

## **INFERTILITY TREATMENT FOR HIV DISCORDANT COUPLES**

### **Background**

The treatment of HIV disease has improved significantly over the past three years and many patients are now free of virus in the blood stream and leading effectively normal lives. Together with this improved quality of life has developed a desire in many couples to start a family. There is obviously a major dynamic in this situation about the possible transmission of HIV from the infected male partner to the female partner. Until recently, the only technique that could be used to minimise the risk of transmission was to carry out ovulation testing on the female partner. Unprotected sexual intercourse could then be restricted to those times when she was known to be ovulating. A number of women have become pregnant following the use of ovulation testing but as it is known that with unprotected intercourse at least 15% of female partners will become infected in due course. The continued use of this technique is a cause for concern.

The risk of transmission of HIV from a mother to her baby is of the order of 15-30%. The risk is higher in women who breast feed and the risk is decreased by treatment with AZT during pregnancy.

### **Sperm washing techniques for HIV discordant couples**

A number of centres in the UK and Europe have been evaluating the use of sperm washing to reduce the possibility of HIV transmission to the female partner. Very sensitive viral testing can now be applied to seminal fluid and an HIV viral load can therefore be carried out on semen before and after washing. The washing process itself is fairly straightforward. A clear indication can be gained therefore as to whether the sperm washing process has been successful in eradicating all traces of HIV.

The pioneer in the field has been Dr Semprini in Milan who has carried out more than a thousand intra uterine inseminations in more than 300 HIV negative women. Of these, 177 treatments have resulted in successful pregnancies. No women have sero converted to HIV as a result of the treatment.

There have however been two cases reported from the United States in which women are said to have sero converted to HIV following artificial insemination using HIV infected semen.

### **Induction of pregnancy**

Following the sperm washing procedure, pregnancy can in theory be induced by one of three following techniques:

- ▶ intra uterine insemination
- ▶ in vitro fertilisation and embryo transfer
- ▶ intra cytoplasmic sperm injection

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### **Responses from health authorities**

I have written to a number of health authorities and the response from them is fairly consistent:

- It appears that only about two thirds of health authorities fund any form of IVF.
- Most health authorities have a treatment priorities committee with decisions being based on advice from the Public Health Directorate.
- None of the health authorities I contacted had received any specific requests for funding for sperm washing.
- They all set age limits, usually of the order of 25-38 years
- They usually fund one cycle of treatment only
- They follow HFEA guidelines with the welfare of the child being paramount. For some health authorities this has meant exclusion of HIV positive individuals
- Increased funding for infertility treatment is considered unlikely in the current climate

### **Responses from centres**

It is apparent that a small number of centres are setting up a process of offering a sperm washing and infertility service for HIV discordant couples. In most cases, the degree of preparation does not appear to be well advanced at this time and understandably these centres are in detailed discussion with their local ethical committees.

In Birmingham, ethical committee approval has been granted and they are measuring viral loads in seminal fluid. However the service is not yet running, and has not yet been advertised.

At St Thomas' they have treated two HIV discordant couples following sperm washing and intra uterine implantation. One female partner became pregnant in the second cycle whereas the other female partner has not become pregnant despite four cycles of treatment.

These treatments are expensive. The viral load testing on the fluid costs at least £200 a run and a number of other laboratory tests are required to exclude the possibility of co-existent sexually transmitted diseases. Despite being asked, none of the centres gave detailed breakdown of the costs of sperm washing and infertility treatment.

### **Observations**

- This is a relatively new technique and is not yet in widespread use in this country
- In theory a female partner could become infected with HIV as a result of this technique being carried out. Although the evidence suggests that this outcome is very unlikely, nevertheless the implications for the Trust are very considerable - in medico-legal terms - if a decision were to be made to provide funding for this technique to be carried out
- The process of sperm washing and in vitro fertilisation is a form of treatment and the Trustees must decide whether in principle it is their responsibility to provide clinical treatments for registrants and their families, or whether this is the responsibility of the National Health Service
- Although some health authorities have funding identified for infertility it is not clear at this

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- time as to whether any or part of this treatment would be funded by health authorities  
This is clearly an evolving situation and the whole picture might be clearer in a few months time when a number of centres hope to have established a service for HIV discordant couples.