Original Article

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Profile of Children with Human Immunodeficiency Virus Infection: Descriptive Study

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Abstract

Introduction: Mother to children transmission of HIV is the major source of transmission of HIV to children and continues to be a global public health problem with the WHO statistics estimating that as of 2001-02, nearly 1600 babies worldwide becoming infected everyday. *Methodology:* All the children who fits to inclusion criteria were clinically evaluated and investigated. Data was collected by using a pre tested semi structured questionnaire. *Results:* Maximum number of children with in the age group of 18 months to three years i.e. 11 (45.8%), followed by 4 to 6 years with a total of 10 children (41.6%) and children aged 7 and above years constitute 16.6%. *Conclusion:* The order of symptomatology in most common occurrence were fever, weight loss and wasting was present in all the children with symptomatic HIV disease.

Keywords: HIV; Children; Signs & Symptoms.

Introduction

In India where at least 3,00,000 people acquired HIV in the year 2003 with total number of HIV infected people between 3 to 6 million.Though the spread of infection in India was considerably later than that in Africa, it has now reached almost all parts of the country. HIV prevalence in India doubled over the last 4 years resulting in India having the highest number of HIV infection in the world – 3.86 million. 89% of reported cases are in sexually active and economically productive age group of 18-40 years. Over 50% of all new infections take place among young adult <25 years of age and 21% among women. Nearly 22,837 newly born children are infected and about 15,072 have died due to HIV/AIDS 2.3% of cases acquire HIV through perinatal route.

Mother to children transmission of HIV is the major source of transmission of HIV to children and continues to be a global public health problem with the WHO statistics estimating that as of 2001-02, nearly 1600 babies worldwide becoming infected everyday. Risk factors for infection in the face of AZT/Nevirapine prophylaxis include, maternal viral load, breast feeding and non-reciept of elective caesarean section [1].

Direct evidence for inutero transmission comes from the finding that a small proportion of first and second trimester abortuses from HIV infected women had tissues already infected with the virus. The isolation of HIV from the amniotic fluid supports the possibility of inutero transmission. With respect to the timing of inutero infection, there is evidence that transmission during the first trimester results in early fetal wastage [2].

Infants born to mothers with HIV infection who escape infection during gestation and delivery may still become infected through breast feeding. The rate of infants not infected at birth but infected through breast feeding is estimated at 12-14% [3-5]. Approximately 29% of breast fed infants of women who sero-convert following delivery contact HIV.

HIV is commonly contained in the breast milk of HIV infected women [6,7]. HIV-1 transmission through breast feeding depends on frequency and prolonged exposure of the infant's oral and GI mucosa to breast milk

Methodology

Study Group

- Children above 18 months of age admitted into

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the pediatric ward with unexplained illness.

- Children born of known HIV positive parents; above 18 months of age.

Design

Prospective longitudinal Cohort study (observational study).

Method of Collection of Data

- Thorough Clinical Examination
- Blood samples obtained by peripheral venipuncture for analysis of
  - Hemoglobin percentage
  - Total count
  - Differential count
  - ESR
  - Blood culture
  - TRIDOT.
- Cerebrospinal fluid examination in children suspected of meningitis, obtained by sterile lumbar puncture for:
  - Total count
  - Differential count
  - Gram staining
  - Ziehl-Nielsen Staining
  - KOH staining
  - Gram staining
  - KOH Staining
- In cases of suspective of pneumonia
  - Chest Roentgenogram for evidence of pneumocysticcarinia and fungal infection.

Results

Table 1: Symptomatic children among HIV positive cases

	HIV positive children	
	No.	**Percent**
Symptomatic	24	80.00
Asymptomatic	6	20.00

From the above table, it can be observed that 24 i.e. 80% of the children were having signs and symptoms pertaining to HIV disease or associated opportunistic disease.

Table 2: Sex wise distribution of symptomatic children

Sex	HIV positive children	
	No.	**Percent**
Male	16	66.60
Female	9	37.50

It can be observed from the above table, that out of 24 symptomatic children, 16 were male (66.6%) and 9 were female (37.5%) with a ratio of 1.77:1.

Table 3 shows that maximum number of children with in the age group of 18 months to three years i.e. 11 (45.8%), followed by 4 to 6 years with a total of 10 children (41.6%) and children aged 7 and above years constitute 16.6%.

Table 3: Age wise distribution of symptomatic children

Age Group	Symptomatic Children	
	No.	**Percent**
18 months to 2 years	8	33.33
3 years to 4 years	10	41.66
5 years to 6 years	3	12.50
7 years to 8 years	2	8.30
8 years to 15 years	1	4.10

Table 4: Mode of delivery

Mode	**No.**	**Percent**
Normal labour	21	70.00
LSCS	09	30.00
Total	30	100.00

From the above table, it can be concluded that 70% of the children were delivered NVD and 30% were delivered by LSCS.

Table 5: Breast fed HIV positive children

Total No. of Children	No. of Breast Fed Children
30	30

All the 30 children who formed part of this study were breast fed. Almost all of them were exclusively breast fed till three months of age.

Discussion

A total of 30 children who formed part of this study are either outpatients or were in-patients at three hospitals. The above mentioned hospitals also serve as the referral centers for the surrounding towns and villages of the neighboring districts also. Almost all the symptomatic children were admitted when they visited the out-patient department with unexplained symptomatology.

The asymptomatic children (6 children) were found seropositive when tested at the voluntary counselling and testing centre, when they accompanied their parents who were HIV positive.

A total of 24 children had signs and symptoms of HIV disease/ associated opportunistic infection, which was about 80% of the total cases [8,9].

The mode of delivery in majority of the children was normal labour, from which can be concluded that these children were exposed to risk of HIV during the intrapartum period itself [10].

All the children in this study were breast fed, thus exposing them to the HIV during the postnatal period. This study validates the conclusion of other studies that normal labour and breast feeding are the routes of transmission of HIV from mother to child [11].

The order of symptomatology in most common occurrence were fever, weight loss and wasting was present in all the children with symptomatic HIV disease. This finding from the present study correlates to the findings of other studies by Abrams EJ et al, and Andiman WA et al [12,13].

The other conclusion of this study is the preponderance of symptoms associated with malnutrition like diarrhea, failure to thrive and wasting over symptoms associated with respiratory disease like persistent cough and breathlessness [14].

The above findings were consistent with the studies by Ryder et al that symptomatology pertaining to malnutrition and gastrointestinal disease were significant in the developing and third-world countries as compared to respiratory disease associated with HIV infection in children of the developed countries [15,16].

Conclusion

80% of the children were having signs and symptoms pertaining to HIV disease or associated opportunistic disease.

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