4.3.3 Reproductive Health: Storage and Disposal of Gametes and Embryos

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Educational Objectives

1. To understand the ethical and legal issues that might arise when patients store and dispose of gametes and embryos that are obtained or created in the course of assisted reproduction.

Case

This case continues from case 4.3.2, "Control and Use of Gametes and Embryos," in which a couple, Mara and Tony, used in vitro fertilization (IVF) technology and a sperm donor to create 10 embryos. Dr. Garcia's clinic froze eight of Mara and Tony's embryos and transferred the other two embryos to Mara, who became pregnant with twins. Two months after Mara and Tony's twins are born, researchers from the local university approach Dr. Garcia's clinic seeking embryos for use in stem cell research, which has been approved by the research ethics board. Dr. Garcia is currently storing several hundred frozen embryos in her clinic, of which eight belong to Mara and Tony.

Question

1. Should Dr. Garcia ask Mara and Tony to consider donating their eight frozen embryos to stem cell research? Should Dr. Garcia seek the consent of the sperm donor to donation of the embryos to stem cell research?

Case Continuation

At the time he made the donation, the sperm donor agreed to the possibility that embryos created using his sperm might be donated to stem cell research, but Mara and Tony now do not agree to donate their embryos and instead choose to continue to keep their eight embryos in frozen storage. Three years later, Mara and Tony come to Dr. Garcia's office to discuss the options for disposing of their frozen embryos. Dr. Garcia's clinic still provides embryos to the local stem cell research effort, and also runs an embryo donation program. In addition, Dr. Garcia uses unwanted embryos to train new technicians and to practise using new equipment. Finally, she also thaws embryos and either gives them back to the patients or incinerates them in her laboratory.

Question

2. Assuming the sperm donor had agreed to the possibility of all these possible fates for any embryos created using his sperm at the time he made his donation, which of the options for embryo disposal is Dr. Garcia obliged to offer Mara and Tony?

Case Continuation

Mara and Tony are interested in donating their embryos to other patients. Dr. Garcia has four couples who are seeking donated embryos. Mara and Tony ask whether they can choose which couple will receive their embryos.

Question

3. Should embryo donors be able to select who should receive their donated embryos?

Case Continuation

It turns out that Mara and Tony cannot agree on what to do with their eight frozen embryos after all, so they pay for another three years' storage. During this time, they divorce. Mara then comes to see Dr. Garcia and asks to
use these embryos for another pregnancy attempt.

**Question**

4. Should Dr. Garcia thaw and transfer any of the eight frozen embryos to Mara? Does Dr. Garcia need Tony’s consent before she does so?

**Discussion**

**Q1. Should Dr. Garcia ask Mara and Tony to consider donating their eight frozen embryos to stem cell research? Should Dr. Garcia seek the consent of the sperm donor to donation of the embryos to stem cell research?**

Under Canada's *Assisted Human Reproduction Act* of 2004 (hereafter "the Act"),[^1] Dr. Garcia must have the written consent of the embryo donors for any use she makes of these embryos. This means she will need written consent from both Tony and Mara before she can donate the embryos to research, even though Tony's sperm was not used to create the embryo (Assisted Human Reproduction (Section 8 Consent) Regulations, section 10). Under the Act's current regulations,[^2] provided the sperm donor consented to the possible research use of any embryo created using his sperm at the time he made his donation, Dr. Garcia does not need to get new consent from the sperm donor.

Dr. Garcia's clinic or the university may be obliged to comply with guidelines issued by the Canadian Institutes of Health Research (CIHR) if the stem cell research in question is funded by or is conducted under the auspices of an institution that receives any funding from the CIHR, the Natural Sciences and Engineering Research Council or the Social Sciences and Humanities Research Council (CIHR Guidelines, guideline 7.0). If this is the case, Dr. Garcia will need the consent of the sperm donor to "the unrestricted research use of any embryos created, when these embryos are no longer required for reproductive purposes."[^3] This consent should have been obtained from the sperm donor at the time of his sperm donation (CIHR Guidelines, guideline 8.1.1).

The Act does not state when it is permissible for a woman or couple to donate embryos to stem cell (or other) research, so Dr. Garcia could approach Mara and Tony at any time. If the CIHR guidelines apply, however, she will need to make sure that Mara and Tony have agreed that they will not use their frozen embryos for any future reproductive effort before she can get their consent to research donation (CIHR Guidelines, guidelines 8.1.1 and 8.3.1). Once Mara and Tony have decided they do not wish to use the embryos for their own reproductive purposes, and if they agree to research donation, Dr. Garcia will need to secure their consent in writing.

