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# Fecal calprotectin - a useful laboratory marker in gastroenterological practice

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## PURPOSE / OBJECTIVES

The aim of the present study was to establish the diagnostic value of faecal calprotectin in the differentiation of patients with various gastrointestinal diseases, including inflammatory bowel disease (IBD) and irritable bowel syndrome (IBS).

## MATERIALS & METHODS

We measured fecal calprotectin in 113 patients aged 18 to 80 years. 43 of them are women and 70 - men. The studied patients were divided into four groups: First group - 43 patients with IBD; second group - 17 patients with irritable bowel syndrome (IBS); third group of 33 patients with other non-inflammatory gastrointestinal diseases and fourth group - 20 healthy people.

## RESULTS

We found that calprotectin levels were the highest in patients with IBD,  $x = 101.2 \mu\text{g} / \text{g}$ . In the second group, in patients with IBS we found that fecal calprotectin was  $x = 42.4 \mu\text{g} / \text{g}$ , and in patients in the third group, we found levels in the range of  $77.2 \mu\text{g} / \text{g}$ . In healthy controls we found an average value of calprotectin -  $31.8 \mu\text{g} / \text{g}$ . (fig. 1)

We found that calprotectin levels in men with IBD were higher than in women with IBD;  $105.6 \mu\text{g} / \text{g}$  versus  $90.9 \mu\text{g} / \text{g}$ . (fig 2.)

We found that the percentage distribution by sex in both diseases IBD and IBS is equal. (fig.3).

Among the inflammatory bowel diseases (IBD) the most common are Crohn's disease and ulcerative colitis. Unfortunately, very often the symptoms of these diseases resemble complications of functional origin, which makes the diagnosis difficult. Calprotectin is a protein, that is released by the neutrophil cells, that are directed to the site of a present inflammation of the intestinal wall. Calprotectin enters the feces, where it is not destroyed, but its levels rise. This test is suitable for both children and adults. In addition, it is extremely fast, accessible and painless for patients.

## RESULTS

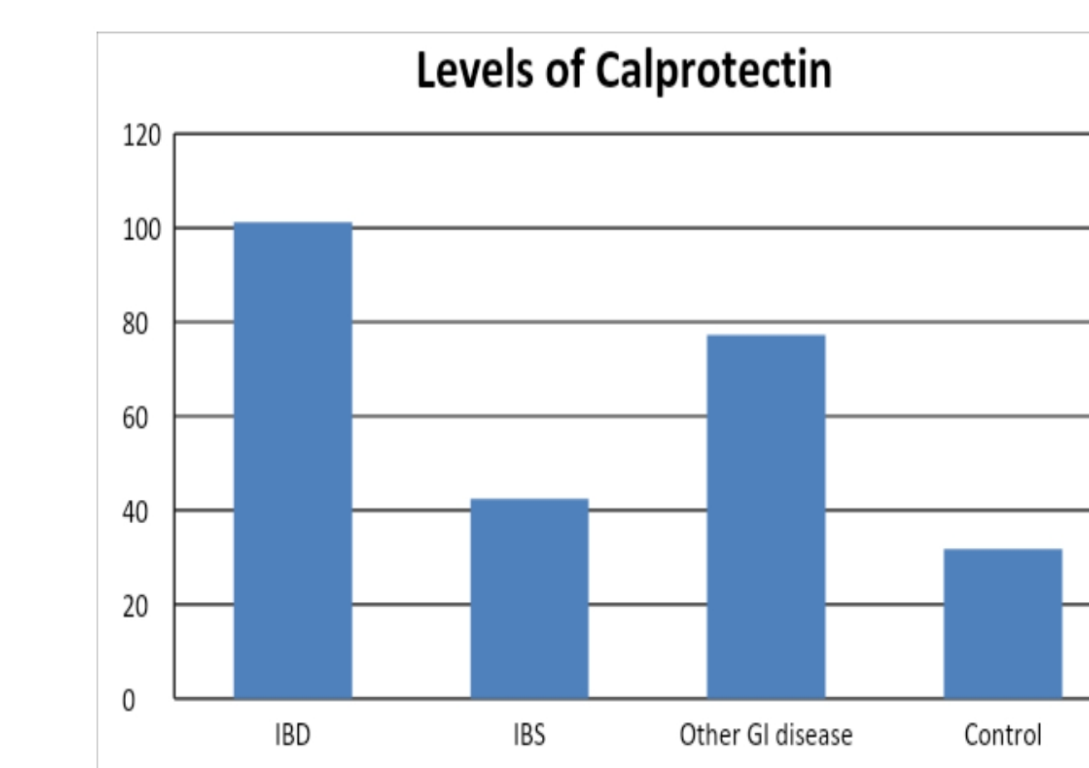


Fig. 1 Levels of fecal calprotectin in healthy people and patients with IBD, IBS and other non-inflammatory GI disease

