

STUDY OF RECURRENT ABDOMINAL PAIN IN CHILDREN BELOW 15 YEARS

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Received : 18/02/2023
 Received in revised form : 28/03/2023
 Accepted : 10/04/2023

Keywords:

Non-organic disease, dietary habits, Apleys Criteria, BMI, Pallor.

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DOI: 10.47009/jamp.2023.5.3.114

Source of Support: Nil,

Conflict of Interest: None declared

Int J Acad Med Pharm
 2023; 5 (3); 541-543



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Abstract

Background: Recurrent abdominal pain (RAP) affects 10 to 20 % of school going children. There are at least three episodes of pain in abdomen in three months of duration that are severe enough to affect the daily activities of patients. **Materials and Methods:** 250 school going children aged between 6-15 years were studied. A blood examination that included CBC, LFT, urine analysis, culture, stool examination for cyst ova, parasite, x-ray, USG, CT scan of GIT was carried out to rule out the cause of RAP. **Results:** Clinical manifestations were 72 (28.8%) pallor, 52 (20.8%) constipation, 58 (23.2%) lymphadenopathy, 47 (18.8%) UTI, 15 (6%) hepatomegaly, and 6 (2.4%) splenomegaly. The dietary habits, anthropological parameters were ruled out and found quite normal. **Conclusions:** RAP in children has GIT disease, but the majority of children with RAP have psycho-somatic disorders; counselling of children and their parents, lifestyle modifications, and dietary habits will be useful in treating such patients.

INTRODUCTION

Recurrent abdominal pain (RAP) is one of the most common symptoms in children. Often, the pain is of acute onset and may be due to a number of gastro intestinal (GI) or extra intestinal causes. These include infection of the GI tract due to dietary indiscretion, urinary tract infection, and other more sinister surgical conditions such as acute appendicitis. With the appropriate management, acute abdominal pain usually does not lead to an untoward long term sequel. However, there are a number of difficulties in the management of children with recurrent abdominal pain (RAP).

RAP affects about 10-20% of school going children.^[1] Apply and Naish, who documented RAP in children in the middle of last century.^[2] They noted that in the vast majority of cases, no organic causes could be found, and they considered the aetiology of RAP to be of psychogenic origin. In young children, the localization of abdominal pain is often vague, and frequently, patients will indicate that, the pain is located in the centre of the abdomen. The severity and frequency of pain bear no relation to its aetiology.^[3]

The term RAP refers to mainly to the duration of painful period and frequency of pain.^[4] The commonly accepted duration is at least three months in the preceding period, and over this three-month period there are at least three episodes of pain that are severe enough to affect the daily activities of the

patients. Hence, an attempt is made to evaluate the various clinical manifestations, dietary habits, and anthropological parameters of the children complaining of RAP.

MATERIALS AND METHODS

250 children between 6-15 years of both sexes regularly visited to Pediatric department of Mamata hospital, Mamata Academy of Medical sciences, Bachupally, Hyderabad, Telnagana-500090 were studied.

Inclusive Criteria

Children having recurrent abdominal pain (RAP) aged between 6-15 children fulfilling Apleys criteria of RAP were selected for study.

Red flags on history	Red flags on physical examination
Localized pain away from umbilicus	Loss of weight or growth retardation
Pain awakening the child at night	Organomegaly
Pain associated with changes in bowel habits, dysuria, rash	Localized abdominal tenderness particularly away from the umbilicus
Occult bleeding	Joint swelling, tenderness or warmth
Repeated vomiting especially bilious	Pallor rash hernias of the abdominal wall
Constitutional symptoms like recurrent fever, loss of appetite, lethargy	

Exclusion Criteria

Children with congenital anomalies like volvulus, megacolon, or retroviral diseases children were excluded from the study

Methods

Blood examination CBC, LFT, Urine analysis culture stool examination for cyst ova, parasite, x-ray, USG abdomen, and lower GIT investigations were carried if necessary. Moreover, classification of RAP by symptomatology according to Rome-II criteria viz. functional dyspepsia, IBS, (Irritable Bowel Syndrome), functional abdominal pain, and abdominal migraine Aerophagia was also taken into consideration.

The duration of the study was from September 2019 to September 2020.

Statistical Analysis

Anthropological parameters of BMI, and dietary habits of various diseases were classified and grouped by percentage. The ratio of male and female children was 1:2.

