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Original Research Article

Recurrent abdominal pain in children and adolescents: a hospital based study

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ABSTRACT

Background: Recurrent abdominal pain (RAP) is very common in children of age group below 15 years. It affects about 10-20% of school going children. It is comprised of both organic and nonorganic causes and is therefore very challenging in diagnosing and treating the disorder. Hence this study was aimed to determine causes of RAP in the patients involved in the study.
Methods: This was a hospital based study and includes 100 patients of age group of 2 to 15 years attending the pediatric and medicine OPD of College of medicine and Sagore Dutta Hospital, from May 2014 to April 2015. These children were subjected to thorough physical examination, systemic and clinical examinations, lab investigations and finally categorized the causes for RAP either as organic or nonorganic.
Results: Out of 100 patients of RAP, male predominance (67%) was seen and forty-four (44%) of the patient population belonged to age group of 4 to 6 years. Organic RAP was found in 88% of patients and RAP due to non-organic causes was found in 12% of patients.
Conclusions: Organic cause predominantly parasitic infections were found to be the common etiological factor for RAP in most of the children. Family history associated RAP was dominated in nonorganic etiology.

Keywords: Nonorganic cause, Organic cause, RAP, School going children

INTRODUCTION

Recurrent abdominal pain (RAP) is very common in school going children affecting up to 10-20%.[1,2] It is defined as the presence of at least three episodes of abdominal pain which affect the normal activity of a child over a period of at least three months or more. According to Apley only 8% of patients with RAP had an organic pathology.[1] RAP may occur either due to organic or nonorganic causes. Emotional components like stressful events, sibling rivalry, school phobia, unpleasant parent relations etc. have been attributed as underlying component in non-organic RAP. *H. Pylori* infection, parasitic infestations and cholelithiasis have been reported as causes of organic RAP. [3-6]

The present study was undertaken with the aim to determine the organic and non-organic causes of RAP.

METHODS

This was a hospital based study conducted on 100 patients including **c**hildren and adolescents with RAP. Patients of age group of 2 to 15 years attending the pediatric and medicine OPD of College of medicine and Sagore Dutta Hospital, from May 2014 to April 2015

were included in the study. A detailed history and clinical examinations, complete haemogram, urine for routine analysis as well as culture and stool examination were done in all cases. Other investigations like chest X-ray, ultrasonography, HPLC, ascetic fluid analysis were done when indicated. Children with age less than 2 years and more than 15 years not meeting the criteria of RAP were excluded from the study. Children with organic causes of RAP have been treated according to corresponding cause. Organic RAP was said to be present when;

- There was an organic cause documented
- There was both clinical and laboratory improvement with treatment and
- Absence of recurrence of abdominal pain for at least four months.[1]

All the data obtained were presented in percentages using Microsoft excel 2010.

RESULTS

Out of 100 patients of RAP, sex distribution is unequal with male predominance (67%). Forty four (44%) of the patient population belonged to age group of 4 to 6 years, thirty eight (38%) were in age group of 2 to 4 years and the rest were between 6 to 15 years. Organic RAP was found in 88% of patients and RAP due to non-organic causes were found in 12% of patients.

Table 1: Demography of the patients with RAP.

Characteristics	Percentage of cases
Sex	
Male	67
Female	33
Age group (in years)	
2-4	38
4-6	44
6-15	18

Table 2: Etiological factors of RAP.

Organic cause (n = 100)	88
Parasitic infections (n = 100)	
G. Lamblia	63
A. Lumbricoid	22
E. Histolytica	15
E. Vermicularis	11
Urinary tract infection (n = 100)	8
Cholelithiasis (n = 100)	1
Abdominal tuberculosis (n = 100)	1
Non-organic cause (n = 100)	12
History of maladjustment	5
Pica	4
No abnormality	3

Among the organic causes, parasite infestation was most common. Commonest parasite found was *G. Lamblia* (63%) followed by *A. Lumbricoid* (22%), *E. Histolytica* (15%), *E. Vermicularis* (11%). Other organic causes include urinary tract infection (8%), cholelithiasis (1%) and abdominal tuberculosis (1%). Abnormal hemoglobin (lower) levels were found in 6 cases (6%). In this study 12% of patients were affected with non-organic causes of RAP. Five patients had history of maladjustment either in school or at home. Four patients had got pica. No abnormality was found in three cases.

DISCUSSION

Recurrent abdominal pain is a common problem among the children and adolescents. Various studies have suggested that the RAP is prevalent in 10 to 20% of the child-adolescent population.[1,6,7] Mavromichalis et al in their study have demonstrated that organic causes constitute 93% of study group.[8] Kumar et al found that 85% of patient has affected due to organic causes of RAP.[9] The present study also revealed that 88% of patient has been affected by RAP due to organic causes where the most common cause was parasitic infestation. Urinary tract infection (8%), gastro esophageal reflux disease (2%), abdominal TB (1%) and cholelithiasis (1%) were the other causes.

In this study, abnormal hemoglobin levels were also observed in 6 cases. This lowered haemoglobin levels can be related to abdominal pain as the relationship between parasite infestation and anemia is a pathogenic-physiologic type which reduces the iron absorption.[10] Of the total sample, 63% of the patients had giardiasis, which therefore is the commonest of all causes among the patients studied in the present work. Worm infestation was not considered as an important cause of pain of abdomen as it has got a high prevalence even in asymptomatic patients. Cholelithiasis has been also documented as a cause of RAP in some studies.[8,9] In our study one patient had been diagnosed cholelithiasis. Investigation revealed that the patient had sickle cell disease.

We have also found that 12% of the sampled patient population had non-organic causes of RAP. Five of them identified due to maladjustment either in school or in home, four of them has got pica. Nothing abnormal is found in three cases. Previous studies revealed that among the non-organic RAP, maladjustment in family or school is the predominant cause and many patients of them had got a strong family history.[11,12]

CONCLUSION

Our results suggest that an organic cause such as giardiasis is the commonest cause of RAP. However, both organic and non-organic factors need to be managed simultaneously for proper management of RAP.

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