In vitro fertilization is safe for women undergoing the treatment after they deliver: a call to arms for the children, too!

The Hippocratic oath says “First, do no harm!” As is widely believed, the actual Greek translation contains no such statement, but nonetheless, this is an edict that we all adhered to when we graduated medical school. In reproductive medicine, and more specifically in assisted reproductive technologies (ART), we did things kind of backwards. We started doing the treatment and “hoped” that it did not make the situation worse. Now, I am not trying to commit professional suicide here by bashing Robert Edwards and Patrick Steptoe, the grandfathers of our field and Nobel prize recipients, but would this type of research methodology hold up in the modern research algorithms? We are left with the possible guilt that treating infertile patients with the use of ART or in vitro fertilization maybe fixing one problem today but creating another problem down the road, i.e., adversely affecting the health and welfare of the women we are treating.

That is why this study (1), which links the best database entry software, where >90% of the U.S.-based fertility clinics so diligently enter ART data, to birth outcomes tracked by state governments, is so important to be done. The field of reproductive medicine needs this type of study, and many more to follow, to hold itself accountable in making sure that ART is safe for the infertile couple it is supposed to help.

This study generates so many more questions than it answers, but it is a start, and we must start somewhere. It is obvious that we need to start with mortality: Does ART cause more women to die than women who conceive naturally? It seems like a simple question, but when Louise Brown was conceived, with all due respect to Dr. Steptoe and Dr. Edwards, they did not care and neither did the patient herself. They wanted to help Lesley Brown to have a child, and this process made logical sense given her medical circumstances.

Now, we are freezing eggs and embryos for medical reasons, such as cancer and the resulting sterilization of women when they undergo chemotherapy and radiation that not only kills the life-threatening cancer cells but also normal healthy gametes such as sperm and eggs. With little more information other than we can do it, reproductive medicine can now freeze eggs for social reasons with very little research on the long-term outcomes on the health and welfare of the women undergoing the treatment seeking reproductive freedom. Is the price worth it? We have no idea. The field has convinced itself that it is worth it. A lot of money depends on it not only for the fertility clinics that treat the women but also the multibillion dollar companies that cover the service through self-insurance to get their valuable workforce back to work and not into the doctor’s office.

Our field is unique. We are the only specialty where there is federal law that requires that we, the doctor, transparently present publicly about “How are we doing?” Do you have that information from your bariatric surgeon on how successful he is in getting you to lose 100 pounds or an internist in getting your cholesterol in the heart-healthy range? Because we have the information available regarding our outcomes, our field has a duty to use those data to look at ourselves in the mirror and ask ourselves, Are we adhering to “first, do not harm” or not.

I commend the authors of this study. It was a very brave study to do and sets an important precedent for our field that we need to make sure we know what we are doing. What if the results of this study showed that ART showed that more women died who conceived with ART than women who conceived naturally? Politically, the study would have been dissected for its flaws, the Society for Assisted Reproductive Technology (SART Clinic Outcome Reporting System (CORS) data entry software would have been criticized, and the retrospective nature of the study condemned. Everyone in the field breathed a sigh of relief when the results were revealed: “The study presents reassuring data that death rates within 5 years of delivery in ART-treated subfertile women do not differ from those in fertile women.” Whew … no more tubal surgery and nasty endometriosis surgery to help my patients get pregnant … right? However, it does not stop there. We still have much work to do.

We need to look at the health and welfare of the children that are created. Several studies show concern that needs to be further evaluated. One study showed that IVF resulted in greater risk of large-for-gestational-age babies, and thawed embryos were at greater risk of neonatal and infant death (2). Another study associated ART with pediatric cancers, such as embryonal cancers, particularly hepatic tumors (3). Another linked ART with increased risk of several birth defects, including tetralogy of Fallot and hypospadias (4). Another study showed increased risk of neonatal and infant death in twin gestations conceived with the use of ART; whether it was from the twin gestation or the ART remains to be seen (5). In the end, more of these type of linkage studies, which potentially could challenge the financial structure of our field, need to done.

Anybody who cares about this field needs to continue the work and keep asking the questions we need to ask of ourselves and for the patients we care for and the children that are created. SART needs to continue to hold the CORS database that is being tested here to the fire and make sure that the data being entered by its members are as accurate as possible and subsequently validated. We all know the research saying, “garbage in … garbage out.” Further database inquiries need to be matched with as many live birth state vital records, not just in Massachusetts but in every state that keeps such records. Linkage mechanisms need to exist between infertility patients and the mortality and morbidity records that are tracked for every birth that occurs in each state. If such linkage does not exist, political efforts at the state level and federal need to occur to make sure that such a linkage is established. There is no point in collecting the ART data on the front end if researchers cannot link the information to the most important outcome: a healthy child and healthy patient.

Oregon representative Ron Wyden had no idea what he created when he pushed the Fertility Clinic Success Rate and Certification Act of 1992. His goal was admirable: He was just trying to protect the health and welfare of the infertile couple. Our field needs to continue to carry the torch and apply the data that SART and the Centers for Disease Control and Prevention collect in making sure that the children born from ART and infertile patients are as healthy as they can be. Their lives depend on it.

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