



## Evaluation of Antibody Response to Polysaccharide Vaccine and Switched Memory B Cells in Pediatric Patients with Inflammatory Bowel Disease

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### **Abstract:**

**Background/Aims:** Inflammatory bowel disease (IBD) is a chronic disease of the gastrointestinal tract, whose etiologies are still unknown. This study was performed to evaluate the humoral immune response in terms of B cell functions in selected IBD patients. **Methods:** Eighteen pediatric patients with IBD, including 12 cases of ulcerative colitis (UC) and six with Crohn disease (CD), were enrolled in this study. The pneumococcal vaccine was injected in all patients, and the IgG antibody level to the polysaccharide antigen was measured before and 4 weeks after injection. The B cell switch-recombination process was evaluated. **Results:** Five patients with IBD (three CD and two UC) had defects in B cell switching, which was significantly higher than in controls ( $p=0.05$ ). Ten patients had a specific antibody deficiency and exhibited a higher frequency of bacterial infection than the healthy group. The mean increased level of IgG after vaccination was lower in IBD patients ( $82.9\pm 32.5$   $\mu\text{g/mL}$  vs  $219.8\pm 59.0$   $\mu\text{g/mL}$ ;  $p=0.001$ ). Among the patients who had an insufficient response, no significant difference in the number of switched memory B-cell was observed. **Conclusions:** A defect in B lymphocyte switching was observed in pediatric IBD patients, and especially in those patients with CD. Owing to an increased risk of bacterial infections in those patients with antibody production defects, pneumococcal vaccination could be recommended. However, not all patients can benefit from the vaccination, and several may require other prophylactic methods. (*Gut Liver* 2014;8:24-28)

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