

Clinical and Immunovirological Observational Study to Evaluate the Prevalence Rate of Seropositivity among HIV Infected Patients with High Risk Clinical Profile

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Abstract

Original Research Article

Aim: Understanding of clinical profile and magnitude of pediatric HIV is essential for the policy makers and clinicians. Main objective of the study is to evaluate the prevalence rate of seropositivity among HIV infected patients with high risk clinical profile. **Method:** 302 patients with high risk clinical profile for HIV seropositivity and aged between 18 to 58 years were recorded over almost 1 year for this hospital based prospective observational clinical study. Data were maintained in a predesigned pro forma. Informed consent was taken from the patients before enrolling them into the trial. **Result:** Majority of the patients were belongs to in between 23 to 35 years 67% followed by 35 to 50 years (21%) and >50 years (12%). Failure to thrive in 239 (82%) was the most commonest clinical features associated with high risk profile along with chronic diarrhoea in 94 (31%), persistent fever in 175 (58%) and cough >1month 118 (39%) of 302 patients who were screened. It has been also observed that nutritional problem like malnutrition is also a major clinical manifestation as almost 178 (59%) subjects were affected with it. Oropharyngeal candidiasis, Generalized lymphadenopathy, repeated systemic infections and seborrhoeic dermatitis were present in 14 (5%), 34 (11%), 15 (5%) and 11 (4%) patients respectively. chronic diarrhoea was a significant independent clinical risk factor for predicting HIV seropositivity. Patients with chronic diarrhoea were at 11.15 times greater risk of being HIV seropositive compared to those who did not have diarrhoea. **Conclusion:** Number of clinical manifestation present determine probability of HIV infection. Vertical transmission in this study indicating HIV positive parents.

Keywords: Pediatric HIV, Seropositivity, High Risk, clinical manifestation.

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INTRODUCTION

Globally it has been considered that patients having human immune deficiency virus (HIV) infection is burden which increasing at a very high pace and as per the public health concern it became one of the most significant issues. With an estimated 3.4 million children living with HIV worldwide; 3,30,000 (280,000-3,80,000) new HIV infections and 2,30,000 (200,000-2,70,000) HIV-related deaths occurred in 2011 [1]. More than 90% of these infections were vertically acquired from mother to child.

It has been observed that there were several studies that has done in different part of globe who were infected with HIV, and majority of this trial had been conducted in different part of Africa including Nigeria, Ghana etc, but there were very few trial is available in asian country specially in India [2-8].

Keeping this in mind the present study was initiated to Understanding of clinical profile and magnitude of pediatric HIV is essential for the policy makers and clinicians. Main objective of the study is to evaluate the prevalence rate of seropositivity among HIV infected patients with high risk clinical profile.

METHOD

302 patients with high risk clinical profile for HIV seropositivity and aged between 18 to 52 years were recorded over almost 1 year for this hospital based prospective observational clinical study.

The selection of patients in the present study was based on "WHO revised clinical classification of HIV in infants and children, 2006" and as these manifestations have been reported to be associated with

the seroprevalence rate in other studies or are considered to be highly specific manifestation for HIV infection. Data were maintained in a predesigned pro forma. Informed consent was taken from the patients before enrolling them into the trial [9-13].

After thorough clinical examination, findings were recorded in the proforma. Routine and relevant investigations were performed in all cases. Next the patients were subjected to HIV testing by initial ELISA test.

The data was transferred to an excel sheet and then analysed and the relevant charts and table was made for further analysis in details.

RESULT

Of the 302 patients screened, age distribution was as in Figure-1. Majority of the patients were belongs to in between 20 to 35 years 67% followed by 35 to 50 years (21%) and >50 years (12%).

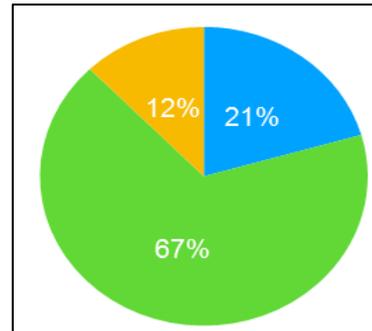


Fig-1:

The clinical profile of the patients as in Table-1. Failure to thrive in 239 (82%) was the most commonest clinical features associated with high risk profile along with chronic diarrhoea in 94 (31%), persistent fever in 175 (58%) and cough >1month 118 (39%) of 302 patients who were screened (Table-1).

