ORIGINAL RESEARCH

Abdominal discomfort in children: A clinical study on recent aspects of management

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ABSTRACT

Background: Abdominal discomfort in children is a widely prevalent issue. Most of the consultations concluded that chronic abdominal discomfort is functional and that the paediatrician/surgeon could not identify any metabolic, anatomical, viral, inflammatory, or neoplastic causes in a significant proportion of children. Acid peptic disease is on rise and chronic constipation is seen as the source of abdominal pain. Ongoing pandemic has presented as abdominal pain in one third of Covid infected paediatric population.**Aims and Objectives:** This is a prospective study taken up to learn the causes of abdominal discomfort and to study the recent aspects in the approach in management of those patients.**Materials and Methods:** Fifty children aged between 3 to 11 years, who presented with pain abdomen to paediatric, surgery opds and casualty were included in the study from December 2020 to January 2021 at teaching hospital, Ananthapuramu.**Results:** Among 50 children, 44% were females and 56% were male children. Abdominal discomfort and tenderness were present in all the children, where as 50% had diarrhoea, constipation in 20%, 16% had vomiting, and 26% had fever as associated symptoms. Covid testing was done in all the study participants out of whom 25 children were Covid 19 positive (50%).**Conclusion:** We concluded that abdominal pain is prevalent in Covid 19 positive children and acid peptic disease is causing significant morbidity. So, innovative approach and management are suggested to provide comfort to the child and family.

Key words: Abdominal discomfort, Covid 19, gastroenteritis, acid peptic disease

INTRODUCTION

Abdominal discomfort is common in children; Initial apprehension over severe organic medical issues can be alleviated with meticulous history-taking and physical examination particularly seeking "red flags"[1]. These children frequently undergo various investigations, unnecessary testing should be eschewed, as comprehensive testing does not enhance patient outcomes or satisfaction. Covid 19 pandemic, has raised emergency consultations due to abdominal pain. Child care physicians and surgeons should be sensitized with warning signs of Multisystem inflammatory syndrome in children (MIS-C)[2]. Functional abdominal pain is characterized by stomach discomfort without identifiable evidence of a pathogenic condition, including anatomical, metabolic, infectious, inflammatory, or neoplastic disorders[3].

Recent Discoveries Current research indicates that persistent abdominal discomfort results from a complex interplay of genetic predispositions, environmental influences such as food, alterations in the microbiome, and stressors. The gut-brain axis is now more precisely characterized as the Microbiome-gut-brain axis[1].Therapeutic methods have addressed one or more components, but never in a coordinated fashion. A definitive diagnosis and elucidation of pathogenesis are essential initial steps. As pain abdomen either acute or chronic, can result in absenteeism, emotional distress and poor functioning, a comprehensive methodology emphasizing restoration the optimal strategy for managing a child with abdominal discomfort is to prioritize their

functioning and overall well-being. A non-pharmacologic strategy is the preferred initial treatment; numerous children showed improvement with counselling and reassurance on the absence of major organic diseases[1, 2].

Numerous studies have demonstrated that clinical evaluation alone falls short in accurately diagnosing pain abdomen. Either surgical or nonsurgical cause, ultrasonography (USG) is the preferred mode of imaging recently, when compared to abdominal radiography[4-6].Paediatric patients with pain are generally at risk of receiving suboptimal analgesia due to high risk of complications[7].In the absence of a confirmed diagnosis, non-emergency cases can be initiated on empirical therapy for symptomatic improvement. Dyspepsia (APD) is the most common cause for upper abdominal pain, hence acid suppression should be the initial approach in those patients[8].Children with gastroenteritis can receive systemic antibiotics, antiemetics along with fluid management. Diffuse pain abdomen without constipation can be treated with antispasmodics. For all children on symptomatic management, close monitoring and regular reassessment for response is required.

