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CASE REPORT

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HIV transmission to an infant from cross nursing: a case report

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Abstract *Summary:* Mother to child transmission of HIV infection (MTCT) is the commonest mode of infection in children especially in resource limited settings. Routine HIV screening during antenatal period is recommended to prioritize treatment of seropositive mothers according to standard protocol.
Various infant feeding options have been recommended by the World Health Organization (WHO) to reduce MTCT of HIV infection. The use of a cross-nurse who is documented HIV-negative is one of such options though not widely practiced.
We present a case of HIV infection in an infant acquired through wet-nursed.

Introduction

Mother to child transmission of HIV infection is the commonest mode of transmission to infants.[1-4] This can occur before, during or after delivery. Studies, [5,6] have shown the risk of HIV transmission is highest in the early months of breastfeeding. Other modes of transmission such as blood transfusion and needle piercing are less common.[7-8] Routine HIV screening during antenatal period is done in Nigeria to prioritize treatment of seropositive mothers according to standard protocol. For instant, the World Health Organization (WHO) recommends exclusive breastfeeding with antiretroviral drugs (ARV) therapy in resource limited settings for HIV seropositive mothers among several feeding options.[9-13] Mothers may elect other options such as wet nursing, cross nursing or infant formula. Cross nursing mothers are supposed to be screened for HIV but surprisingly, routine HIV screening in the developing countries among mothers who intend to wet nurse or cross nurse is still very low.[14,15] We report a case of HIV transmission through cross nursing practice of a child whose parents were seronegative.

Case

We present a six- month old infant that presented to the Children's Emergency Room of the University of Calabar Teaching Hospital, Nigeria. He presented in July 2011 with a history of fever, cough and fast breathing of one week duration. He was brought to our center because of non-response to medications from a peripheral hospital. The baby was born to a 27-year old para two lady who is a banker and a 35-year old businessman. The mother had antenatal care (ANC) at a gestational age of twenty weeks. The pregnancy was uneventful until the gestational age of thirty weeks when she had a domestic accident involving hitting of the abdomen and bleeding per vaginam. She was thus placed on bed rest in the hospital but she continued to bleed and needed intervention. Baby was delivered at a gestational age of seven months and three weeks. The birth weight was 1.4kg. The baby spent six weeks in the intensive care baby unit before discharged at a weight of 2.0kg. Baby was predominantly breastfed by the mother. From the age of two months the baby was cross-nursed by his paternal aunt in preparation for the mother to return to work. The HIV sero- status of the cross-nurse was not known. She had never nursed a baby before but started lactating after repeatedly putting the index baby to breast. The decision to cross-nurse the baby was taken by the family without seeking advice from the Paediatrician. Complimentary feed of pap mixed with NAN were introduced at five months of age. He was fully immunized for age.

physical examination revealed a moderately dyspnoeic infant with flaring alae nasi, intercostal recession, pyrexia with a temperature of 38 ^{0} C with bilateral pedal oedema. He was also wasted and had an occipitofrontal circumference of 34cm and a length of 46cm. The weight was 3.9kg (55% expected for age). Coarse crepitations were heard in all the lung fields. The child had a significant head lag. He was admitted with a working diagnosis of marasmic-kwashiokor and bronchopneumonia.

Results

Results of investigation are shown in table 1. The baby received gentamycin at a dose of 2.5mg/Kg per dose 8 hourly and ceftriazone at 100mg/kg in two divided doses. About 72hours into admission there was still no appreciable improvement and on further review, a diag

nosis of Paediatric HIV/AIDS with *Pneumocystic jirovicii* pneumonia was entertained. This was confirmed with HIV RNA PCR test. Chest x-ray requested could not be done because patient was oxygen dependent.
Cotrimoxazole was added to the treatment regimen and first line antiretroviral drugs commenced. The parents were rescreened and were still negative for HIV. The aunt however, was HIV sero-positive and was recruited into the treatment regimen. Unfortunately the baby died after a week of admission.

Table 1: Results of investigations

Investigation	Result
Serum urea	1.0mmol/l
Sodium	141mmol/l
Potassium	4.4mmol/l
Chloride	108mmol/l
Bicarbonate	19mmol/l
Creatinine	61umol/l
PCV	25%
Neutrophilia	32%
Basophils	0%
Lymphocytes	0%
Anisocytosis+	
Microcytosis ++	
Hypochromasia ++	
HIV Antibody testing	Positive
Malaria Parasite	Positive

Discussion

Breast feeding has been the main mode of infant feeding from origin of mankind.[16] Wet nursing is a situation where the infant is breastfed by another mother after the death of the biological mother while in cross nursing the biological mother is still alive but the baby is breast fed by another woman. Wet nursing is a common practice in many parts of the world but cross nursing is less common.[17-19]

By parental consent, the index infant was cross nursed by his aunt while the mother was away at work. This agreement was based on their beliefs in benefits of human breast milk to the baby. The mother had intended to practice exclusive breast feeding having done so for her first baby. It is not clear why she opted to use her unmarried sister in-law who had never breastfed a baby and whose sero status was unknown. It is possible the parents were so interested in exclusive breast feeding that they down-played taking precautions. From personal observation cross nursing is not common in our culture. The findings from the case have shown very clearly the risk of breastfeeding by mothers whose HIV status are not known. Perhaps if the parents had sort professional opinion screening of the prospective wet-nurse might have been done and or use of breast milk substitutes prescribed. To our knowledge this is the first case of HIV/AIDS that has been reported following cross nursing practice in Nigeria.

Conclusion

The risk of HIV transmission through breastfeeding is real. Mothers who intend to cross nurse or wet nurse should arrange prior counseling and testing for HIV infection.

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Limitation

The conclusion that HIV infection was acquired through cross-nursing was done by exclusion. The baby had not been exposed to any other situation or setting capable of supporting HIV transmission.

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