

Clinical Study on Chronic Pain Abdomen with Special Reference to Rome III Criteria and Visual Pain Scale

¹Chethan CS, Dept of pediatrics, JLNMC, Ajmer

²Jai Prakash Narayan, Dept of pediatrics, JLNMC, Ajmer

³Sharath Babu, Dept of pediatrics, JLNMC Ajmer

⁴Pukhraj Garg, Head of the department, Dept of pediatrics, JLNMC, Ajmer

Corresponding Author: Chethan CS, Dept of pediatrics, JLNMC, Ajmer

Citation this Article: Chethan CS, Jai Prakash Narayan, Sharath Babu, Pukhraj Garg, “Clinical Study on Chronic Pain Abdomen with Special Reference to Rome III Criteria and Visual Pain Scale”, IJMSIR- July -2021, Vol – 6, Issue - 4, P. No. 236 – 239.

Type of Publication: Original Research Article

Conflicts of Interest: Nil

Abstract

Background: Chronic abdominal pain is a common disorder in children and adolescents worldwide. It affects the child's wellbeing, and the costs from missed school days and use of healthcare resources are high¹.

Methods: A hospital based prospective study “Clinical Study on Chronic Pain Abdomen With Special Reference To Rome III Criteria And Visual Pain Scale was conducted in IPD patients who presents with chronic abdominal pain at Dept of pediatrics, J.L.N. Hospital Ajmer, Rajasthan.

Results: Among 100 subjects included in the study organic causes found in 29% children and functional causes found in 71% of children and we could diagnose the cause of chronic/recurrent pain abdomen using pediatric Rome III criteria in 71 children. The difference in visual analogue scale for pain was statistically significant in both organic and functional disease with p-value<0.0001.

Conclusion: Functional pain abdomen is a common complaint of childhood with associated familial, psychological, and co-morbid conditions.

Keywords: Chronic pain abdomen, Rome III criteria, Pain scale, Children

Introduction

Chronic abdominal pain is a common disorder in children and adolescents worldwide. It affects the child's wellbeing, and the costs from missed school days and use of healthcare resources are high¹.

The pain usually has persisted for 3 to 6 months and is affecting the patient's activities of daily living. Diagnosis can be perplexing, because anything from common peptic ulcers to uncommon pancreatic trauma may be the culprit, requiring piecing together a medical history from a seemingly endless barrage of signs and symptoms².

Children with chronic abdominal pain represent a heterogeneous population comprising both organic and functional gastrointestinal disorders. Functional disorders are those that cannot be explained by structural or biochemical abnormalities¹.

Currently, a multitude of methods are used to measure abdominal pain in subjects. Unidimensional, single-item measures of abdominal pain intensity are widely

used and are considered accepted methods to measure acute pain in general³.

Visual Analogue Scale (VAS) is a unidimensional, simple, fast and easy-to-use method to measure pain. A 100 mm horizontal line is anchored by two (verbal) descriptions: 0 mm indicating 'no pain' and 100 mm indicating 'worst pain bearable'. Three studies used a VAS with six severity descriptors under the VAS-line. The VAS is frequently used in studies to assess abdominal pain inpatients³.

Materials and Methods

Source of data: The conducted study is a hospital based prospective study to be conducted at IPD patients who presents with chronic abdominal pain from august 2018 to December 2019 at Dept of pediatrics. J.L.N. Hospital Ajmer, Rajasthan.

Inclusion Criteria

- Chronic pain abdomen of uncertain etiology
- Age group of 3-17 years.
- Both sexes are included.

Exclusion Criteria

- Mechanical or paralytic ileus.
- Acute pain abdomen.

Recurrent abdominal pain⁴

Abdominal pain that waxes and wanes, occurs for at least three episodes within three months, and is severe enough to affect a child's activities.

