Oxyuriasis at the Department of Pediatrics, Dr. Pirngadi Hospital, Medan

by

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Abstract

During the period of 3 months (February - April 1987), a prospective study on oxyuriasis among children had been conducted at Child Health Department of Dr. Pirngadi Hospital Medan. All children over 8 months of age were included in this study. The diagnosis was based on the modified Scoth's technique.

Oxyuriasis ova were found in 21 out 119 children (17,65%). The peak incidence was found in the school age.

INTRODUCTION

Oxyuris vermicularis is widespread all over the world. Helminthic infection caused by oxyuris may effect the human being at any age and social class, although the most frequent infected is children of low socio-economic states (Brown and Belding, 1968). Sri Margono et al. (1970) found with anal swab an incidence of 60%, while Lubis et al. (1983) reported an incidence of 0,3% by the Kato's technique, and Tai (1984) by the Scoth's technique found an incidence of 31,5%.

The diagnosis is based on clinical findings, supported by specific examination of directly detecting the adult worm in stool or finding out the female worm migrating to the anus. The indirect examination is by detecting the oxyuris ova in the stool.

This study was designated to assess the incidence of oxyuriasis in patients hospitalized at the Department of Pediatrics, Dr. Pirngadi Hospital, Medan.

MATERIALS AND METHODS

This study was done prospectively during February until April, 1987 at Child Health Department Dr. Pirngadi Hospital Medan. All children over 8 months of age were included in this study.

The oxyuris eggs were detected by the modified Scoth's technique as follows: a cellotape was used to examine the stool in the morning before the children took bath. It was sticked on the skin around the anus, then removed, and after removing it was sticked again on an object glass which had previously been smeared with glycerin and immediately examined microscopically. Only a single examination was made on each child.

RESULT

Of the 119 children, 21 were 8 – 12 months of age, consisting of 14 males and 7 females, the 98 remainders were over 1 year old consisting of 50 males and 48 females.

In the age group of 8 – 12 months, oxyuris ova were found in 2 children (9,52%) and in the group of over 1 year it was found in 19 (19,38%). See table 1.

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The incidence of infection caused by *Oxyuris vermicularis* is still high due to easy transmission and the commonly found factors inducing the proliferation of *Oxyuris*. The methods used in a study to investigate the *Oxyuris* play an important role in the results.

A direct fecal examination results in only 0 – 5% positivity, while the anal swab and anal Scotch’s tape seem to be more effective. In this study, we used cellotape stuck to an object glass smeared before with glycerin. Glycerin was used to keep the *Oxyuris* ova from becoming defective and thus easily be identified.

This study suggested that the incidence rate of *oxyuriasis* was 17.65%. Table 3 shows the results of other studies using different methods.

**Discussion**

It seemed that after the anal swab the Scotch tape showed higher positivity. This study revealed that an increased incidence of *oxyuriasis* was found in children aged over 6 years (table 1).

Previous studies also presented the increased incidence of *oxyuriasis* in school age children. In a study by Garrison et al. (1963) (cited from Sudigbia et al., 1970) the incidence of *oxyuriasis* was 58.5% in school age children; Tai (1984) reported that the incidence of *oxyuriasis* in primary school children was 42.2%. Sudigbia et al. (1970) reported a rate of 58.5% in school age children and the lowest (17.6%) in infants. This may be due to overcrowding which might increase the source of infection and made transmission easier.

In general, the infection of intestinal *vermicularis* parasites increase in children with inadequate or poor nutritional state. Similarly, the infestation of intestinal worm itself leads the child to have inadequate or poor nutritional states.

This study suggested that *oxyuriasis* appeared 80% in mild to moderate malnutrition, 14.28% in poor and 4.7% in good nutritional states.

Wirastari (1979) found in Jakarta *oxyuriasis* in malnutrition as high as 53.5% and in poor nutrition 42.3%. In this study, we failed to determine the increased *oxyuriasis* in the inadequate or poor nutritional groups, because most of children admitted to this Dr. Pirngadi Hospital are generally with inadequate or poor nutritional status.

**Conclusion**

- The incidence of *oxyuriasis* in the Department of Child Health, Dr. Pirngadi Hospital Medan was 17.65%.
- The highest incidence of *oxyuriasis* was found in the age group of school-children.
REFERENCES: