletcher's case marked a significant change in its policies. According to the head of HFEA, Suzi Leather, HFEA "...decided to relax the rules on embryo selection to enable all couples who want to be able to select an embryo, who might be a tissue match for an existing seriously ill sibling, to be able to do so." This decision has generated strong controversy throughout the world. Professor Jack Scarisbrick, the chairman of the organization Charity Life said: "We have gone yet further down the slippery slope in creating human beings to provide 'spare parts' for another." Samuel D. Hensely of the Center for Bioethics and Human Dignity wrote: "Today parents using PGD take responsibility for selecting birth children who will not be chronically sick or severely disabled; in the future, they might also bear responsibility for picking and choosing 'advantages' their children shall enjoy."

On the other side of the issue, a spokeswoman for the British Medical Association said: "If the technology to help a dying or seriously ill child exists, without involving major risks for others, then it can only be right that is used for this purpose."