Chronic abdominal pain^{1,6}

- Longstanding intermittent or constant abdominal pain
- Functional in most children- that is, without objective evidence of an underlying organic disorder.
- the diagnosis of functional disorders are made based on ROME III criteria and organic causes are based on stand disease protocols

The **Wong-Baker Faces Pain Rating Scale** is based on a numeric pain rating scale from 0-10, with zero being no pain and 10 being the worst pain imaginable. The scale includes numbers, faces (visual representation), and written descriptions. There are **6 faces** in the Wong-Baker Pain Scale⁵.



Statistical Analysis

A pre structured pre tested Performa was used for Data collection. All collected data were pooled and entered on to a excel spreadsheet and analysed using SPSS (version=16.0).Continuous variable were expressed as mean (SD) and compared with student's t-test. Difference between proportion derived from categorical data wee compared with chi square test. For all the p-values of less than 0.05 was considered significant.

Results

Table-1: Association of age with gender

Age group	Male		Female	
	N	%	N	%
≤4 years	5	15.15	1	1.49
5-10 years	18	54.55	17	25.37
11-15 years	9	27.27	34	50.75
≥16 years	1	3.03	15	22.39
Total	33	100	67	100
Mean±SD	7.84±3.36		12.3±33.9	

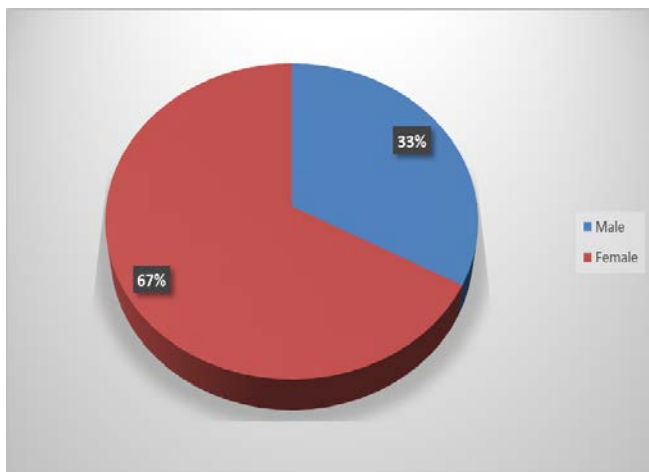


Fig. 1: Distribution of cases according to gender

Table 2: Distribution according to diagnosis

Diagnosis	%	N
Acid Peptic Disease	16	16
Cyclic Vomiting Syndrome	5	5
Functional Abdominal Pain Syndrome	12	12
Functional Constipation	19	19
Functional Dyspepsia	15	15
Irritable Bowel Syndrome	20	20
Koch abdomen	3	3
Liver Abscess	2	2
Reactive air ways disease	7	7
Ulcerative colitis	1	1
Total	100	100

We found that 20% children had irritable bowel syndrome followed by 19% had functional constipation, 16% had acid peptic disease, 15% had functional dyspepsia, 12% had functional abdominal pain syndrome, 7% had reactive airways disease, 5% had cyclic vomiting syndrome, 3% had Koch abdomen, 2% had liver abscess and 1% had ulcerative colitis.

Table 3: Association of diagnosis with VAS

Diagnosis	VAS				P-value
	On Admission		On Discharge		
	Mean	SD	Mean	SD	
Organic (N=29)	6.41	1.24	1.66	1.32	<0.0001
Functional (71)	5.71	1.19	2.54	1.07	<0.0001

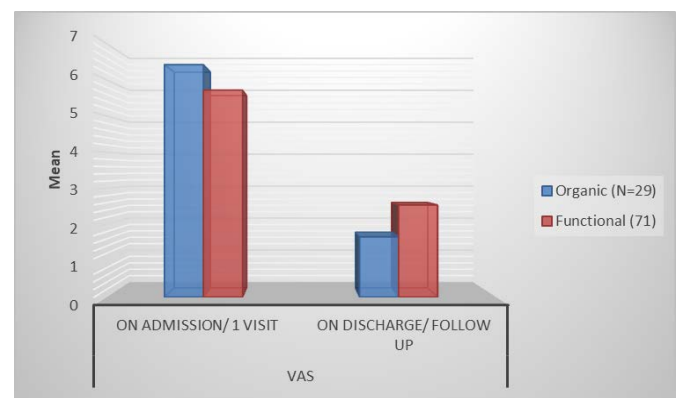


Fig.2: Change in visual analogue scale in organic and functional causes at admission and discharge

