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Research Article

**TO DETERMINE THE CLINICAL PRESENTATIONS OF  
INFLAMMATORY BOWEL DISEASE AMONG CHILDREN  
AT SERVICES HOSPITAL LAHORE**Dr. Muhammad Hamad<sup>1</sup>, Dr Muhammad Awais<sup>2</sup>, Dr Daud Ahmad khan<sup>2</sup><sup>1</sup>Jiangxi University of Traditional Chinese Medicine<sup>2</sup>Services Hospital Lahore**Article Received:** December 2019    **Accepted:** January 2020    **Published:** February 2020**Abstract:****Objective:** To describe the clinical presentations of I.B.D. in the Jordanian pediatric age group.**Place and Duration:** In the Pediatric medicine Unit II of Services Hospital Lahore for two year duration from March 2017 to March 2019.**Methods:** Specially designed summary forms for medical records were filled with data collected from 36 patients presented at the Pediatric Gastroenterology OPD. All were diagnosed with IBD (Crohn's disease or ulcerative colitis). A thorough medical history, relevant clinical examination, laboratory tests and histopathological results were collected for all these patients. In addition to barium testing, thrombophilia detection and DEXA scan, they all had upper endoscopy and colonoscopy.**Results:** IBD was diagnosed in 36 patients. The age range was from 12 months to 14 years. The average age was 8 years. The ratio of men to women was 0.8: 1 (45% of men). In our study, ulcerative colitis was observed more frequently (51.6%). The most common symptoms are abdominal pain, weight loss and bloody diarrhea, respectively. On the other hand, the most common clinical symptom is delayed growth parameters. In our study, delayed bone age and osteoporosis were surprisingly high, and positive colonoscopy results were found in 32 patients (88%).**Conclusion:** Inflammatory bowel disease (I.B.D.) is rarely seen in young children in our country and is now increasingly defined in this age group. Female dominance was the most common admission symptoms, abdominal pain, weight loss, and bloody diarrhea. Growth inhibition was the most common clinical sign of the accessory intestine.**Key words:** inflammatory bowel disease, Crohn's disease, ulcerative colitis, child.**Corresponding author:****Dr Muhammad Hamad,**

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## INTRODUCTION:

Intestinal inflammation is an immunologically damaged intestine caused by environmental factors in a genetically predisposed person.<sup>1</sup> Crohn's disease (C.D.) is a chronic inflammatory disease that can affect any part of the intestine from the mouth to the anus<sup>2</sup>. The most common regions are the terminal ileum, ileum and colon. Typical pathological features are granuloma formation and transmural inflammation, which may be irregular.

Ulcerative colitis (U.C.) is an inflammatory disease limited to the lining of the large intestine and rectum<sup>3</sup>. A characteristic histology is the depletion of the mucosa and submucosa, goblet cells, inflammation with cryptitis and crypto abscess, but without granuloma<sup>4</sup>. Inflammatory changes are often common and not irregular<sup>5</sup>. The disease is becoming more common in the Jordanian pediatric population.

The exact etiology of I.B.D. remains unclear, although many risk factors have been studied, including family history, diet, appendicitis surgery, better living conditions and "hygiene hypothesis", drugs, smoking and more.

The term indeterminate colitis is described in I.B.D. almost always with an acute or severe disease requiring an urgent or sudden colectomy (fulminant colitis), in which pathological features are uncertain, and C.D does not allow strict separation. On the other hand, typical C.D. distribution characteristics, macroscopic appearance and histological features are well defined<sup>6</sup>.

I.B.D It looks like a multifactorial origin, and the well-documented increase in the frequency and prevalence of the disease is part of the global emergence of chronic autoimmune and inflammatory diseases, a phenomenon closely related to social and economic development<sup>7</sup>. The most surprising discovery in international research was that the vast majority of new gene discoveries were common to both C.D. and U.C. we further strengthen our belief that the presence of both diseases results from the same pathogenesis, but has a different clinical spectrum<sup>8</sup>.

## METHODS:

This prospective study was held in the Pediatric medicine Unit II of Services Hospital Lahore for two year duration from March 2017 to March 2019.

To collect relevant data, a specially designed medical documentation summary form was used. A detailed medical history, relevant clinical examination, laboratory and histopathological examination were carried out in 36 patients.

Laboratory tests: complete blood count, liver and kidney function tests, erythrocyte sedimentation rate, C-reactive protein, P.ANCA and ASCA, bilirubin (total and direct), prothrombin time (PT), partial thromboplastin time (PTT), international normalization ratio (INR), total protein and albumin, fecal analysis and culture, urine analysis and culture, thrombophilia analysis, bone age, barium examination in special cases, ophthalmologic consultation was carried out for all our patients, and finally colonoscopy and upper endoscopy simple descriptive statistics (frequency and percentage) were used to define the study variables.

## RESULTS:

36 patients were diagnosed with IB from 12 months to 14 years, 16 patients (45%) with an average age of 8 years and 20 women (55%).

The most common admission symptoms are shown in (Table 1): abdominal pain in 26 patients (72%), weight loss in 21 patients (58%), bloody diarrhea in 20 patients (55%), and pallor in 17 patients (47%) (10 patients). Low fever in 10 patients (27%) and joint pain in 7 patients (19%). On the other hand, the symptoms of low presentation were skin rash in 3 patients (8%), oral ulcer in one patient and anal abscess in another patient.

Additional intestinal symptoms (not as common as in adults) were: delayed growth parameters in 16 patients (44%), osteoporosis in 12 patients (33%), anemia in 12 patients (33%), 9 patients (25%), enlargement liver in 5 patients (%) 13), aphthous ulceration (8%) in 3 patients, skin lesions in 3 patients (8%) and uveitis and kidney stones in at least one of our patients (2.7 %).

