

## B. *Fragilis* as Dominant Species of *Bacteroides Fragilis* Group in Patients with IBD

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**Background & Objectives:** IBD is an inflammatory disorder in intestine that consists of ulcerative colitis and crohn disease. Various studies implicated roles of different bacterial species in pathogenesis of IBD. *Bacteroides fragilis* group is suspected as one of the most important group of pathogenic bacteria responsible for occurrence of this disease. This study was aimed to analyze probable roles of *Bacteroides fragilis* group bacteria and enterotoxigenic *B. fragilis* in the disease occurrence.

**Methods:** During January 2011 to 2012, 100 colonic biopsy samples were obtained from patients in whom colonoscopy was done. Nineteen individuals with normal results of colonoscopy and histology served as control. For bacteriological study two biopsy specimens were obtained from each patient, one of these samples homogenized with tissue grinder and cultured in specific media (BBE agar) at anaerobic conditions. PCRs were done on each bacterial DNA sample by universal primers for *Bacteroides fragilis* group and specific primers for *Bacteroides fragilis* and its bft enterotoxin, after common biochemical identification tests.

**Results:** The results in this study showed that *Bacteroides fragilis* group bacteria are dominant among IBD patients in compare to the control group (42% and 15%, respectively). 51% of these isolates belonged to *Bacteroides fragilis* species (5% for the control group and 46% for the IBD patients), which 38% of them encoded bft enterotoxin.

**Conclusion:** Overgrowth of anaerobic intestinal bacterial flora considered as main risk factor in developing IBD. Results from this study showed importance of *Bacteroides fragilis* group bacteria in these patients, in compare to the control group. Toxigenic strains of *Bacteroides fragilis* can cause sever inflammatory response upon overgrowth in the intestine that may extend duration of the disease.

**Keywords:** *Bacteroides fragilis* Group; IBD; Bft Enterotoxin