“Pregnancy Established in an Infertile Patient After Transfer of a Donated Embryo Fertilized In Vitro” (1983), by Alan Trounson, John Leeton, Mandy Besanko, Carl Wood, and Angelo Conti


In 1983, researchers Alan Trounson [5], John Leeton, Carl Wood, Mandy Besanko, and Angelo Conti published the article “Pregnancy Established in an Infertile Patient After Transfer of a Donated Embryo Fertilized In Vitro" in The British Medical Journal. In the article, the authors discuss one of the first successful experiments using in vitro [6] fertilization [7], or IVF, with the use of a human donor embryo at the Monash University and Queen Victoria Medical Center in Melbourne, Australia. Prior to the article's publication, it was uncertain whether scientists could successfully use human donor embryos in IVF techniques. Although the pregnancy [8] ended in a miscarriage [9] ten weeks later, it showed that IVF was possible for those who needed to use someone else's donated egg [10] cells. Trounson and his colleagues’ paper provided a basis for future IVF pregnancies using donated embryos and helped develop a treatment option for men and women who could not conceive through sexual intercourse [11] alone.


Prior to the experiment, the authors questioned whether it was possible for an older woman who had no ovarian function to become pregnant with a donated egg [10] cell by sperm [12] cell fertilized in vitro [6], with the manipulation of an ovulatory stimulant drug and a group of hormones [13]. At the time, successes in IVF research included IVF-donated embryo animal studies and Australia's first IVF human births in 1978 by scientists Patrick Steptoe [15] and Robert Edwards [16]. Those achievements enabled the authors to further question the possibilities of IVF in humans [17].

The article is a short report of an IVF experiment led by authors Trounson, Leeton, Wood, Besanko, and Conti. In 1982, Trounson and his team began working on the IVF experiment in an attempt to treat women who were primarily around forty years of age and older and who had no ovarian function. Trounson, a physician who specialized in stem cell research at the time, was later the president of the California Institute for Regenerative Medicine [18] in Oakland, California, from 2007 to 2014. From 1968 to 1987, Leeton was the director of the infertility clinic at Queen Victoria Medical Center. He established Australia's first family planning [19] clinic in 1967 in Melbourne, Australia, as well as Melbourne's first donor sperm [12] organization [20] in 1969. From 1964 to 1992, Wood worked as a professor and chairman of Obstetrics and Gynecology at the Queen Victoria Medical Center at Monash University. At the time of the experiment, Besanko was a technical officer and Conti was a visiting medical fellow.

The authors divide the article into three sections. In the first section, the authors describe their process for obtaining multiple egg [10] cells from the donor. Furthermore, the authors note the patients’ rights as well as the options that donor women have if the physicians collect more than three egg [10] cells from their uterus [14]. In the second section, the authors mention general information about the donor, general information about the recipient, and describe their process of fertilizing and transferring the egg [10] cells. In the third section of the paper, the authors explain possible reasons for the recipient’s miscarriage [9], and the ethical and legal issues surrounding the use of donor embryos in IVF procedures.

In the introduction, the authors discuss the general layout of the experiment. The authors state that they used a drug and a group of hormones [13] to stimulate ovulation [21] to occur in the donor. Ovulation is a process occurring in the female body during which an ovary [22] releases one egg [10] cell roughly every twenty-eight days for fertilization [7]. However, the authors stimulated ovulation [21] in the donor with the use of a drug and a group of hormones [13] that causes multiple egg [10] cells to be released in a single month. The authors later harvested those eggs and fertilized them in a lab with sperm [12] cells. Those fertilized eggs would later become embryos. The authors then state that their paper discussed a forty-two year old female donor, classified as patient A. They also included discussion of a thirty-eight year old female recipient, classified as patient B, in their paper.

In the methods section of their paper, the authors describe the patients involved in the experiment, as well as the methods that
with the requirement that the donor and recipient’s identifications remain anonymous. In response, concerns began over whether clomiphene citrate [29] and gonadotropins, substances meant to increase hormone [27] levels, in order to release multiple egg [10] cells, which could have reduced the body’s ability to sustain an embryo in patient A’s uterus [14]. The authors also discuss some of the ethical issues that emerged after the experiment. They state that prior to the publication of the paper in 1983, the ethics committee of Queen Victoria Medical Center in Melbourne, Australia, permitted egg [10] cell donation with the requirement that the donor and recipient’s identifications remain anonymous. In response, concerns began over whether
it was moral to eliminate any possibility for a donor-conceived child to know information about their genetic ancestors.

After the paper’s publication in 1983, laws pertaining to donor-recipient confidentiality and anonymity began to change in Australia. In 1988, the Victorian legislation in Australia passed a law enabling donor-conceived children or parents with younger children to request information about the donor as long as both parties consented. In 1995, the Infertility Treatment Act of 1995 was passed in Australia to strengthen donor-conceived individuals’ rights by permitting requests to access information about their donor parents as soon as they reached legal adult age. However, in 2006, the National Accreditation Scheme permanently prohibited all anonymous donations of embryos, **egg** [10], cells, or **sperm** [12] within Australia.

Despite the early miscarriage [9] in patient B, the paper marked one of the first successful attempts to transfer an embryo from a human donor to a human recipient. According to the authors, the fact that patient B was pregnant at all marked a new discovery for IVF researchers because it demonstrated that human females could become pregnant using egg [10] cells donated by other women. It provided insight to the scientific community on successful techniques of IVF embryonic transfers between a donor and recipient who both had minimal to no typical ovarian function.

**Sources**


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