It has been also observed that nutritional problem like malnutrition is also a major clinical manifestation as almost 178 (59%) subjects were affected with it.

Oropharyngeal candidiasis, Generalized lymphadenopathy, repeated systemic infections and seborrheic dermatitis were present in 14 (5%), 34 (11%), 15 (5%) and 11 (4%) patients respectively.

Table-1: HIV sero-status in relation to each clinical risk factor

Clinical Manifestations	HIV seropositive	HIV seronegative
	(Percent out of N)	(Percent out of N)
Failure to thrive (n=248)	9 (4%)	239 (96%)
Fever for more than one month (n=175)	0	175 (100%)
Chronic diarrhoea (n=94)	10 (10%)	84 (90%)
Persistent cough (N=118)	2 (2%)	116 (98%)
Severe malnutrition (n=178)	1 (0.5%)	177 (99.5%)
Oral thrush (n=14)	1 (7%)	13 (93%)
Generalized lymphadenopathy (n=34)	1 (3%)	33 (97%)
Hepatomegaly(n=68)	0	68 (100%)
Repeated common systemic infections (n=15)	1 (6%)	14 (94%)
Seborrheic dermatitis (n=11)	2 (18%)	9 (82%)
Recurrent bacterial skin infections (n=2)	1 (50%)	1 (50%)
Disseminated tuberculosis (N=79)	0	79 (100%)

As shown in Table-2, chronic diarrhoea was a significant independent clinical risk factor for predicting HIV seropositivity. Patients with chronic

diarrhoea were at 11.15 times greater risk of being HIV seropositive compared to those who did not have diarrhoea.

Table-2: Chronic diarrhoea compared to other risk factors

HIV Status	Positive	Negative
Chronic diarrhoea present	10	84
Chronic diarrhoea absent	3	205
Total	13	289

DISCUSSION

HIV is one of the major concern across the globe and already became one of the most concern issue including developing country like India. It has been also seen over few years that this disease was spreading rapidly with both in magnitude and in diversity not only in India but across the globe. Even though there were few studies were present in other part of the globe specially in African countries but in India there were no such big studies, as a result still for making any estimation or taking any action towards making any public health strategy we need to depends on the global studies. Even to conduct a counselling camp and spreading awareness through public media whether be it print or electrical involves high cost [14].

The impact of HBV on HIV disease is less clear. Whilst one study showed an increased rate of HIV progression to AIDS [15], others investigators did not show any change in the progression of HIV disease or survival [16]. However, coinfection with HBV has been associated with increased hepatotoxicity to highly active antiretroviral therapy (HAART) [17, 18]. With easy access to and success of HAART in reducing mortality from AIDS, longevity means that coinfecting children are more exposed to the aforementioned complex interactions.

Thus, the probability of HIV infection in a patients depends upon the nature and number of manifestations present with chronic diarrhoea being a significant risk factor for seropositivity. All HIV positive patients had HIV positive parents indicating vertical transmission from parents to them, showing thereby the importance of screening all antenatal cases and children of HIV positive parents.

This study has opened up a new thoughts which need to be tested in much more or large number of patients to get a more firm conclusion which will further help to create more appropriate and effective health strategy in developing country like India.

CONCLUSION

Number of clinical manifestation present determine probability of HIV infection. Vertical transmission in this study indicating all HIV positive parents.

