WEBTRACK Debate concluded

Infertility among HIV-positive women

Counselling HIV patients pursuing infertility investigation and treatment

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It was interesting to read the article by Olaitan et al. (1996) on the experiences of human immunodeficiency virus (HIV)-positive women. The issue of infertility diagnosis and treatment in human immunodeficiency virus positive patients is medically and ethically complicated. The diversity of opinion regarding infertility treatment of such couples has created an interesting debate and we wish to elaborate on some of those aspects. On an epidemiological level, the scene has changed significantly over the last few years. A significantly higher proportion of HIV patients are women in their reproductive years. In Mobile County, USA, we have evaluated and treated ~1400 HIV positive patients in our clinical practice, 50% of whom are HIV seropositive and the other 50% have developed the symptoms of autoimmune deficiency (AIDS). At the beginning of the AIDS epidemic, most infections occurred in male patients. The picture is changing persistently and relatively rapidly, with more heterosexual women being diagnosed positive for HIV. In 1996, ~25% of HIV positive patients at our clinics were women aged 15–44 years. This will manifest itself in clinical practice in two ways, firstly more patients will be identified to be positive for HIV during their initial infertility investigation and secondly, women who are HIV positive may present for infertility investigation and treatment. This has led us to consider and debate our stance for offering invasive investigations and treatment for HIV.

Maternal to infant transmission of HIV may occur in utero, intrapartum or by breastfeeding in 15–40% of infected pregnant women. Factors associated with an increased risk of perinatal HIV transmission include advanced maternal disease status, low maternal C cell count, infant exposure to maternal blood, prolonged duration of ruptured membranes, and increased quantity of HIV in maternal blood at delivery. An exciting approach that has recently been reported relies on the ability to quantify the plasma levels of maternal HIV-1 RNA and to correlate it with the risk of perinatal transmission (Dickover et al., 1996). The authors found that the most striking difference among the virological and immunological variables in transmitting and nontransmitting mothers was in the HIV-1 RNA copy number at delivery. Plasma HIV-1 RNA levels ranged from <100 to 67,862 copies/ml among non-transmitters and from 25,262 to 791,341 copies/ml among transmitters. The median plasma HIV-1 RNA level at delivery for transmitters was 21 times that for non-transmitters. The risk of transmission increased significantly with increasing plasma HIV-1 RNA levels: none of 63 women with <20,000 HIV-1 RNA copies/ml of plasma transmitted compared with all 13 women with RNA levels >80,000/ml. This information would be potentially useful for both counselling of the patients as well as making strategies for prevention. However, we would advise to exercise great caution because the sensitivity and specificity of the assays vary tremendously and the principle of this finding rather than the actual numbers should be utilized while formulating guidelines.

It must also be emphasized that this is only one parameter that has to be taken into consideration in conjunction with other clinical and social findings. Conner et al. showed that zidovudine treatment of HIV-1 infected asymptomatic women during pregnancy and labour and their infants in the first 6 weeks following delivery reduces the rate of perinatal transmission by two-thirds. It is likely that zidovudine may exert its protective effect by reducing maternal HIV-1 levels prior to delivery, inhibiting HIV-1 blood and secretions in the fetus during labour and delivery and preventing HIV-1 from establishing infection in the fetus and the infant. Dickover et al. (1996) showed an 8-fold decrease in plasma RNA levels in 20 women treated with oral zidovudine during gestation and none of these women transmitted the virus to their infant. On the other hand, four zidovudine-treated women with high HIV-1 levels transmitted the virus to their infant despite the presence of zidovudine sensitive virus in vitro in both the mothers and the infants. This study was useful to elaborate on the mechanism by which zidovudine decrease the incidence of maternal–fetal transmission of virus. It suggests that one of the major effects of zidovudine treatment lies in its ability to decrease maternal HIV levels prior to delivery. As the authors pointed out, this does not rule out the potential of zidovudine protection of the fetus in utero. With the introduction of protease inhibitors for the treatment of AIDS the scene is set for their use in zidovudine-resistant patients with a high viral load. Combination chemotherapy will have a major impact on decreasing the viral load and perhaps might have a role in the future in decreasing maternal–fetal transmission.