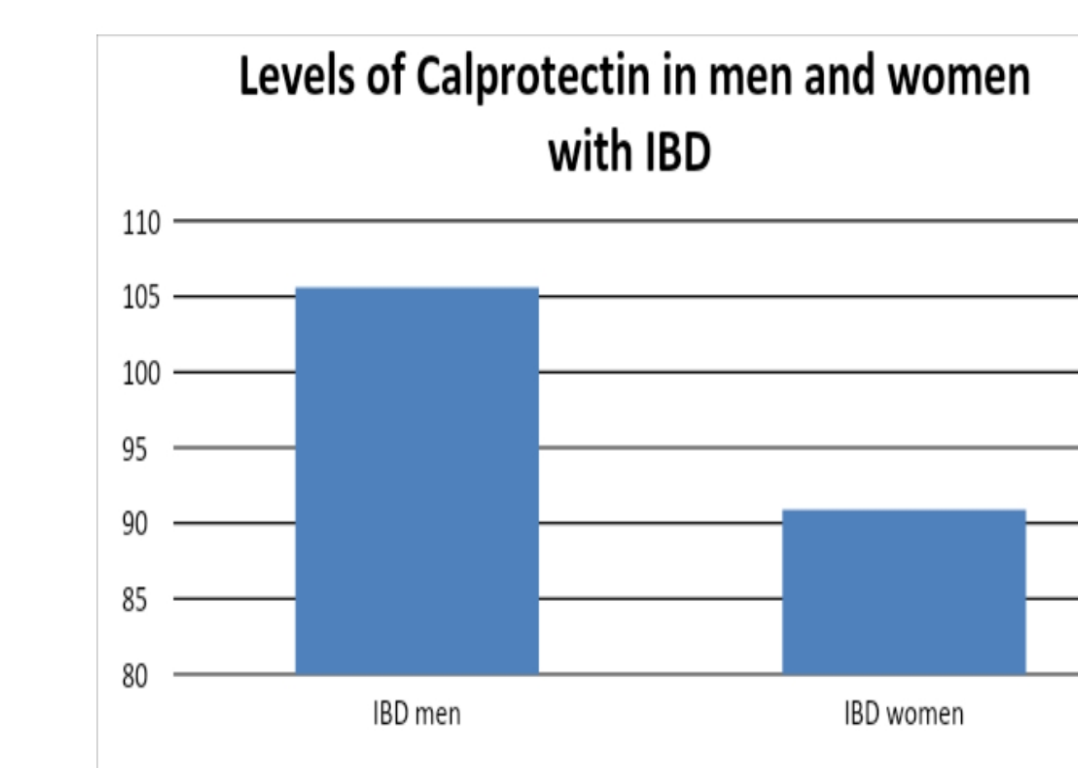


Fig. 2 Levels of fecal calprotectin in men and women with IBD

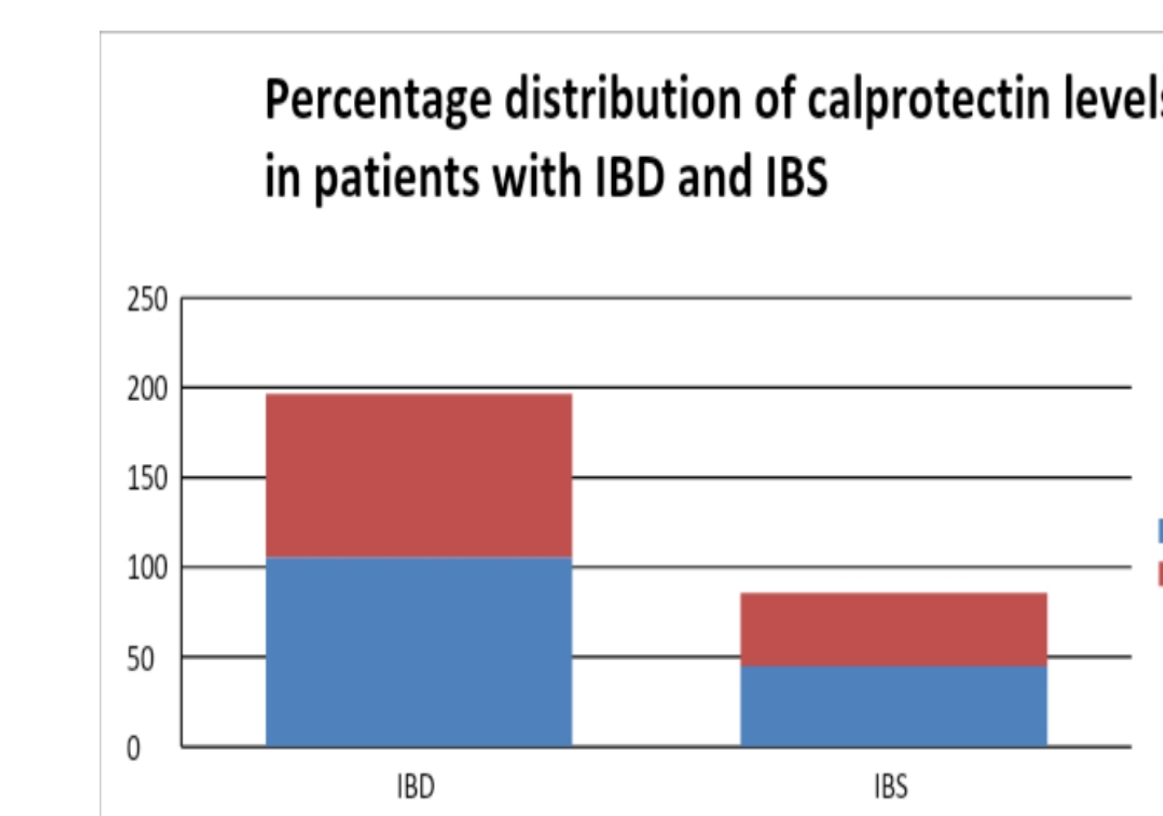


Fig.3 Percentage distribution by sex in IBD and IBS

## SUMMARY/CONCLUSION

Fecal calprotectin is a sensitive marker for the identification of patients with IBD. In most cases, calprotectin values below  $80 \mu\text{g} / \text{g}$  exclude inflammatory bowel disease and in the same time IBD can be distinguished from IBS by its values.