

Reproduction technology in Hong Kong

The inclusion of articles on reproduction technology (RT) in this issue of the *Hong Kong Medical Journal*¹⁻⁵ is timely, because legislation to control infertility treatments using such technology was enacted during the most recent session of the Legislative Council in Hong Kong. The next step will be the formation of a Council on Human Reproductive Technology, which will put this legislation into practice.

The background of this legislation dates back to 1987, when a committee was appointed to consider the social, moral, ethical and legal issues arising from the development of what was then termed 'scientifically assisted human reproduction'. Following two consultation exercises in 1989 and 1993, it was recommended that statutory regulation of RT be introduced through a licensing system. Medical institutions wishing to offer RT procedures were to be licensed before being permitted to offer these treatments. As far as the individual treatments were concerned, artificial insemination using husband's sperm was to be allowed without statutory control, but donor insemination (DI) or other RT procedures were only to be performed at institutions that were licensed for this purpose. The identity of semen donors was to be kept confidential, although the law was to give the right to all individuals aged 18 years or older to ascertain whether they had been conceived as a result of DI or other RT procedure. In the case of DI, they were to be allowed access to non-identifying information about the donor. In addition, RT services were only to be made available to married couples, and surrogacy was to be actively discouraged and only allowed as part of in vitro fertilisation (IVF) with both partners of the couple providing the genetic material. Embryo research was also to be controlled.

Further consultation took place in 1996 concerning the issues of sex selection and RT, as well as the use of foetal ovarian or testicular tissue for infertility treatment or research. Then what was known as the Provisional Council on Human Reproductive Technology recommended that sex selection through RT should be used only for medical reasons, and that the use of foetal ovarian or testicular tissue should be prohibited.

The Human Reproductive Technology Bill⁶ was then drafted, and this Bill included the establishment

of a Council on Human Reproductive Technology, the publication of a Code of Practice to be used by providers of this technology, legal aspects of RT procedures, and the licensing of institutions and individuals. The Bill also included the manner in which RT procedures would be enforced and how offences would be punished. In September 1998, it was ordered that the Human Reproductive Technology Bill be introduced into the Legislative Council in Hong Kong.

A Consultation Paper titled 'Draft code of practice on reproductive technology and embryo research'⁷ was issued by the Provisional Council on Reproductive Technology in February 1999. Once again, an invitation was issued to the providers of RT and relevant parties to comment on this document. The Consultation Paper provided guidelines concerning the staffing and facilities of centres offering RT treatment, the selection and management of clients seeking RT procedures, and details of the procedures involved and how they should be conducted. It included details of the consent forms that need to be signed by clients having RT procedures, forms required for the reporting of RT treatments by those holding a license, and forms for the reporting of annual statistics. Feedback was obtained, and the legislation was enacted on 22 June 2000.

There is little doubt that the introduction of this legislation will be of benefit to Hong Kong, as advances in RT are occurring very rapidly, and some of these may have serious moral and ethical implications. As an example, sex selection is being practised in one way or another in many parts of Asia, and in some areas this has resulted in an imbalance between the sexes of sufficient magnitude that it is likely to cause social disruption in future generations. Some controls on RT procedures are needed, but with these controls comes the necessity for far more detailed record keeping and reporting than was previously necessary, and this will add to the expense of providing RT treatments.

Many recent advances in the field of RT are described in detail in the seminar series in this issue. Cheung¹ describes the selection of patients for these treatments. Infertile couples now have easy access to a huge volume of information about infertility treatments, and

the latest technology usually attracts the most attention. As an example, when intracytoplasmic sperm injection (ICSI) was developed for the treatment of male-factor infertility, it soon became common for all couples who were suitable for treatment with conventional IVF to request ICSI as well, with the belief that this would improve their chances of pregnancy. However, ICSI was not suitable for many of these couples, but this was often difficult for them to accept. Blastocyst transfer, in which the embryos resulting from IVF are cultured for up to 3 days longer than the conventional time, is also discussed in two of the seminar papers.^{2,3} Implantation rates achieved by transferring blastocysts are higher than those achieved when embryos have been cultured for 2 days. Thus, fewer blastocysts can be transferred, which results in a reduced risk of multiple pregnancy. Blastocyst transfer has also achieved wide coverage in the media and, in response, couples request this method to improve their chance of a successful pregnancy. However, only around 50% of embryos are suitable for culture beyond 2 days, and there is so far no good evidence to show that for the same couple, culture beyond 2 days increases the pregnancy rate. The additional days of culture are also expensive and time-consuming, so the use of extended culture is currently not recommended as routine practice in IVF.

Two articles^{4,5} address the issue of microdeletions of the Y chromosome that can be transferred to the male offspring with a pregnancy conceived after treatment with ICSI using sperm from men with severe male-factor infertility. While it is theoretically possible for a genetic cause of infertility to be transferred from father to son by natural conception, most of the males will be infertile. With ICSI, however, fertilisation becomes possible and the chromosome deletion can be passed on. Apart from the possibility that the male offspring may be infertile, there are no other known implications for the health of the child. It has now become an important part of counselling to inform to couples affected by severe male-

factor infertility that the introduction of this new technology has brought with it the possibility of the transmission of chromosomal abnormalities.

It is not known how long it will take the Council on Human Reproductive Technology to introduce the legislation covered by the Human Reproductive Technology Bill, but once this is put into practice, it is inevitable that there will be changes in the way in which infertile couples in Hong Kong are treated. In future, it will be increasingly important to keep up-to-date with new advances in technology so that the regulation of RT treatments in Hong Kong can be appropriately maintained.

CJ Haines, FHKAM (Obstetrics and Gynaecology)
Department of Obstetrics and Gynaecology
The Chinese University of Hong Kong
Prince of Wales Hospital
Shatin
Hong Kong

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