Nevertheless, the consequences of transmitting HIV to the infant are profound, resulting in heartbreaking illness, suffering and death as an infant or child. Pediatricians consider their counselling session to parents of HIV infected children as writing a ‘death warrant’ to members of the family in one statement. During the past two decades, perinatal transmission of HIV has become a major cause of illness and death among
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children in the USA, having infected >15 000 children and having claimed >3000 lives (Davies et al., 1995). It cannot be over-emphasized that at the present time, the prognosis for such couples is gloomy and prevention is of the essence. Even if the virus is not transmitted, the consequences are devastating since the child loses its mother most prematurely to AIDS and the emotional and financial resources of the family are often depleted. Thus, in our opinion, efforts should be directed at identifying HIV positive patients and preventing HIV transmission. We feel it is premature and unethical to treat HIV infected women for infertility at this time, until there is a negligible risk of perinatal transmission and a significantly better prognosis for HIV infected mothers.

References

The gynaecologists’ opinions

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We have read with interest the Webtrack debate: ‘Infertility among HIV-positive women’ (Olaitan et al., 1996). The paper raises the problem of management of infertility in human immunodeficiency virus (HIV)-infected women. This aspect is becoming a topic of interest in consideration of the increasing frequency of HIV infection in women and the decreasing mother-to-child infection rate.

Gynaecologists’ opinions regarding reproduction in HIV-infected women have a relevant role in determining acceptability of medical treatment of infertility. In order to offer some information on this aspect, we have recently conducted a postal survey. We identified 66 obstetric and gynaecological centres affiliated to the Association of Italian Gynecologists and Obstetricians (AOGOI). These centres were not formally representative of Italian obstetrics and gynaecology centres, but they were distributed in the main areas of the country. A postal questionnaire was sent to 752 physicians in charge at the centres. We posted a reminder to non-responders after 2 months. A total of 419 (55.7%) completed and sent it back to the co-ordinating centre, 280 (37.2%) after the first mailing and 139 (18.5%) after the second.

Among other information regarding the management of pregnancy in HIV infected women, the gynaecologists were asked about their opinion regarding pregnancy in HIV infected women. Specifically they were asked ‘Do health risks for HIV-infected pregnant women and their children (i.e. vertical infection, parents’ death in the child’s early infancy) suggest induced abortion?’

A total of 86 gynaecologists (21.9%) answered ‘never’, 23 (5.8%) ‘always’ and 284 (72.3%) ‘in case of maternal diagnosis of AIDS’.

These results confirm the suggestion of Olaitan et al. (1996) that there should be no medical treatment for infertility of women with advanced HIV disease.

We have no information on the opinion of gynaecologists toward medical treatment of infertility in HIV infected women. However, there are some suggestions indicating that in the last few years the acceptance of pregnancy in HIV-infected women among gynaecologists is increasing. A small survey of 80 physicians conducted by our group in the late 1980s in five centres in Lombardy, Northern Italy, indicated that 58% of interviewed physicians suggested induced abortion in all HIV-infected women, regardless of their clinical status.

The decreasing rate of mother-to-child HIV transmission and the lack of evidence of a negative role of pregnancy on the course of HIV infection in the mother are, in our opinion, the main reasons for the change in gynaecologists’ attitudes toward pregnancy in HIV-infected women.

If, in the next few years, antiretroviral therapy (Connor et al., 1994) and, possibly, Caesarean section will further reduce mother-to-child HIV transmission (European Collaborative Study, 1994), the medical treatment of infertility in HIV-infected women may become (at least with reference to the vertical transmission of HIV) a less ethically problematic medical practice.

References