The difference in visual analogue scale for pain was statistically significant in both organic and functional disease with p-value<0.0001. Children with functional disorders present with less pain on scale and relived less while discharge. Children with organic causes presented with more pain scale and relived better.

Table 4: Diagnosis based on Rome III criteria

Diagnosis	%	N
Cyclic vomiting syndrome	5	5
Functional abdominal pain syndrome	12	12
Functional Constipation	19	19
Functional dyspepsia	15	15
Irritable bowel syndrome	20	20
Total	71%	71

Among 100 children we could diagnose the cause of chronic/recurrent pain abdomen using pediatric Rome III criteria in 71 children. The diseases diagnosed are cyclic vomiting syndrome, functional abdominal pain, functional constipation, functional dyspepsia and irritable bowel syndrome.

Discussion

Tackling the problem of pain abdomen is nagging to the children experiencing it as well as for the family and medical professionals owing to its complex origin. A series of investigations may be needed to thoroughly evaluate and establish the diagnosis.

We found that 20% children had symptoms of irritable bowel syndrome followed by 19% had functional constipation, 16% had acid peptic disease, 15% had functional dyspepsia, 12% had functional abdominal pain syndrome, 7% had reactive airways disease, 5% had cyclic vomiting syndrome, 3% had Koch abdomen, 2% had liver abscess and 1% had ulcerative colitis.

The mean age of children was 10.9 years with majority (43%) were in age group 11-15 years followed by 35% were in age group 5-10 years, 16% were in age group ≥ 16 years and 6% were in ≤ 4 years. The median age was 11 years.

The mean duration of pain abdomen was 14.05 months with a median of 7 months. There were 53% children had pain duration for ≤ 10 months followed by 18% had pain from months days, 17% had pain duration from months days and 12% had pain from >30 months. The children who had symptoms of functional causes have relatively longer duration of symptoms compared to one who had organic causes of chronic pain abdomen.

The difference in visual analogue scale for pain was statistically significant in both organic and functional disease. Children with functional disorders present with less pain on scale and relived less while discharge.

Children with organic causes presented with more pain scale and relived better.

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.

References

1. Berger MY, Gieteling MJ, Benninga MA. Chronic abdominal pain in children. *BMJ*. 2007 May 12;334(7601):997-1002.
2. Agarwal BB. Chronic Pain Abdomen: Primary Clinical Approach. *Health Positive*. 2009;1(2):43-47.
3. Mujagic Z, Keszthelyi D, Aziz Q, Reinisch W, Quetglas EG, De Leonardis F, Segerdahl M, Masclee AA. Systematic review: instruments to assess abdominal pain in irritable bowel syndrome. *Aliment Pharmacol Ther*. 2015 Nov;42(9):1064-81.
4. Apley J, Naish N. Recurrent abdominal pains: a field survey of 1,000 school children. *Arch Dis Child*. 1958 Apr; 33(168):165-70.
5. Hockenberry, Marilyn J.; Wilson, David, eds. (2015). "Chapter 5: Pain Assessment and Management". *Wong's nursing care of infants and children* (10th ed.). Mosby. ISBN 9780323222419.
6. DiLorenzo, C.; Rasquin, A.; Forbes, D., et al. Childhood functional gastrointestinal disorders: child/adolescent. In: Drossman, DA., editor. *Rome III: The Functional Gastrointestinal Disorders*. 3rd edition. McLean, VA: Degnon Associates, Inc; 2006. p. 723-777.