

## *Paediatric AIDS in Calabar*

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### Summary

**Asindi AA and Ibia EO. Paediatric AIDS in Calabar.** *Nigerian Journal of Paediatrics* 1992; 19:47. Six children with AIDS, aged between eight and 27 months, are reported. As these patients and their mothers were HIV-positive, the mode of transmission was considered to be vertical. In the seventh, well and asymptomatic, but HIV-positive infant, transmission of the infection was through transfusion of contaminated blood that was donated by an HIV-positive father. Of the three fathers screened, two tested positive for HIV. Four of the seven HIV-positive infants originated from the Cameroon, while three were resident in Nigeria. The disease manifested within the first four months of life in five patients and at the age of 14 months in one patient. Marasmic features, chronic diarrhoea, pneumonia, generalized lymphadenopathy, oropharyngeal candidiasis and dermatoses were the main clinical features. Management of the patients and the families included symptomatic treatment and counselling. Four of the patients died, three of these in the hospital and one at home.

### Introduction

ACQUIRED immunodeficiency disease syndrome (AIDS) is a world-wide viral disease-complex that affects both the young and the old. The mode of transmission of the human immunodeficiency virus (HIV) in children is through several routes, including transplacental (vertical), transfusion of contaminated blood, or blood products, injection with contaminated needles and penetrative sexual assault. The commonest of these is the vertical mode, which accounts for over 80 percent of reported cases.<sup>1</sup>

By December, 1990, there was an estimated 2.5 million HIV-infected women of child-bearing age in sub-saharan Africa and these women were expected to give birth to about 500,000 affected infants.<sup>2</sup> In the USA, the first case of paediatric AIDS was reported in 1982 and from then through March, 1990, 2192 cases had been reported.<sup>3</sup>

To our knowledge, no case of paediatric AIDS has hitherto, been reported in Nigeria. We have therefore, considered it worthwhile to report six cases of AIDS and one case of asymptomatic, but HIV-positive infant, who were admitted into the department of paediatrics, University of Calabar Teaching Hospital (UCTH), within a period of five months (February to July, 1991). It is also of some interest that four of the six patients and their parents had lived for the past 10 years in the Republic of Cameroon where the prevalence of AIDS is reportedly high.<sup>4</sup>

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## Patients and Methods

Following a diagnosis of AIDS in an infant whose features are reported in full below, it was decided to undertake a prospective screening study for HIV infection in those children with features of malnutrition associated with chronic diarrhoea, skin sepsis, oral thrush, generalized lymphadenopathy and hepatosplenomegaly. All the children suspected on the basis of the above clinical features, to have HIV infection, underwent serological tests for HIV-1 and HIV-2 antibodies, using ELISA and WESTERN BLOT tests. Parents of these children also underwent the tests which were carried out at the UCTH AIDS Screening center, a national reference laboratory that is financially supported jointly by the World Health Organization (WHO) and the Nigerian Federal Ministry of Health. Informed consent was obtained in every case. All the HIV-positive cases were officially reported to the Federal Ministry of Health.

## Results

During 1991, 29 infants were screened for HIV infection and of these, seven (20.7 percent) were HIV-positive (Table I). Six of the mothers and two fathers were also HIV-positive. Table II summarizes the age, sex, age at onset of symptoms and the admission dates of the six children (four males, two females) with AIDS. The ages ranged from eight to 27 months. The age of onset of symptoms ranged between two months and 14 months.

### Case No. 1

This male infant was admitted at the age of eight months with a six-month history of progressive loss of weight, chronic diarrhoea, recurrent skin rashes, cough and fever. Over the six-month period of the illness, the child was unsuccessfully treated with various traditional medi-

Table I

*Results of ELISA and WESTERN BLOT tests on Patients and Parents*

Case No	Child	Mother	Father
1	Positive	Positive	NT
2	Positive	Positive	NT
3	Positive	Positive	NT
4	Positive	Positive	NT
5	Positive	Positive	Negative
6	Positive	Positive	Positive
7	*Negative	Negative	Positive

NT = Not tested

\* Infant tested negative at 2 weeks and at 6 months of age, but converted to positive at age of 9 months.

