

Mucocutaneous manifestations among paediatric HIV positive patients at a tertiary hospital and research centre

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Abstract

Background and Objectives: There is a rapid increase in the incidence of HIV/AIDS among children. Proportionally, there is a rise in mucocutaneous involvement in this population. Mucocutaneous manifestations can pose diagnostic and therapeutic challenges. This study was done to note the different mucocutaneous lesions present among pediatric HIV population attending NMCH&RC, Raichur and their relation to CD4 counts.

Methodology: 214 consecutive HIV-positive children attending the OPD, at a tertiary hospital and research centre, between January 2015 to June 2016 were screened for presence of any mucocutaneous lesions and 100 children were included in the study. CD4 count was done in all of them along with other relevant investigations.

Results: Among 100 patients there were 118 mucocutaneous manifestations noted with overlap in a few. Prevalence of mucocutaneous manifestation was 47%. M:F ratio was 2:1. Majority of patients belonged to 5-14 year age group. Among mucocutaneous manifestations, pruritic papular eruption was commonest followed by viral and bacterial infections. The majority of patients had CD4 count <25%.

Conclusion: Mucocutaneous manifestations in pediatric HIV population are common and have varied presentations. Mucocutaneous manifestations were common at lower CD4 levels. Mucocutaneous manifestations can be taken as marker for disease progression.

Keywords: HIV/AIDS, Mucocutaneous manifestations, CD4 percentage, Children

Introduction

Acquired immune deficiency syndrome (AIDS) is a chronic, infective disorder caused by a

single stranded RNA retrovirus, human immunodeficiency virus (HIV). Recognized as an emerging disease only in the early 1980s, AIDS has rapidly established itself throughout the world, and is likely to endure and persist well into the 21st century. AIDS has evolved from a mysterious illness to a global pandemic which has infected tens of millions people. Since 1981, when the first reports about AIDS were published in the medical literature, mucocutaneous diseases have played an important role in the initial diagnosis of HIV infection and in determining the clinical stage of the disease.

HIV/AIDS in last 35 years or more has come to be known by everybody, still posing many unanswered questions. No disease in history has prompted comparable discussions, social implications and mobilization of political, financial and human resources. The number of orphans created by this calamity surpasses many natural calamities and wars.

More than 90% of children living with HIV acquire the virus during pregnancy, birth or breastfeeding, forms of HIV transmission that can be prevented. A small fraction of HIV infections in children are caused by contaminated injections, transfusion of infected blood or blood products, sexual abuse, sexual intercourse or scarification.

Methodology

This study was undertaken at the department of Dermatology, Venereology and Leprology at a, tertiary hospital and research centre, from January 2015 to June 2016. 214 successive children with confirmed HIV infection were screened for mucocutaneous manifestations. 100 HIV positive patients were included in the study, Children under 18 months were excluded from the study, ethical clearance was obtained from ethical committee.

Results

Among 214 successive HIV positive children attending OPD, at a, tertiary hospital and research centre, screened from January 2015 to June 2016, 100 children had mucocutaneous manifestations. There were 67 boys and 33 girls. Prevalence of mucocutaneous involvement was 46.7%.

Age and sex distribution

Male to female ratio was 2:1 and their age-sex distribution is depicted in the table below.

Table 1: Age & Sex distribution.

Age in years	1.5-4	5-9	10-14	Total
Male	12	30	25	67
Female	07	17	09	33
Totals	19	47	34	100

Majority of them were boys with highest prevalence seen among the 5-14 years age group.

