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Endocrinopathies in suprasellar tumor: report of 6 cases

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Stature in children with human immunodeficiency virus infection

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Abstract

Background Suprasellar tumors in children are varied. Suprasellar tumor is a low-grade malignant tumor with a high survival rate, rarely be detected at an early stage. The clinical manifestations at the time of diagnosis are often dominated by non-specific manifestations of intracranial. Endocrinopathies often seen in many cases.

Objective To present six cases of suprasellar tumor with different endocrinopathies manifestation and different management.

Case The patients were 3 males and 3 females. From MRI or CT scan revealed various form such as PNET, macroadenoma, pilocytic astrocytoma, and craniopharyngioma. Diabetes insipidus were noted in 2 patients (treated with desmopressin), cortisol deficient noted in 5 patients (treated with hydrocortison), while all of them was short stature, and suffered from central hypothyroid (treated with levothyroxin). Most of them showed improvement in thyroid function after receiving therapy. Three patients were operated to reduce the tumor size, in order to relief the symptoms. Two patients were received chemotherapy after operated, while the other received radiotherapy. One patient was suffering from paresis at the lower limbs, and getting better after operation to reduce the tumor size.

Conclusion Manifestations of suprasellar tumor are varied, the management should be tailored due to the symptoms and clinical manifestations, endocrinopathies are found in most cases.

Keywords: craniopharyngioma, suprasellar tumor

Abstract

Background Growth impairment is common in children with HIV infection. Short stature has been reported to be associated with poor adherence to antiretroviral treatment, severe immunosuppression, and virologic failure. Correlation between medical adherence or immunodeficient status and growth impairment in HIV children is varied.

Objectives To identify the stature of HIV-infected children and its possible correlation with immunodeficiency status or medication adherence

Methods A cross sectional study was conducted at the HIV Pediatric Outpatient Clinic Dr. Soetomo Hospital during 2014-2015. Patients were classified as stunted and non-stunted. Height measurements were obtained using a standard anthropometric technique; mean SD score calculated by Growth Analyzer. Stunting was defined as height-for-age Z scores of less than -2 standard deviation for sex and chronologic age. Immunodeficiency status was based on CD4 level. Compliance more than 90% indicated good medication adherence. Spearman correlation test was applied, with $P < 0,05$ being considered significant.

Results This study included 31 children (17 were male). Median height was 98 cm (range 57-125) cm, median age 54 months (range 7-108) months and median BMI 15,1kg/m (range 11.4-19.5kg/m). Median CD4 was 18,89%(range 0,5-31,51%), median absolute CD4 was 741 cell/mm (range 11-1813 cell/mm). Amongst all, 16/31 were stunted, without any preponderance among gender, 5/16 were severely immunodeficient. Most (14/16) subjects had good medication adherence. It was evident that stature did not significantly correlate with immunodeficiency status ($r=0.197$; $P=0.238$), as well as medication adherence ($r=0.177$; $P=0.249$).

Conclusion Majority of HIV-infected children are stunted, although not in concordance with immunodeficiency status and medication adherence.

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EP-END-009

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Stature in children with human immunodeficiency virus infection

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Conclusion Majority of HIV-infected children are stunted, although not in concordance with immunodeficiency status and medication adherence.

Keywords: stature, HIV infected children

Stature in children with Human Immunodeficiency Virus infection

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Conclusion: Majority of HIV-infected children were stunted, although not in concordance with immunodeficiency status and medication adherence.

Keywords: *stature, HIV infected children*

INTRODUCTION

Growth is an important indicator of a child's health. Accurate measurements of weight, length/height, and head circumference are essential parts of the health evaluation of growing children. Children who are unhealthy tend to grow and gain weight more slowly than healthy children their age. Human immunodeficiency virus (HIV)-infected children are at particular risk for problems related to growth. HIV and opportunistic infections often negatively influence the growth of young children. A lack of nutritious food necessary for normal growth complicates the lives of many HIV-infected children.

Abnormalities in growth and metabolism are common in children infected with HIV. Poor growth was among the first manifestations of HIV infection to be recognized in children and had a significant effect on short-term survival (1,2). Short stature has been reported to be associated with poor adherence to antiretroviral treatment, severe immunosuppression, and virologic failure. Correlation between medical adherence or immunodeficient status and growth impairment in HIV children is varied.

Health care providers who treat children should be able to assess whether a child's growth is appropriate for the age of the child. By evaluating growth and development at every medical visit, we can learn much about the child's health. This chapter discusses how HIV affects growth and provides practical tools for growth monitoring.