RESULTS

Table 1 Study of anthropological parameters in having RAP

- Height – 145 (58%) children) had 146-150 cm, 105 (42% of children) had 151-157 cm.
- Weight (Kg) – 160 (64%) Children weighed 40-46 kg, and 90 (36%) weighed 45-48 kg.
- BMI - 156 (62.4%) had a BMI of 18.2 to 19.2, while 94 (37.6%) had a BMI of 19.3 to 20.6.

Table 2 Dietary habits in RAP children

85 (34% are vegetarian), 73 (29% are non-vegetarian), and 92 (36% are mixed).

Table 3 72 (28.8%) had pallor, 52 (20.8%) had constipation, 58 (23.2%) had lymphadenopathy, 47 (18.8%) had a urinary tract infection, 15 (6%) had hepatomegaly, and 6 (2.4%) had splenomegaly.

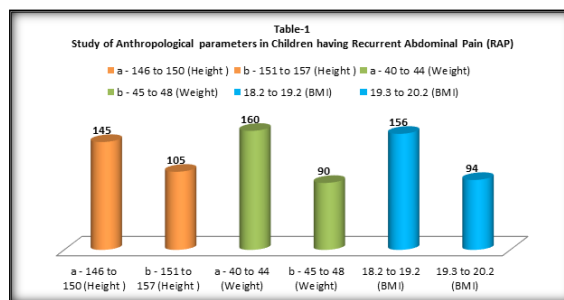


Figure 1: Study of Anthropological parameters in Children having Recurrent Abdominal Pain (RAP)

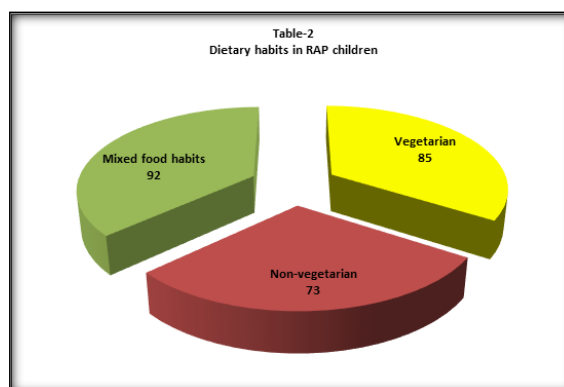


Figure 2: Dietary habits in RAP children

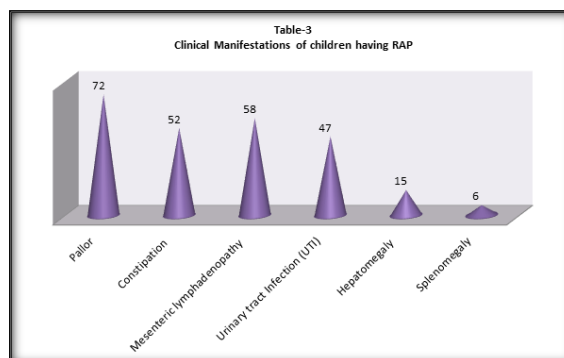


Figure 3: Clinical Manifestations of children having RAP

Table 1: Study of Anthropological parameters in Children having Recurrent Abdominal Pain (RAP)

Sl No	Parameters	No of patients	Percentage
1	Height a - 146 to 150 b - 151 to 157	145	58
		105	42
2	Weight a - 40 to 44 b - 45 to 48	160	64
		90	36
3	BMI (Body mass Index) 18.2 to 19.2 19.3 to 20.2	156	62.4
		094	37.6

Table 2: Dietary habits in RAP children

Sl No	Dietary habit	No of patients	Percentage
1	Vegetarian	85	34
2	Non-vegetarian	73	29.2
3	Mixed food habits	92	36.8

Table 3: Clinical Manifestations of children having RAP

Sl No	Clinical manifestations	No of patients	Percentage
1	Pallor	72	28.8

2	Constipation	52	20.8
3	Mesenteric lymphadenopathy	58	23.2
4	Urinary tract Infection (UTI)	47	18.8
5	Hepatomegaly	15	6
6	Splenomegaly	6	2.4