Table II

*Age, Sex, Age at onset of Symptoms and Dates of admission of the Patients*

Case No	Age	Sex	Age at Onset of Symptoms	Date of Admission
1	8 months	M	2 months	3.2.91
2	11 months	M	2½ months	18.2.91
3	17 months	F	14 months	21.2.91
4	10 months	M	2½ months	25.3.91
5	8½ months	F	3 months	15.5.91
6	27 months	M	4 months	2.7.91
7	4 days	M	No symptoms at 9 months	20.7.91

cations. Consequently, the mother brought the child from the Republic of Cameroon for medical care at UCTH. The patient was a product of normal pregnancy and delivery; he was immunized with BCG during the first week of life and was being fed on breast milk and normal adult diet. There was one male sibling, aged three years, who was said to be well. Neither the child

nor the parents had received any blood transfusion. Both parents are Nigerians, but they had lived in the Cameroon for the past 20 years.

Physical examination revealed a chronically ill and marasmic child, weighing 6.1kg; other measurements included length, 65cm, mid-arm circumference, 10cm and occipito-frontal circumference, 42cm. There was generalized lymphadenopathy in the neck, axillae and groins; oropharyngeal thrush, generalized skin sepsis and right suppurative otitis media were also present. Coarse crepitations were present in the lung fields. The liver and spleen were enlarged.

The initial diagnoses considered included marasmus, tuberculosis, pneumonia, suppurative right otitis media and oral candidiasis, malignancy and AIDS.

Investigations included chest radiography which revealed bronchopneumonic changes; ear and skin swabs, the cultures of which yielded *Pseudomonas aeruginosa* and *Staphylococcus pyogenes*, respectively; lymph node biopsy showed marked lymphoid depletion with no features of tuberculosis, or malignancy. On the basis of a positive HIV test, the final diagnosis was AIDS with complications namely: bronchopneumonia, otitis media, generalized lymphadenopathy and skin sepsis. Treatment was symptomatic, consisting of intravenous infusions, oral fluids, intramuscular gentamicin, oral mycostatin and high protein diet. On three different occasions, the patient developed brief and generalized tonic-clonic seizures. Cerebrospinal fluid was normal. The seizures were controlled with phenobarbitone. As the condition gradually deteriorated with the loss of 0.8kg in weight, the mother took the child home after three weeks of hospitalization.

The presenting clinical features in the remaining HIV-positive children included marasmus, chronic diarrhoea, generalized lymphadenopathy, recurrent fever and cough and dermatoses (mixed macules, papules and pus-

tules). Three of these children also had oropharyngeal candidiasis, while two others had hepatosplenomegaly, pneumonia and seizures. The youngest infant among the seven HIV-positive children had remained asymptomatic as at the age of nine months when he serologically converted to HIV-positive (Table II).

Family and social histories revealed that all the parents, except those of Case No. 4 (Table 1) were married. The nationalities and places of abode of the families in the last 10 years are shown in Table III. It will be seen that parents of Case Nos. 1 and 3 lived in the Cameroon; Case No. 2 lived in Ikom which is situated on the Nigeria side of the Nigeria-Cameroon border. Both Case No. 5 and her mother lived in the Cameroon, while the father who is a trader, commutes between Calabar and the Cameroon. The father of case No. 6 is a clergyman who had toured North America, the Cameroon and Equatorial Guinea on evangelical missions in the last 10 years; his wife and child had never travelled out of the country. The occupations of the other fathers were teaching, customs officer, taxi-driv-

Table III

*Nationalities and Places of abode of Parents in the last 10 years*

Case No	Nationality		Place of Abode
	Father	Mother	
1	Nigerian	Nigerian	Cameroon
2	Nigerian	Nigerian	Ikom/Kano
3	Cameroonian	Cameroonian	Cameroon
4	Nigerian	Cameroonian	Lagos/Calabar
5	Nigerian	Cameroonian	Cameroon/Calabar
6	Nigerian	Nigerian	Onitsha/Ikot Ekpene
7	Nigerian	Nigerian	Calabar

ing, trading and carpentry, while those of the mothers were petty-trading, teaching and departmental store attendant. Two of the mothers were unemployed.

The mode of transmission of the HIV was presumed to be vertical in all, except in case No. 7 whose mode of transmission was through contaminated blood transfusion. This child was the recipient of the father's unscreened blood used in an exchange-transfusion of the infant for hyperbilirubinaemia during the first week of life. As shown in table 1, the father of this child was HIV-positive, while the mother was HIV-negative. All the other mothers were HIV-positive (Table 1).

