



CODEN (USA): IAJPBB

ISSN: 2349-7750

**INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES**Available online at: <http://www.iajps.com>

Research Article

**SERUM C-REACTIVE PROTEIN LEVEL IN PATIENTS
WITH CROHN'S DISEASE****¹Dr. Mumtaz Ali Lakho, ¹Dr. Zubair Ahmed Yousfani, ¹Dr. Majid Ali Soomro,
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Hospital Abu Dhabi, United Arab Emirates³Liaquat University Hospital Hyderabad / Jamshoro**Abstract:****OBJECTIVE:** To determine the serum C - reactive protein level in patients with Crohn's disease.**PATIENTS AND METHODS:** The two year hospital based cross-sectional multidisciplinary and multicenter study (2014-2016) was conducted at tertiary care hospitals and the data was also recruited from few private hospitals. All the patients presented with gastrointestinal symptoms were explored for Crohn's disease while the known cases of Crohn's disease were also recruited and studied. After taking clinical history, physical examination and routine investigations, the patients were explored for C-reactive protein by taking 2 cc venous blood sample and sent to laboratory for analysis whereas the frequency / percentages (%) and means \pm SD computed for study variables.**RESULTS:** During two year study period total fifty patients were explored and study. The mean \pm SD for age (yrs) of population was 42.77 ± 6.54 . Regarding gender male 32 (64%) and female 18 (36%), residence urban 30 (60%) and rural 20 (40%), raised WBC count and ESR 40 (80%) and 38 (76%), low albumin 30 (60%) and raised C-reactive protein as 33 (66%) respectively.**CONCLUSION:** The raised CRP had a higher risk of CD related hospitalization and intestinal complications.**KEYWORDS:** C-reactive protein (CRP), Crohn's disease (CD) and Inflammatory bowel disease (IBD)**Correspondence author:*****Dr. Asim Munir Memon,**

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Please cite this article in press as Asim Munir Memon et al, Serum C-Reactive Protein Level In Patients With Crohn's Disease, Indo Am. J. P. Sci, 2017; 4(05).

INTRODUCTION:

Inflammatory bowel disease (IBD) is an idiopathic, chronic process of the bowel associated with decreased quality of life and increased morbidity experience a waxing and waning clinical course of relapse and remission and develops cumulative structural damage to the bowel over time.^{1,2} It is believed that a preclinical stage of Crohn's disease (CD) exists before the development of clinical symptoms and that inflammation begins before the clinical diagnosis of CD, resulting in progressive bowel damage even in earlier stage.³ Therefore, effective medical treatment to stop or slow the progression of bowel damage is critical, and aggressive therapy is recommended to prevent complications such as bowel stricture or perforation.^{4,5} Recently, a study by Click B, et al. reported that asymptomatic CD patients with elevated CRP levels had a risk of hospitalization than normal CRP population.⁶ It has been hypothesized that patients in clinical remission who have high CRP levels shows poorer long term prognosis. We therefore conducted hospital based cross sectional study in relation to determine whether the clinical usefulness of serum CRP in Crohn's disease exists or not in our population.

PATIENTS AND METHODS:

The two year hospital based cross-sectional multidisciplinary and multicenter study (2014-2016) was conducted at tertiary care hospitals and the data was also recruited from few private hospitals. All the patients presented with gastrointestinal symptoms were explored for Crohn's disease while the known cases of Crohn's disease were also recruited and studied while the exclusion criteria were patients with connective tissue and autoimmune disorders, intestinal perforation, hematological malignancies, pregnant women, abdominal tuberculosis, already on anti-inflammatory medication, antibiotics, corticosteroids, immunosuppressive drugs and the subjects with ileostomies or colostomies. After taking clinical history, physical examination and routine investigations, the patients were explored for C-reactive protein by taking 2 cc venous blood sample and sent to laboratory for analysis. The data was collected on pre-designed proforma and analyzed in SPSS to manipulate the mean \pm SD, frequencies and percentages.

RESULTS:

During two-year study period total fifty patients were explored and study. The mean \pm SD for age (yrs) of population was 42.77 ± 6.54 . The demographical and clinical profile of study population is presented in Table 1.

TABLE 1: THE DEMOGRAPHICAL AND CLINICAL PROFILE OF STUDY POPULATION

Parameter	Frequency (N=50)	Percentage (%)
AGE (yrs)		
20-29	07	14
30-39	12	24
40-49	13	26
50-59	10	20
60+	08	16
GENDER		
Male	32	64
Female	18	36
RESIDENCE		
Urban	30	60
Rural	20	40
RAISED WBC COUNT		
Yes	40	80
No	10	20
RAISED ESR		
Yes	38	76
No	12	24
LOW ALBUMIN		
Yes	30	60
No	20	40
RAISED C-REACTIVE PROTEIN		
Yes	33	66
No	17	34

DISCUSSION:

CRP is a serum biomarker produced in the liver in response to several cytokines when inflammation is present in various tissues.⁶ In CD, CRP levels reportedly reflect the inflammatory burden and can be used to predict short- and mid-term clinical flare-up. Moreover, CRP levels show a correlation with endoscopic and histologic findings, which are reliable measures of CD activity.⁷ To the best of our knowledge, there have been studies which described the association between CRP level and prognosis in CD patients.^{8,9} Andre C, et al identified that raised CRP could predict relapse in asymptomatic patients with CD.¹⁰ In addition, Boirivant M, et al observed that elevated serum CRP was related to high relapse rate during follow-up.¹¹ CRP level is maintained within normal range during clinical remission in patients with CD, favorable prognosis could be predicted and the frequency of unnecessary computed tomographic scan or endoscopy could be avoided.¹² Therefore, early diagnosis and aggressive therapy with close monitoring of disease activity are emphasized with the understanding that symptom-based treatment strategies are insufficient to modify the outcomes of disease progression.

CONCLUSION:

The raised CRP had a higher risk of CD-related hospitalization and intestinal complications and the presence of raised CRP levels revealed intestinal inflammation needs therapeutic interventions to achieve good clinical outcomes.

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