REFERENCES

1. UNAIDS. Together we will end AIDS. Geneva, UNAIDS, 2012. Available at: http://www.unaids.org/en/media/unaids/contentassets/documents/epidemiology/2012/20120718_together_wewillendaids_en.pdf.
2. Esamai F, Buku GM. HIV seropositivity in children admitted with diarrhoea at Eldoret District

- Hospital, Kenya. East African medical journal. 1994 Oct;71(10):631-634.
3. Lepage P, Perre PV, Nsengumuremyi F, Goethem CV, Bogaerts J, Hitimana DG. Bacteraemia as predictor of HIV infection in African children. *Acta Pædiatrica*. 1989 Sep;78(5):763-6.
4. Pallangyo K, Håkanson A, Lema L, Arris E, Mteza I, Pålsson K, Yangi E, Mhalu F, Biberfeld G, Britton S. High HIV seroprevalence and increased HIV-associated mortality among hospitalized patients with deep bacterial infections in Dar es Salaam, Tanzania. *AIDS (London, England)*. 1992 Sep;6(9):971-976.
5. Matee MI, Lyamuya EF, Simon EE, Mwinula JH, Mbena EC, Samaranayake LP, Scheutz FF. Clinical predictors of HIV-1 infection among preschool children in Dar es Salaam, Tanzania. *East African medical journal*. 1995 Nov;72(11):694-698.
6. Karande S, Bhalke S, Kelkar A, Ahuja S, Kulkarni M, Mathur M. Utility of Clinically-directed Selective Screening to Diagnose HIV Infection in Hospitalized Children in Bombay, India. *Journal of tropical pediatrics*. 2002 Jun 1;48(3):149-155.
7. Bavedkar BS and Agarwal R. Clinical Directed Selective Screening to diagnose HIV infection on hospitalized children in Mumbai, India. *Journal Trop Pediatr*, 2005;42:1191-1197.
8. Shahab T, Zona MS, Malik MA, Malik A, Afzal K. Prevalence of HIV infection in children with tuberculosis. *Indian Journal tropical Pediatr*, 2004;41:595-599.
9. Dewan A. Role and relevance of poison information centers in India. *ICMR bulletin*. 1997;27:43-7.
10. WHO. Antiretroviral therapy of HIV infection in resource limited setting, towards universal access: Recommendations for a public health approach (2006 revision). WHO, 2006.
11. NACO and Indian Academy of paediatrics. Guidelines for HIV care and treatment in Infants and children. 2006. Available at: <http://apps.who.int/medicinedocs/documents/s18022en/s18022en.pdf>.
12. National AIDS Control Organization. Specialists training and reference module. 2001; 49-66.
13. Dandona R, Prem Kumar SG, Anil Kumar G, Lakshmi V, Dandona L. HIV testing among adults in a high prevalence district in India. *National Medical Journal of India*. 2009 Jan 1;22(6):289-293.
14. Yuen MF, Tanaka Y, Fong DY, Fung J, Wong DK, Yuen JC, But DY, Chan AO, Wong BC, Mizokami M, Lai CL. Independent risk factors and predictive score for the development of hepatocellular carcinoma in chronic hepatitis B. *Journal of hepatology*. 2009 Jan 1;50(1):80-8.
15. Eskild A, Magnus P, Petersen G, Sohlberg C, Jensen F, Kittelsen P, Skaug K. Hepatitis B antibodies in HIV-infected homosexual men are

- associated with more rapid progression to AIDS. AIDS (London, England). 1992 Jun;6(6):571-574.
16. Gilson RJ, Hawkins AE, Beecham MR, Ross E, Waite J, Briggs M, McNally T, Kelly GE, Tedder RS, Weller IV. Interactions between HIV and hepatitis B virus in homosexual men: effects on the natural history of infection. *Aids*. 1997 Apr 11;11(5):597-606.
 17. Livry C, Binquet C, Sgro C, Froidure M, Duong M, Buisson M, Grappin M, Quantin C, Portier H, Chavanet P, Piroth L. Acute liver enzyme elevations in HIV-1-infected patients. *HIV clinical trials*. 2003 Dec 1;4(6):400-410.
 18. Puoti M, Torti C, Ripamonti D, Castelli F, Zaltron S, Zanini B, Spinetti A, Putzolu V, Casari S, Tomasoni L, Quiros-Roldan E. Severe hepatotoxicity during combination antiretroviral treatment: incidence, liver histology, and outcome. *JAIDS Journal of Acquired Immune Deficiency Syndromes*. 2003 Mar 1;32(3):259-67.