Management of the remaining five HIV-positive patients with symptoms, was similar to that of Case No. 1, as described above. Three of those children died in the hospital; two others were removed by the parents from the hospital against medical advice and one of these was reported to have died at home. Case No. 7 was still asymptomatic at the age of nine months. Management also included counselling of two of the seven families (Case Nos 5 and 6). The counselling was essentially to explain to the parents the nature and course of the disease, its mode of transmission and methods of prevention. The decision on further pregnancy was left to the parents.

The attitude of the hospital staff and medical students towards the patients was monitored throughout the period of hospitalization of the patients. With the confirmation of the diagnosis, the staff and the students were curious and greatly excited to see the patients, but only from a distance. Paediatric house staff reluctantly performed such procedures as venepuncture and spinal tap on the patients. Nurses were also reluctant to care for these children, including refusal to feed them, or take vital signs, or do wound dressings. The laboratory staff threw into the trash bin, samples of blood and stool that were sent for analysis.

## Discussion

The prevalence of AIDS in Nigeria is unknown, but there are indications that it may be high and increasing. However, given the known epidemiological pattern of the disease, the cases reported here may just be the tip of an iceberg. It is possible that cases were missed before and during 1991, as routine screening of paediatric patients for HIV infection was not being undertaken then. Throughout the developing world, common prevalent conditions such as malnutrition, tuberculosis, non-specific skin infection with secondary lymphadenopathy, have clinical features that are similar to those of AIDS. Thus, it can be difficult, if not impossible, to make a diagnosis of AIDS without undertaking specific, serological tests for HIV infection. Similarly, it is difficult to evolve a cost-benefit selection criteria for screening sick children for the infection. However, based on the findings in the six cases presented here, a strong indication for undertaking the screening test would be the presence in an infant, of marasmic features, septic dermatosis, persistent or recurrent fevers, chronic diarrhoea and generalized lymphadenopathy.

In the present small series, six of the seven patients acquired the infection by vertical transmission which is in agreement with findings elsewhere.<sup>1</sup> In technically developed countries, 70 percent of perinatally-acquired infection occurs in children whose mothers, or parents are intravenous drug users, or are sexually active with intravenous drug users.<sup>1</sup> In the present study, there was no attempt to determine how the parents acquired the HIV infection. However, it could be presumed that one of the parents of Case No 6, sexually transmitted the infection to the other, as both parents were HIV-positive. In this respect, it is noteworthy that the father of this case was an itinerant clergyman who had travelled to several countries, including those of North America, the Cameroon and

Equatorial Guinea where the prevalence of AIDS is high.<sup>4</sup> There is thus, a strong possibility that this gentleman had extramaritally acquired the infection which he then transmitted sexually to the wife. It is also possible that some of the fathers who were not available to undergo the serological tests were indeed, HIV-positive and this would mean sexual transmission of the infection from the husband to the wife, or vice versa.

All the infants in the present series, acquired the infection from their parents, either vertically, or through blood transfusion. All the mothers of the six AIDS patients were HIV-positive. Thus, unsuspected HIV-positive parents could be discovered through their children with AIDS; such discovery would lead to prenatal counselling, as was done with our two families in the series. Generally, the accepted approach to counselling is to provide the family with sufficient information to enable them make an informed decision about further reproduction.

It is of considerable interest that in four of the seven cases, the parents were Cameroonians, or Nigerians who lived in Cameroon, or near the Cameroon-Nigeria border. It is to be noted that at the border towns and villages, there is a great deal of trade among the nationals of the two countries. As Cameroon is one of the central African countries with a high prevalence of AIDS, Nigerian health authorities should be alerted to the possibility of the disease being transferred into the country across the border.

The attitude of our hospital staff to AIDS patients was similar to those reported elsewhere.<sup>6,7</sup> For instance, in Haiti, several clinics have reported that their staff refused to work with persons who were known to have HIV infection, or who were relatives or friends of persons with AIDS.<sup>6</sup> Fear of contagion also prompted 25 percent of paediatric and medical interns in seven hospitals in New York city to state that, given the choice, they would prefer not to treat patients with AIDS.<sup>7</sup> In order to

allay fears and stem the negative attitude towards AIDS patients, energetic information campaign is required so that health workers are sufficiently educated on the pathogenesis of the disease and on how to keep a high standard of hygienic practice at their places of work. These were indeed, the steps taken by our hospital AIDS committee with some degree of success.

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