If the CIHR guidelines do not apply to Dr. Garcia, she should nonetheless consider waiting until she is sure that Mara and Tony have decided that they will not be using their frozen embryos for any future assisted reproduction before she asks them to donate the embryos to research or for another use. Donation of embryos before the assisted reproduction effort is complete has been criticized, because depleting the stock of embryos before the reproductive effort is complete could result in the woman undergoing more egg retrievals than might otherwise be required. On the other hand, it can be argued that regardless of what stage the couple is at in their reproductive process, the decision to donate embryos to research should rest with the woman or the couple, provided they are aware of all the possible consequences of such a decision.

**Q2. Assuming the sperm donor had agreed to the possibility of all these possible fates for any embryos created using his sperm at the time he made his donation, which of the options for embryo disposal is Dr. Garcia obliged to offer Mara and Tony?**

The Act does not specify which embryo disposal or donation options must be offered to women or couples undergoing IVF. Dr. Garcia may, therefore, offer only those options that she is willing and able to support.

The CIHR guidelines state that "embryos no longer wanted for reproductive purposes may be donated to another couple, used for research (including research to derive and study human [embryonic stem] cells), or discarded" (CIHR Guidelines, guideline 8.3.1). The guidelines do not, however, require that patients are offered all three options.

Regardless which disposal and donation options Dr. Garcia offers her patients, she should discuss these options with her patients before they begin IVF so that they are aware in advance of the donation and disposal options that will be available to them should they create more embryos than they need or want to use. If she does not offer certain disposal or donation options, she should explain to her patients before they begin IVF that these services may be offered elsewhere.
Q3. Should embryo donors be able to select who should receive their donated embryos?

The Act does not address whether embryo donors can choose who will receive their embryos. However, if Dr. Garcia does offer what is known as "directed" donation, she should carefully consider in advance the criteria that embryo donors may use to determine who should receive their embryos. For instance, can they reject a woman or couple based on race, age, sexual orientation or profession? On the one hand there are arguments concerning respect for autonomy that favour deferring to the donors' choices, while on the other hand there are arguments concerning justice that counsel against facilitating prejudice.

As a compromise, Dr. Garcia might consider respecting donors' choices when donors personally know the individual or couple to whom they wish to donate (e.g., if a woman and her husband wish to donate to the woman's sister and brother-in-law), but offer a program of undirected donation for other donors. Under the latter system, embryos could be given to women or couples based on impersonal criteria such as length of time on the clinic's waiting list or chances of a successful pregnancy.

Q4. Should Dr. Garcia thaw and transfer any of the eight frozen embryos to Mara? Does Dr. Garcia need Tony's consent before she does so?

Under the Act and its proposed regulations, Dr. Garcia will have obtained both Mara and Tony's written consent to the creation and storage of the embryos six years ago when the embryos were first created and on each agreement to frozen storage (section 8[1] and 8[3]). However, where a couple's relationship ends (including in divorce) and the embryos were created using only the genetic material of one member of the former couple, the member whose genetic material was used has sole control over the use made of these embryos. Because Mara and Tony used a sperm donor and are now divorced, Mara does not need Tony's consent to use the remaining frozen embryos (Assisted Human Reproduction (Section 8 Consent) Regulations, section 3(h)). In this case, "use" includes transfer to Mara.

However, if Tony had provided the sperm for the embryos, his consent would have been required even if he and Mara subsequently divorced, and he would have the legal right to withdraw his consent, thus preventing her from using the embryos. Such a case occurred in the UK. A woman had created embryos with her partner using his sperm and her eggs before she underwent chemotherapy that left her sterile. Following their separation, the woman argued that her ex-partner's withdrawal of consent to her use of their frozen embryos deprived her of the ability to have a genetically related child and amounted to a breach of her human rights. However, courts in the UK and in Europe found that her ex-partner's withdrawal of consent overrode her interest in having a child to whom she is genetically related.

References


Further Reading and Resources

- **Ethics Committee of the American Society for Reproductive Medicine.** Access to fertility treatment by gays, lesbians, and unmarried persons. Fertility and Sterility 2006; 86: 1333-5.
- **Ethics Committee of the American Society for Reproductive Medicine.** Donating spare embryos for embryonic stem-cell research. Fertility and Sterility 2002; 78: 957-60.
- **Health Canada.** Assisted human reproduction website: http://www.hc-sc.gc.ca/hl-vs/reprod/index_e.html. (Includes information about any regulations made under the Act.)