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FERTILITY

The new IVF gamble: single embryos

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Amberlea Bainbridge was overjoyed when she learned she was carrying twins.

She and her husband, Wesley, had been trying to conceive for almost four years, starting when she was 24, when a fertility specialist in Toronto transferred two of the couple's embryos to her womb.

When she was five months pregnant, the Bainbridges received gifts of matching baby outfits and purchased two car seats and a double stroller.

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But their new family was not to be. The twins, a boy and a girl, were born at 21 weeks and died the same day.

The loss was devastating, Ms. Bainbridge says. "It alters who you are."

The couple were able to adopt a baby boy. But it took almost two years before they were ready for another round of in-vitro fertilization.

This time, she says, they decided to reduce their chances of a multiple pregnancy by using just one fertilized egg, a practice called elective single-embryo transfer (eSET).

"It worked on our first try," says Ms. Bainbridge, now 30, and six months pregnant with a boy.

Although it's the norm in such countries as Sweden and Australia, elective single-embryo transfer has not been widely adopted in North America. Because the overall pregnancy rate is lower than with multiple embryos, infertile couples may face additional cycles of IVF, which typically cost $10,000 each.

Nevertheless, a small but growing number of Canadians are taking their chances with just one embryo to avoid the risks that come with multiple births.

For children conceived through IVF, the multiple-birth rate is about 30 per cent, according to the Canadian Fertility and Andrology Society.

About half of all twins are born too soon, experts say.

Research has shown that in 7 per cent of twin pregnancies, and 22 per cent of triplet pregnancies, at least one child ends up with a lifelong health problem such as cerebral palsy, blindness or learning disabilities.

The poor outcomes for multiples have spurred the fertility industry to develop strategies to lower the multiple-birth rate.

Elective single-embryo transfer is the way of the future, fertility experts say.

"We really want to prevent multiple births, which are a major burden to society," says Hananel Holzer, an obstetrician-gynecologist at McGill Reproductive Centre in Montreal. "Single-embryo transfers for select patients will reduce the cost for governments and for health systems."

Recently, doctors at some fertility clinics have started to counsel suitable clients to go with just one embryo.

But it can be an uphill battle, says Jason Hitkari, co-director of Genesis Fertility Centre in Vancouver. After stretching their finances for fertility treatments, many couples want an instant family, Dr. Hitkari explains. They see healthy twins in parks and shopping malls, he says, "and I think it gives them a false sense that it's a safe thing to do."

Even so, the clinic has had increasing success with elective single-embryo transfer. Genesis has done more eSETs than any other Canadian clinic since it began offering them in 2006, and the procedures now account for 10 to 15 per cent of its practice, Dr. Hitkari says.

Having done more than 200, the clinic reports an impressive 68-per-cent pregnancy rate using the procedure.

Genesis, like most clinics, offers eSET only to women under age 35 who can produce healthy embryos.

But the average age of patients at Canadian fertility clinics is 37 or 38, and many are there because of problems with eggs or sperm, doctors say.

Lindsay Brock was an ideal candidate for eSET. The 28-year-old resident of Kelowna, B.C., had blocked fallopian tubes. She and her husband were nervous about using just one embryo because of the reduced chances of pregnancy, Ms. Brock says. But they decided it was the right thing to do.

"After you go through all the pain and expense to get pregnant, you want your baby to have the best shot," she says, "and I don't think multiples are the best shot necessarily."

After a round of IVF and a single-embryo transfer, Ms. Brock is six months pregnant.

Patients like her have youth on their side, Dr. Hitkari says.

"But if you're age 40 and you put one embryo back, there's a high chance that the single embryo will be abnormal," he says, adding that the pregnancy will not be viable.

Thomas Hannam, a fertility specialist in Toronto, says he has had occasional success with eSET in a 40-year-old patient. But it's rare, he adds.

Dr. Hannam recommends eSET to patients with conditions such as multiple sclerosis or an abnormal uterus, which are incompatible with twin pregnancies, he says. In most cases, though, he advises patients to weigh the pros and cons.

"The trouble with elective single-embryo transfer is a 40-per-cent drop in pregnancy rates," he says, citing a meta-analysis published earlier this year by researchers in Britain.

Studies in Finland and Australia have reported live-birth rates similar to those with multiple-embryo transfer. But such results are dependent on repeated attempts of eSET using fresh and frozen embryos from one or more IVF cycles.

For patients in Canada, where IVF is not covered by provincial health plans, "this is ultimately a calculus of finances," Dr. Hannam says.

Ms. Bainbridge and her husband spent about $20,000 on IVF, an expense they could ill afford, she says. But after experiencing both a double- and a single-embryo transfer, Ms. Bainbridge would recommend the single one to anybody, she says.

"Nobody should go through what I went through with a twin pregnancy."

IVF in other countries

Elective single-embryo transfer has dramatically reduced the multiple-birth rate in countries with government-funded IVF programs, such as Finland, Sweden and Australia, experts say.

Australia has one of the highest rates of elective single-embryo transfer in the world. There, pregnancy rates through IVF have remained stable while the multiple-delivery rate fell to 10 per cent in 2007, down from 19 per cent in 2003, a study found.

When individual patients don't have to pay for each pregnancy attempt, single-embryo transfer is the logical choice, advocates say.

Earlier this year, Quebec became the first Canadian province to announce it would cover three IVF cycles for women up to age 42.

An expert panel on fertility and adoption has advised the Ontario government to do the same. The province could save $400-million to $550-million in health-care costs over the next 10 years by reducing the number of multiple births from assisted reproduction, the panel said.

But some argue that infertility isn't a medical condition in itself, especially when a woman has delayed childbearing as a lifestyle choice.

"We have to work out the conditions in which it's justified to use IVF," says Margaret Somerville, founding director of the McGill Centre for Medicine, Ethics and Law. "What about if someone wants to use a surrogate and have IVF - should we pay for that?"

Taxpayers should ensure their money is not used to fund excessive profits for the fertility industry, she adds.

"We have to be awfully careful with this technology," she says. "We're turning human reproduction into a manufacturing process."

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