



A CLINICO-EPIDEMIOLOGICAL STUDY OF FUNCTIONAL PAIN ABDOMEN IN CHILDREN

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Abstract

Background: Study aimed to determine prevalence and clinical profile of functional pain abdomen in children in the age group of 5-14 years coming to the pediatric OPD.

Methods: Hospital based prospective case control study conducted on children aged 5 to 15 years in routine OPD and indoor patient fulfilling the inclusion criteria.

Results: In the present study, out of 100 cases, 68.00% children were male and 32.00% children were female. Most of children (74.00%) were 5-10 Yrs age group. According to clinical symptoms and investigations, 47(47.00%) children had symptoms suggestive of IBS, 25 (25.00%) children had Dyspepsia, 11 (11.00%) children had Functional pain abdomen, 4 (4.00%) children had FAPS, 2 (2.00%) children had Giardiasis, 1 (1.0%) children had right ovarian cyst, 3 (3.00%) children had coeliac disease, 2 (2%) children had cystitis and 5(5.00%) children had gastritis.

Conclusion: Functional pain abdomen is a common complaint of childhood with associated familial, psychological, and co-morbid conditions. Epidemiologic studies of Functional pain abdomen in children may offer information on the evolution of functional bowel disorders through the lifespan.

Keywords: Bowel disorder, Functional abdominal pain (FAP), Chronic abdominal pain.

Introduction:

Abdominal pain is one of the common health problems encountered in school aged children. Most parents are ignorant about the complaints presuming the self-limiting and transient nature of such episodes. Very often the etiology is undetectable and are considered as functional.

The term Recurrent Abdominal Pain came into existence as early as 1958. J Apley evaluated abdominal pain among children extensively and concluded nearly 10% of his subjects perceiving recurrent pain abdomen, with a slight female preponderance 12.3% as compared to 9.5% in males.¹ He coined this symptom complex as recurrent abdominal pain (RAP) syndrome and defined it as "episodes of pain occurring at least monthly for three consecutive months with severity that interrupts routine functioning". RAP is seen among 10-12% of school aged children with female preponderance.²⁻⁵

The pathophysiology of functional abdominal pain is thought to involve abnormalities in the enteric nervous system – a complex nervous system that envelops the entire gastrointestinal (GI) tract. A

dysregulation of this brain-gut communication plays an important role in the pathogenesis of FAP. Factors such as visceral hypersensitivity, altered intestinal motility and visceral hyperalgesia could disrupt the brain gut interaction and explain the cause of pain. Changes in intraluminal pressure, and mucosal inflammatory processes secondary to infections, allergies or primary inflammatory diseases may cause sensitization of afferent nerves associated with the onset of hyperalgesia. At the molecular level, brain and gut peptides, mucosal immunology, inflammation and alterations in the bacterial flora of the gut probably provide the translational basis for GI symptom generation.

Study aimed to determine prevalence and clinical profile of functional pain abdomen in children in the age group of 5-14 years coming to the pediatric OPD.

MATERIAL AND METHODS

Study Design: Hospital based prospective study.

Study Population: All children aged 5 to 14 years in routine OPD and indoor patient fulfilling the inclusion criteria.

Sampling method: Random sampling

Inclusion criteria:

1. Children aged 5 to 14 years.
2. Apley and Naish criteria defined by at least three episodes of abdominal pain severe enough to affect activities over at least 3 months in the preceding year.

Exclusion criteria:

Children aged 5 to 14 years with following warning symptoms in childhood:

Statistical analysis and tables were made with the help of Microsoft office 2007. Descriptive statistics like mean and percentages were used to infer the results.

OBSERVATIONS

Table 1: Socio-demographic profile

| Age group | No. of children | Percentage |
|-----------|-----------------|------------|
| 5-10 Yrs | 74 | 74.00% |
| 11-14 Yrs | 26 | 26.00% |
| Male | 68 | 68.00% |
| Female | 32 | 32.00% |

In the present study, out of 100 cases, 68.00% children were male and 32.00% children were female. Most of children (74.00%) were 5-10 Yrs age group.