A comprehensive interdisciplinary therapeutic approach aimed at restoring normal function should be the practiced. Nutritionist and Psychiatrist are desired members of the team[9].Diorders of brain gut interaction (DBGI), are pain predominant functional disorders. Non-pharmacologic therapies are preferred in DGBI which can be divided into psychological, dietary, and neuromodulation[10].

MATERIALS AND METHODS

This prospective study was undertaken from Dec 2020 to Jan 2021, at a teaching hospital, Ananthapuramu with 50 children as study participants, who had pain abdomen as presenting complaint. All the children underwent baseline haematological tests, Covid 19 test and ultrasonography.

Children who were co-operative, verbally responsive and whose parents consented to participate were included in the study.

Informed written consent was taken from the participants/parents. Covid-19 guidelines were strictly adhered to prevent transmission among the study paticipants.

RESULTS

Among 50 children with pain abdomen, 28 were male children (56%) and 22 were female children (44%). Age group from 3 to 12 years were included in the study, with mean age of 8.5 years. Pain and tenderness were present in all children (100%), while 25 children had diarrhoea (50%), 13 had fever (26%), vomiting in 8 (16%) and 10 had constipation (20%). Among the 25 children who were Covid 19 positive, 11(44%) had MIS-C syndrome. Covid positive children were quarantined in the institute and their symptoms like diarrhoea, fever, rash and vomiting were medically managed and no child with MIS-C had developed heart related problems. No fatalities were reported and the average hospital stay was 15±3 days. Among non-Covid patients, dyspepsia (14) was the major diagnosis, followed by constipation (10).

Table 1: Showing duration of pain abdomen in children

Duration of Pain	Male Children	Female Children	Total
<2weeks	3	6	9
<4weeks	12	9	21
<6weeks	11	4	15
<8weeks	2	3	5
Total	28	22	50

DISCUSSION

World-wide prevalence of functional abdominal pain in children is 13.5%[11].“Paediatric Rome Criteria III” (PRC-III) classified abdominal pain-related Functional Gastrointestinal Disorders (FGIDs) using a symptom-based approach[12, 13].

Of the total 50 children included in the study 28 (56%) were males and 22 (44%) were females. Similar male predominance 56.1% were observed in studies done by Lokesh *et al.*, our study comprised of 3 to 12 years age groups with mean age being 8.5 years which is similar to Stordal *et al.*, [14] and Menon *et al.*, [15] studies with mean age being affected was 8.3 years and 8.9 years respectively where the study participants belonged to 2 to 15 years age group in both the studies.

Diarrhoea, fever, vomiting and constipation were the associated symptoms observed in our study whereas Deva Narayana *et al.*, [16] reported headache, anorexia and lethargy as common symptoms. This might be due to Covid 19 pandemic which affected children more in gastrointestinal system with diarrhoea, fever and vomiting. MIS-C syndrome was observed in 11 out of 50 children, i.e. 22% similar to Cheung KS *et al.*, [17] reported 24.8% GI symptoms in Covid infected children. Oba J *et al.*, [18] observed that diarrhoea and vomiting were the most common symptoms experienced by Covid 19 GI patients. No organic pathology was observed in our study. The average hospital stay was 15±3 days among the study group. Abdominal discomfort due to acid peptic disease in the children is on rise recently due to their eating habits and choice of food intake.

CONCLUSION

Our study despite being done in limited number of

children, significantly showed that Covid 19 pandemic has presented differently in paediatric age group. A latest inclusion to the diagnostic dilemmas is MIS-C which presents with various inflammatory changes in the child. Strong suspicion and prompt approach towards Covid 19 can save the child from developing respiratory disease, thus saving the lives. Gastroenteritis and Acid peptic disease are the common conditions which were observed in this study which usually respond to symptomatic therapy. Functional abdominal pain (DBGI) needs holistic multidisciplinary approach. A study with larger participants can help in studying the significant associations of above conditions.

CONFLICT OF INTEREST: Nil.

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