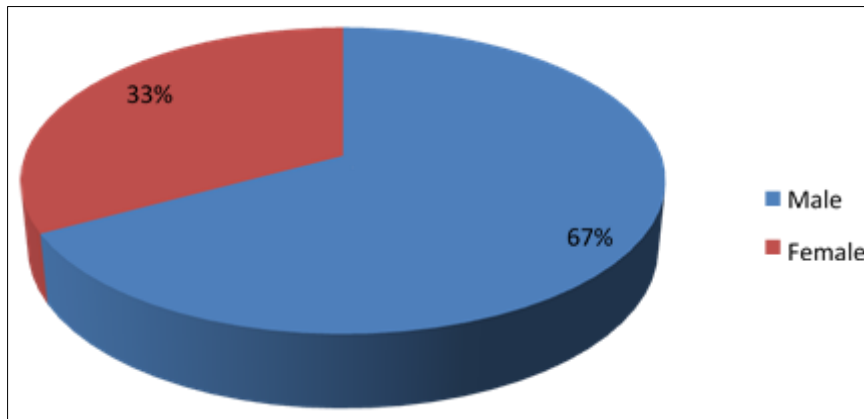


Fig 1: Distribution of cases according to sex

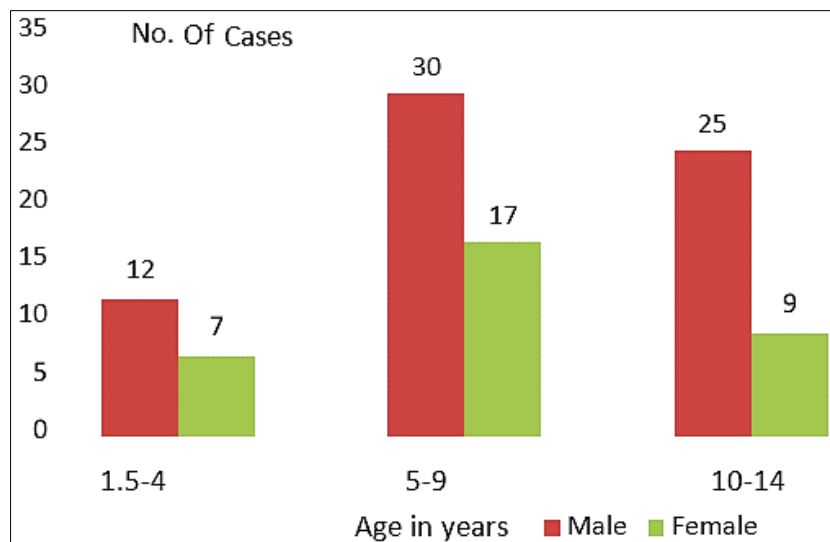


Fig 2: Distribution of cases according to age and sex

Discussion

Mucocutaneous involvement is one of the earliest and common manifestations of HIV/AIDS. More than 90% of people suffering from HIV experience one or more of these conditions in their lifetime. Mucocutaneous involvement may be the presenting feature in AIDS. We found the prevalence of mucocutaneous manifestations to be 46.7% comparable with el Hachem *et al.* who found it to be 46% Munoz *et al.* 56% and Lim *et al.* 62%.

Viral infections

HIV itself causes acute exanthematous eruptions in infected children. It may go unnoticed or may be mistaken for other viral exanthemas. As the immunosuppression progresses many viruses produce skin and mucous membrane lesions. These may be reactivations or newly acquired infections. In our study, viral infections occurred at a mean CD4 percentage of 21.06% and contributed to 14.41% of case. Munoz *et al.* reported an incidence of 7.5%. Lim *et al.* reported 38%.

Molluscum contagiosum in children is as such a very common condition, but atypical presentation like numerous lesions and giant size makes one suspect possibility of immunosuppression. A case with bilateral eyelid involvement was documented by Peláez *et al.*

Eight children (6.78%) in our study presented with extensive lesions of Molluscum contagiosum over face and neck. A Tanzanian study has shown incidence of 4%. Lim *et al.* reported two children with Molluscum contagiosum of thirteen children.

HPV infection in the form of verruca vulgaris and filiform warts was seen in four children 3.39%, it was very low compared to the Tanzanian study (20%) el Hachem *et al.* found 8 out of 46 children to have warts.

Herpes zoster was observed in two children with single dermatomal involvement (1.69%). Herpes zoster in children is an indicator of advanced immunosuppression. Herpes zoster was found in 6% of the patients (mean CD4 percentage-13.5%) by Wananukul S *et al.* In a study in Romania incidence was 1.8% which is comparable with our finding.

Varicella was found in two children (1.69%). A higher incidence of 9.7% was found in the Romanian study. In India most children suffer an episode of primary varicella infection.

Chronic herpes simplex virus (HSV) stomatitis was found in one child (0.85%). Lim *et al.*, found it to be 7.7% (mean CD4 percentage-3%) and the Tanzanian study reported HSV in 1.4% of study population.

Bacterial infections

Bacterial infection in the form of impetigo, ecthyma, furuncle etc. were found in 15 children (12.71%) at a mean CD4 count of 22.6%. Lim *et al.*, reported an incidence of 8% while in the Tanzanian study it was 12% almost similar to our study. Sadick *et al.*, in a study reported a very low incidence of 2%. Carvalho *et al.* reported bacterial infections in 25% of pediatric HIV positive patients.

Fungal infections

Fungal infections like superficial dermatophytosis were observed in four children (3.39%) at mean CD4 percentage of 22.21%. In other studies this varied from 7.5% to 40% (Tanzanian). In a Brazilian study three children out of 40 suffered from dermatophytosis.

Candidiasis

Mucocutaneous candidiasis which is shown to be the commonest manifestation in many western studies was seen in only two children (1.69%) at a mean CD4 count of 18.6%. Wananukul *et al.*, found an incidence of 33% at a CD4 percentage of 11.3% Tanzanian study showed a low incidence of 4% while in the Brazilian study¹¹⁰ as many as 17 out of 40 children suffered (42.5%).

Conclusions

1. Overall we found mucocutaneous manifestations to be common in children with HIV/AIDS.
2. Many had atypical presentations like giant and multiple Molluscum contagiosa.

Popular pruritic eruptions were the most common dematosis and significantly more common in severely immunocompromised group. Papular pruritic eruption can be a prognostic indicator among these patients.

1. Thus an increased prevalence, severity or atypical presentations of mucocutaneous conditions were seen in HIV infected children of less than 14 years age.
2. There was an inverse relation of mucocutaneous manifestations to CD4 cell levels.
3. Most of the conditions occurred at CD4 percentage less than 25%. In severe

immunocompromised (CD4< 15%) both the number and severity of the mucocutaneous manifestations increased.

4. Because mucocutaneous involvement may be the first sign of HIV infection, offering HIV testing may help in early diagnosis and treatment of HIV/AIDS.

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