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Paediatric HIV Infection/AIDS in Three of Four Children from Two Consecutive Twin Deliveries

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Summary

Ekanem EE, Uniga AJ, Ekure EN. Paediatric HIV Infection/AIDS in Three of Four Children from two Consecutive Twin Deliveries. *Nigerian Journal of Paediatrics* **2000; 27: 26.** Vertical infection by the Human Immunodeficiency Virus (HIV) among two consecutive pair of twins from a well-to-do family is presented. While the first twin of the first pair must have been infected *in-utero*, the second may have been infected at parturition or through breast milk. Severe protein-energy malnutrition was the main mode of presentation. A recommendation is made for routine screening of pregnant women during ante-natal care with family planning counselling of positive cases. Zidovudine therapy for infected pregnant women is also recommended. In addition, it is suggested that infected mothers from high socio-economic classes in our environment should not breast-feed their infants. HIV/AIDS should be suspected when PEM manifests in children from high socio-economic families.

Introduction

PAEDIATRIC Human-Immunodeficiency virus infection is an emerging and escalating problem in Nigeria.[1,2] The main mode of transmission is vertical which can be intra-uterine, intra-partum or post-partum through breast milk.[3] Discordant transmission in twins has been reported with first twin three times more likely to be infected.[4] This is thought to be due to more prolonged exposure of the first twin to infected blood and cervical secretions in the birth canal during late gestation and delivery.[3,4] There is, however, no report available on transmission to consecutive twins. We report here transmission among two consecutive pairs of twins in Calabar, the aim being to propagate control measures including counselling on family planning and infant feeding practices to infected parents.

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Case Reports

A 26-year old G_1P_2 mother presented at the University of Calabar Teaching Hospital, Calabar in April 1996 with a four-month old

male infant who had generalized rashes, diarrhoea and swelling of legs for about three weeks. The infant was the second of a pair of twins delivered in a private clinic in the town. Both babies were exclusively breastfed. The first twin was reportedly well. Examination of the second twin, however, revealed marked wasting, weighing 2.6kg, extensive oral thrush, pedal oedema and marked dermatoses. Diagnosis of marasmic-kwashiokor, according to the Welcome classification,[5] septicaemia and probable paediatric AIDS was entertained. HIV antibody screening by ELISA and western blot tests were positive. The infant was removed to a private clinic where he developed marked skin exfoliation and died at the age of five months.

The first twin, also a male, presented at the age of 26 months with a month history of fever, cough and poor appetite. Examination revealed marked wasting (weight 7.1kg) oral thrush, multiple lymph nodes enlargement, tachypnoea and dyspnoea. Chest was clinically clear but radiograph showed bronchopneumonic changes. Diagnosis of marasmus, bronchopneumonia and septicaemia was made. HIV antibody screening by the ELISA and western blot tests was positive. He died three months after admission. At this stage mother accepted HIV screening and was found to be positive by ELISA and western blot test.

Subsequently the mother was delivered in a private clinic of another pair of twins, a male and a female, 22 months after the first pair. Mode of delivery was by emergency caesarean section because of abnormal lie. The female twin presented in March 1998, aged six weeks with prolonged fever, multiple boils and seizures. She was markedly wasted (weight 3.1kg), had oral thrush and hepatosplenomegaly. Random blood sugar (3.2mmo 1/L) was normal. Cerebrospinal fluid (C.S.F) sugar (1.9mmo 1/L) and protein (60.0mg/dl) were also normal. CSF culture grew no organism. She improved on I.V. getamicin and chloramphenicol, and anti-convulsants, and was discharged. She however was reported to have died a month later at home. The other twin was said to be well at home and was not screened.

While the mother of these children accepted screening for HIV after the death of the second child, she did not show up for results and follow up. The father, a 40 year old well-to-do business man from the middle social class, using the system of Olusanya, Okpere and Ezimokhai,[6] bluntly refused screening. Unfortunately also, home visits and continued persuasion were not done.

Discussion

With the high incidence of adult HIV infection/AIDS in Nigeria,[7] paediatric HIV infection/AIDS is to be expected to be increasing. There should therefore be clearly defined guidelines for the diagnosis and management of the problem in the country. In the present family AIDS was confirmed in the second of the first set of twins who had HIV antibodies at the age of 26 months. The first twin died at five months of age when HIV infection could not be confirmed by ELISA/ immunoblot techniques due to persistence of maternally acquired antibodies.[3] However, the classical clinical features which fit the centre for Disease Control (CDC) stage E C3[6] strongly suggested AIDS. The features were similar to those earlier reported from this centre[1] and more recently from the Jos University Teaching Hospital, Jos.[2]

The female infant of the second set of

twins probably acquired HIV infection *in-utero* as evidenced by the early age of clinical manifestation consiting of persistent fever and seizures which are well known features of paediatric AIDS.[13] Chances are high that the twin sibling was also infected. Judging from the relatively late onset of symptoms in the second of the first set of twins, the second twin may have been infected at parturition or post-natally through breast milk.

With affordable cure still not in sight, prevention offers the only hope for the containment of paediatric HIV infection/ AIDS. The present case reports illustrate some areas where preventive measures are needed against HIV transmission. HIV seroprevalence rate as high as 6.8 percent among pregnant women has been recorded in some parts of the country.[7] The case for routine ante-natal screening in all health-care facilities in the country therefore becomes quite strong. This would enable infected parents to receive adequate information on mode of delivery and feeding the babies, as well as make obstetric practice safer for the care givers. In addition, parents could make informed decision on family planning. The parents of the present HIV infected babies would probably have avoided the trauma of having another set of infected babies if such information and education were available.

A short course of zidovudine from the thirty-sixth week of pregnancy through labour and delivery has been shown to reduce vertical transmission of HIV by 50 percent and has been recommend by WHO.[8] This is a strong motivation for antenatal screening. The second pair of twins in this report may have been spared this infection had their mother been so treated. The refusal of further HIV screening by the babies' father illustrates another difficulty. While screening cannot be forced, gentle persuasion should not be abandoned particularly when suspicion is high. Admittedly, by our failure to follow up at home we abandoned this persuasion and education too soon in the present case.

The WHO in a consensus statement in 1996 recommended that in developing countries where other infections and malnutrition are rampant, HIV infected mothers should still be encouraged to breast-feed their infants.[9] This statement was superseded in 1998 by joint WHO, UNAIDS and UNICEF guidelines which emphasised provision of information to empower parents to make fully informed decisions on infant feeding.[10] There is a possibility that the second of the first set of twins, was infected through breast milk. Routine ante-natal screening and following these later guidelines could avoid this situation. HIV infected mothers from high socio-economic classes in our environment should not breastfeed their infants except by informed choice. In addition, health practitioners must adjust to the reality of the increase of HIV/AIDS problem in the country. HIV/AIDS should be suspected when children from well-to-do families present with protein-energy malnutrition.[11]

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