In vertically HIV-infected children, poor growth has been suggested to be an early marker of infection or progression of disease. However, whether growth faltering is an independent HIV-related symptom or caused indirectly by other HIV clinical symptoms requires clarification. This information is needed to inform the debate on a possible effect of antiretroviral combination therapy on the height of infected

children and would provide evidence for the use of specific interventions to improve height. The objective of this study was to describe growth (height and weight) patterns in infected and uninfected children who are born to HIV-infected mothers with respect to standards from a general population and to assess age-related differences in height and weight by infection status, allowing for birth weight, gestational age, gender, HIV-related clinical status, and antiretroviral therapy (ART). High HIV replication and/or the resulting immune response may affect metabolism, which in turn has an impact on growth, and reducing viral load through highly active ART leading to improvements in growth fits with this hypothesis. However, the reduction in clinical symptoms of HIV disease after initiation of effective ART could also play a key role.

While there is consistent evidence of impaired growth among HIV-infected children, fewer data are available on HIV-exposed, uninfected children (henceforth referred to as HIV-exposed children). The size of this sub-population of children is growing due to the increasing availability of anti-retroviral (ARV) therapy for the prophylaxis of mother-to-child transmission of HIV. Few studies have examined growth patterns of HIV-exposed (4, 5), and risk factors for undernutrition among this vulnerable population have not been well characterized. Children born to HIV-infected women are at risk of deficiencies in multiple micronutrients that play an important role in child growth and development (6–8). Furthermore, poor socioeconomic conditions in resource-limited settings may limit the quality of care the child receives, resulting in impaired growth and health (9).

The objective of this study is to identify the stature of HIV-infected children and its possible correlation with immunodeficiency status or medication adherence.

METHODS

A cross sectional study was conducted at the HIV Pediatric Outpatient Clinic Dr. Soetomo Hospital during 2014-2015. Patients were classified as stunted and non-stunted. Height measurements were obtained using a standard anthropometric technique; mean SD score calculated by Growth Analyzer.

Stunting was defined as height-for-age Z scores of less than -2 standard deviation for sex and chronologic age. Immunodeficiency status was based on CD4 level. Compliance more than 90% indicated good medication adherence. Spearman correlation test was applied, with $P < 0,05$ being considered significant.

Descriptive statistics were used to summarize the baseline characteristics of the study population.

RESULT

This study included 31 children (17 were male). Median height was 98 cm (range 57-125) cm, median age 54 months (range 7-108) months and median BMI $15,1\text{kg/m}^2$ (range $11,4\text{-}19,5\text{kg/m}^2$). Median CD4 was 18,89% (range 0,5-31,51%), median absolute CD4 was 741 cell/mm^3 (range 11-1813 cell/mm^3). Amongst all, 16/31 were stunted, without any preponderance among gender, 5/16 were severely immunodeficient. Most (14/16) subjects had good medication adherence.

Table 1. Characteristic HIV patient at UPIPI outpatient clinic at Soetomo Hospital

Characteristic	N(31)
Sex	
Male	17(54%)
Female	14(46%)
Height	
Stunted	16(51.6%)
Non Stunted	15(48.4%)
Clinical Stadium	
Stadium 1	17(54.8%)
Stadium 2	3(9.7%)
Stadium 3	11(35.5%)

It was evident that stature did not significantly correlate with immunodeficiency status ($r=0.197$; $P=0.238$), as well as medication adherence ($r=0.177$; $P=0.249$)

DISCUSSION

This was the first study to assess the prevalence of short stature and its associated clinical variables in RSUD dr. Soetomo, Surabaya. Our study did not reveal any statistically significant differences in the prevalence of short stature in the children who are on HAART compared to those who are not yet on HAART.

This observation can be explained by the fact that most of the patients who were not on HAART did not meet the clinical criteria for the initiation of HAART, hence most of them were clinically well. Stunting is also one of the clinical criteria to initiate HAART; hence as soon as these children were noted to be stunted, they would be initiated on HAART.

There was no statistically significant association between poor adherence and virologic and immunologic failure. Poor adherence to HAART often leads to a detectable VL, which in turn results in immunological failure that predisposes to opportunist infections. Virologic failure may be secondary to virologic resistance to HAART or due to poor adherence to HAART, and it has been associated with stunting in some studies.^{4,5} The causes of HIV-related growth retardation are not completely understood and may include alteration in gastro-intestinal (GI) function, chronic infections, and endocrine dysfunction.⁵

The study also had limitations that are intrinsic to retrospective study design as the anthropometric measurements were collected by the clinic staff during the routine clinical followup at the clinic. Despite the fact that our clinic staff are highly trained in taking routine clinical vital signs including the anthropometric measurements, the margin of error could be minimized by standardized prospective study design.

CONCLUSION


Majority of HIV-infected children were stunted, although not in concordance with immunodeficiency status and medication adherence.

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Tema: Enhancing The Equality of Quality in Pediatric Science

Jadwal:

» Pra PIT: 31 Oktober - 1 November 2015 di Hotel JW Marriott Surabaya

» PIT: 2-4 November 2015 di Hotel Shangri-La Surabaya



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