The most important laboratory results presented in (Table 2): thrombocytosis in 29 patients (80%), high erythrocyte sedimentation rate (ESR) in 23 patients (63%), positive stool analysis results in 22 patients (61%), 13 patients (36%). leukocytosis followed by anemia in 12 patients (33%).

In our study, colonoscopy and upper endoscopy were performed on each patient; It was found that 15 patients had CD compared with 21 UC cases (single case with isolated inflammation, hepatomegaly, jaundice, acid, coagulopathy, high hepatic transaminase and UC with high Gamma (12-year-old male) with diarrhea.

Three cases of C.D were found to be associated with the upper gastrointestinal tract (gastroduodenal). All our patients underwent the DEXA study and showed a high percentage of osteoporosis (33%) and osteopenia (25%).

Thrombophilia test results showed that three patients (8%) factor V-Leiden had a heterozygous mutation and one (3%) had a homozygous mutation. In addition to four patients with the MTHFR

homozygous mutation (11%) and three other patients with the MTHFR heterozygous mutation, stroke has not been documented.

**Table I: Clinical Presentations among the study group (n=36)**

Clinical presentation	=n	%age
Abdominal Pain	26	72
Weight Loss	21	58
Bloody Diarrhea	20	55
Non-bloody Diarrhea	17	47
Pallor	10	27
Fever	10	27
Arthralgia	7	19
Skin Rash	3	8
Red Eyes	1	2.7
Jaundice	1	2.7
Peri-anal Abscess	1	2.7

Delayed bone age was found in 15 patients (42%) and finally in two patients (5%) with C.D during barium studies. In addition to the patient with ileal colon stenosis, the small intestine narrowed. Another patient from U.C. it has been found to have a Sigmoid stenosis.

**Table II: Laboratory findings among the study group (n=36)**

Laboratory test	=n	%age
Thrombocytosis	29	80
High ESR	23	63
+ Stool Analysis	22	61
Leukocytosis	13	36
Positive CRP	12	33
Anemia	12	33
+Thrombophilia Screen	11	30
Low Total Protein	4	11
Low Albumin	4	11
+P.ANCA	4	11
Prolonged P.T.	2	5
+ASCA	2	5
High ALT	1	2
Thrombocytopenia	0	0

**Table III: Comparative results between our study and Gargi Shikhhare Study<sup>3</sup> (n=36)**

Extra intestinal manifestations	Gargi Shikhhare Study	Our study
Weight Loss	80%	44%
Osteoporosis	40%	33%
Joint Involvement	25%	27%
Skin Involvement	10-15%	8%
Oral Aphthous Ulcer	5-10%	8%
Primary Sclerosing Cholangitis	3.50%	2.70%
Eye Involvement	1%	2.70%
Thrombosis	3.10%	0%

## DISCUSSION:

Crohn's disease (CD) and ulcerative colitis (U.C.) are chronic inflammatory diseases of the digestive tract with periods of remission and exacerbations<sup>9</sup>. It is characterized by trans-oral inflammation and

can be found anywhere in the gastrointestinal tract from mouth to anus with irregular inflammation<sup>10</sup>. UC is a chronic inflammation that only affects the mucosa of the colon, inflammation is persistent, begins in the rectum and extends more or less proximal. I.B.D About a quarter of their cases occur

in childhood, and children are more likely to have a serious illness in the presentation than their adult counterparts<sup>11</sup>.

Our study involved 36 patients with IB. In the Atlanta / USA study, the male-female ratio was compared with 0.8: 1, 1.5: 1. U. Emory Children's Hospital.

A study from Iran in 2011 showed a 60% participation in UC in women, and the most common symptoms were abdominal pain at 93% (as in our study, 72% of patients had abdominal pain, 58% of body weight, bloody diarrhea 55% and bloody absence of diarrhea in 45% of patients).

Growth retardation parameters observed in 44% of our patients are considered the most common parental manifestation of inflammatory bowel disease in children. In the study "Johathan Teitelbaum" from May 2011. This indicator is only 16%. Gargi S and Subra-K conducted a study<sup>15</sup> in 2010 and reported that weight loss was a serious problem in C.D and many children have reduced appetite / intake and reduced nutrient absorption. Growth failure is crucial at the beginning of childhood. May be the only sign of C.D. However, the etiology of growth failure is multifactorial; possible causes are nutritional deficiencies, increased loss of nutrients, malabsorption, increased metabolic demand and medication.

Intestinal inflammation is not a disease of one organ, but a systemic disease with many features of the "extra intestine", 25-30% of patients will show additional intestinal symptoms throughout their lives. Table 3 compares the symptoms of the large intestine and the results of the Gargi Shikhare study at Atlanta / USA Medical School. U. In our study there was one case with anal abscess (C.D.) (2%) and five cases with hepatomegaly (13%), one patient with kidney stones (2.7%), and 12 patients with anemia (33%). M. Castro and his colleagues from Italy found kidney stones in 0.3% of CD patients, 0.3% of sclerosing cholangitis, and there are no patients with cerebrovascular disorders. In our study, there were no documented cases of thrombotic events despite numerous thrombotic disorders (factor V Leiden mutations and MTHFR mutations). Other additional bowel symptoms include anemia, which is more common in children than I.B.D.

### CONCLUSION:

- Inflammatory bowel disease (I.B.D.) is generally rare in young children in our country and is now increasingly defined in this age group.

- Female dominance was the most common admission symptoms, abdominal pain, weight loss, and bloody diarrhea.
- Growth inhibition was the most common clinical sign. In our study, delayed bone age and osteoporosis were surprisingly high.

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