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## Association of nontuberculous mycobacteria (NTM) with Crohn's disease (CD)

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**Introduction:** The most widely held hypothesis on the pathogenesis of IBD (Inflammatory Bowel Disease) is that overly aggressive acquired (T cell) immune responses to a subset of commensal enteric bacteria develop in genetically susceptible hosts, & environmental factors precipitate the onset or reactivation of disease. But it is almost universally accepted that a host genetic predisposition is critical for development of CD. Among bacteria *Mycobacterium avium* subsp *paratuberculosis* (MAP) has shown high prevalence although not uniformly. This large variation may be due to differences in DNA extraction techniques or to geographical variations in the prevalence and modes of transmission of MAP.

**Aim & Objectives:** This prospective study aimed to see the association of NTM with Crohn's disease.

**Methods:** Patients of CD were included in the study as case. Patients of IBS (Irritable Bowel Syndrome) or suspected colorectal malignancy who were found to be normal at colonoscopy and colonic biopsy was normal, were included in the study as control. Two bites of biopsy from the lesion in CD patients were taken for NTM by PCR. In control group two bites were taken for histopathology and two bites were taken for NTM PCR from left side of the colon. We used ITS primer for NTM and IS 900 primer for *Mycobacterium avium* sub species paratuberculosis (MAP) in PCR. We extracted the DNA from tissue for PCR using QIAamp DNA mini kit.

**Results:** We studied 34 CD patients and 34 controls. Out of 34 cases 28 were found to be positive for nontuberculous mycobacteria (NTM) and 6 were negative. Out of 34 controls only 8 were found to be positive for nontuberculous mycobacteria (NTM) and 26 were negative. Odds ratio 15.17 (95 % CI 4.07-60.75) and P value was significant (0.001). Among them we couldn't detect MAP neither in cases nor in controls.

**Conclusions:** From this study it appears that NTM other than MAP may have association with Crohn's disease in Bangladesh.

### Recent Publications:

1. Sartor R B (2006) Mechanisms of disease: pathogenesis of Crohn's disease and ulcerative colitis. Nature Clinical Practice Gastroenterology & Hepatology. 3(7):390-407.
2. Quirke P (2001) Antagonist: *Mycobacterium avium* subspecies *paratuberculosis* is a cause of Crohn's disease. Gut. 49(6):757-760.
3. Autschbach F et al. (2005) High prevalence of *Mycobacterium avium* subspecies *paratuberculosis* IS900 DNA in gut tissues from individuals with Crohn's disease. Gut. 54(7):944-949.
4. Clarkston W K et al. (1998) Role of *Mycobacterium paratuberculosis* in Crohn's disease: a prospective, controlled study using polymerase chain reaction. Dis. Colon Rectum. 41(2):195-199.
5. Grant I R (2003) *Mycobacterium paratuberculosis* and milk. Acta Vet. Scand. 44(3-4):261-266.

### Biography

Raihan A S M A is currently working in the Department of Gastroenterology, Bangabandhu Sheikh Mujib Medical University, Dhaka, Bangladesh. His research interest is focused in Irritable bowel syndrome, inflammatory bowel disease, peptic ulcer disease and *Helicobacter pylori* infection. His important works are: profile of ulcerative colitis in Bangladesh, presented in APDW (2006); profile of patients of Crohn's disease in Bangladesh; symptomatic overlap in patients with diarrhoea predominant irritable bowel syndrome and microscopic colitis in Bangladeshi population and histopathological alteration in post infectious irritable bowel syndrome. He has developed a clinical scoring system to differentiate difficult to diagnose cases of intestinal tuberculosis and Crohn's disease and presented his work at Asia Pacific Digestive Week, Kobe, Japan in 2016. He has more than 50 publications and has supervised more than 50 theses.

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