Table 2: Distribution of Cases According to Detailed Clinical History

| Clinical History | | No. of Cases | % |
|---------------------------------------|---------------|--------------|-------|
| Site of Pain | Upper abdomen | 73 | 73.00 |
| | Lower abdomen | 21 | 21.00 |
| | Generalized | 6 | 6.00 |
| Association with altered bowel habits | Yes | 51 | 51.00 |
| | No | 49 | 49.00 |
| Intensity | Moderate | 61 | 61.00 |
| | Severe | 23 | 23.00 |
| | Mild | 16 | 16.00 |
| Interfere with daily activities | No | 88 | 88.00 |
| | Yes | 12 | 12.00 |

This table shows that most common site of pain was upper abdomen present in 73 (73.00%) children, followed by lower abdomen in 21 (21.00%) children and generalized pain abdomen in 6 (6.00%) children. Out of 100 cases, 51 (51.00%) children had associated

altered bowel habits and rest 49(49.00%) children had no alteration in bowel habits.

Table 3: Distribution of Cases According to Social Behavior

| Presence of Stressor | No. of cases | Percentage |
|----------------------|--------------|------------|
| Yes | 28 | 28.00 |
| No | 78 | 78.00 |
| Total | 100 | 100 |

In this table 28 (28.00%) children had associated negative life event, while the rest had no associated life stressor.

Table 4: Distribution of Cases According to Disease

| Disease | No. of Cases | Percentage |
|------------------------------------|--------------|------------|
| IBS | 47 | 47.00 |
| Dyspepsia | 25 | 25.00 |
| Functional Abdominal Pain | 11 | 11.00 |
| Functional Abdominal Pain syndrome | 4 | 4.00 |
| Coeliac Disease | 3 | 3.00 |
| Cystitis | 2 | 2.00 |
| Right Ovarian Cyst | 1 | 1.00 |
| Giardiasis | 2 | 2.00 |
| Gastritis | 5 | 5.00 |
| Total | 100 | 100 |

In this table, cases were classified according to ROME III criteria. According to clinical symptoms and investigations, 47(47.00%) children had symptoms suggestive of IBS, 25 (25.00%) children had Dyspepsia, 11 (11.00%) children had Functional pain abdomen, 4 (4.00%) children had FAPS, 2 (2.00%) children had Giardiasis, 1 (1.0%) children had right ovarian cyst, 3 (3.00%) children had coeliac disease, 2 (2%) children had cystitis and 5(5.00%) children had gastritis.

DISCUSSION

We found that 2/3 children of our study population were between 5 to 10 years and 1/3 children were above 10 years of age.

There are more than 36 studies done on FAP since 1958 for evaluation of relationship in between age and prevalence of FAP but no data pooled for single age group but some studies have two peaks in prevalence, first below five year age and then between 8 to 10 year age.⁶

In our present study, we found male predominance over females. In 1958 Apley and Naish⁷ done a epidemiological study on RAP and found that girls

were affected more often than boys. In year 1990 Lundby et al⁸ observed that in general there was no significant difference in the frequency of RAP in boys and girls but a preponderance of girls with RAP after the age of ten years were found. Girls have a higher prevalence of FAP than boys (female/male ratio 1.4:1) with a female predominance seeming to become evident around puberty.

In our study most common site of pain was upper abdomen present in 73 (73.00%) children, followed by lower abdomen in 21 (21.00%) children and generalized pain abdomen in 6 (6.00%) children. Out of 100 cases, 51 (51.00%) children had associated altered bowel habits and rest 49 (49.00%) children had no alteration in bowel habits.

In the year 2002, Abd El-Mageid et al⁹ observed that Non-organic RAP was described as mild (68.2%), gradual (64.3%), poorly localized (79.6%) pain, that was experienced more or less on daily basis (79%), and lasts for shorter duration (68.5%). It was commonly associated with headaches (46.9%), diarrhea (36.9%), and other pains all over the body (13.4%).

In the year 2005, Chitkara et al¹⁰ did a study about the prevalence, incidence, natural history and co-morbid conditions of childhood RAP in western countries. They concluded that RAP is a common complaint of childhood with associated familial, psychological, and co-morbid conditions. There are numerous studies which showed an increase in prevalence of abdominal pain in children with high stress levels.¹¹⁻¹²

CONCLUSION

Functional pain abdomen is a common complaint of childhood with associated familial, psychological, and co-morbid conditions. Epidemiologic studies of Functional pain abdomen in children may offer

information on the evolution of functional bowel disorders through the lifespan

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