DISCUSSION

Present study of RAP in children aged between 6-15 years in Andhra Pradesh population. The anthropological parameters were Height: 145 (58%) children had 146 to 150 cm, 105 (42% of the children) had 151 to 157 cm. The weight (kg) was 160 (64%) children had 40-44 kg, 90 (36%) had 45-48 kg, and BMI: 156 (62.4%) had 18.2 to 19.2, and 94 (37.5%) had 19.3 to 20.2 body mass index (Table-1). The dietary habits in RAP children were as follows: 85 (54%) were vegetarian, 73 (29.2%) were non-vegetarian, 92 (36.8%) were of mixed food habits (Table-2). The clinical manifestations were: 72 (28.2%) had pallor, 52 (20.8%) had constipation, 58 (23.2%) had lymphadenopathy, 47 (18.8%) had urinary tract infection, 15 (6%) had hepatomegaly, 6 (2.4%) had splenomegaly (Table-3). These findings are more or less in agreement with previous studies.^[5,6,7]

Pallor is associated with tiredness, anorexia, dizziness, headache, vomiting, fever, diarrhoea, and constipation also.^[8] Intact RAP is not and does not lend itself to a single model of causation. Organic pathology cannot be identified in the majority of children with RAP.^[9] Organic disorders observed in RAP were UTI inflammation (cron's disease) or distension of the abdomen, as well as intestinal parasites.^[10] It is also noted that, repeated eating habits, consumption of junk foods, and the burden of school studies may be the causative factors of RAP.

Abdomen is also called the magic box because it consists of many systems like the vascular, urogenital, exocrine, and endocrine systems. Hence, it's a challenge for clinicians to diagnose RAP without haematological and radiological support. RAP does not occur in the pre-school children or children below 5 years. Hence, RAP might be aggravated by psychological difficulties experienced by children, during school.⁸ It was also confirmed that RAP was least observed during summer holidays, and many children got symptoms on their return to school after vacation.^[11] It was also reported that, such patients will develop irritable bowel syndrome (IBS) in the future, About 25 to 29% cases of RAP patients were recorded during school days.

Hence apart from medical treatment sympathy, affection, love by the teachers, non-teaching staff

towards school going children will have better prognosis in treating RAP.

CONCLUSION

The present study of RAP in children between 6-15 years had GIT diseases, but in the majority of cases of RAP, prokinetic or anti-spasmodic medications have proven to be disappointing. Hence, both children and parents should be counselled on stress coping strategies and assured that RAP is not a serious organic disease. Modification of life style and dietary habits is quite helpful in treating RAP in children.

Limitation of study

Due to the tertiary location of the research centre, the small number of patients, and the lack of the latest techniques, we have limited findings and results.

- This research paper is approved by the ethical committee of Mamata hospital, Mamata Academy of Medical sciences, Bachupally, Hyderabad, Telnagana-500090
- No Conflict of Interest
- Self-Funding

REFERENCES

1. Rasul CH, Khan MAD- Recurrent abdominal pain in school children in Bangladesh J. Ceylon coll phys 2000, 33; 110-114
2. Apley's Naish N- Recurrent Abdominal pain A field survey of 1000 school children Arch D,S child 1958, 33; 165-170.
3. Buffler ph, Gross M- Recurrent abdominal pain in childhood Dtsch Arztebl Int.2011, 108(17); 205-304
4. Christensen MF- Mortensen O- Long term prognosis in children with recurrent abdominal pain Arch Dis. child 1975, 50, 110-114
5. Hung RC, Plamer L J- Prevalence and Pattern of childhood abdominal pain in an Australian general practice J. paed child health 2000,36,349-353
6. Devnarayana N M, De silva DGH- Recurrent abdominal pain in cohort of Sri Lankan children and adolescents J. Trop paed 2008,54, 178-183
7. Boey cc, Goh KI- Predictors of recurrent abdominal pain among 9 to 15 year old urbon school children in Malaysian. Acta pediatri 2001,90; 353-355
8. Williams N, Jackson D- Incidence of Non specific abdominal pain in children during school term population survey based on discharge diagnose BMJ. 1999; 318-455
9. Dutta S Mehta M- Recurrent abdominal pain in Indian children and its relation with school and family environment Indian paed. 1999. 36, 917-920
10. Stordal K Nygarad E A organic abnormalities in recurrent abdominal pain in children Acta padiatri 2001, 90; 1-5
11. O' Donnell B- Out come based on personal experience too small series abdominal pain in children Worcester blaks well scientific publication 1985,106-13.