P192  Modification of the course of inflammatory bowel disease (IBD) during pregnancy and after delivery

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Background: Pregnancy is a common event during follow-up that can interfere with the course of the disease. Objectives: To assess the course of the disease during pregnancy and after delivery. Modification of the course of IBD was defined as the need for corticosteroids, immunosuppressors (IS), biological agents or surgery due to disease activity or complications. To establish predictors of disease modification. To assess the incidence of miscarriage, malformations and perinatal morbimortality.

Methods: A retrospective study was made of women with IBD and pregnancy during the period 2007–2011. Results: 99 patients, 39 with ulcerative colitis (UC) and 60 with Crohn’s disease (CD).

Modification of IBD during pregnancy occurred in 19.2% and was more frequent in UC (30.8%) than in CD (11.7%). During postpartum, disease modification was observed in 37.4% of the patients, with similar rates for UC (38.5%) and CD (36.7%). The univariate analysis showed a greater risk of reactivation during pregnancy in patients with UC (p = 0.01; OR: 3.4), independently of disease extent or activity at the start of pregnancy, and in patients with CD and prior surgery (p = 0.01, OR: 1.3). Presence of a disease flare-up during pregnancy proved to be a risk factor for UC (p = 0.01; OR: 5.7). No associated factors were identified in CD.

No significant differences were observed between patients who discontinued and those who continued treatment with IS and/or biological drugs in terms of the course of the disease during pregnancy (with reactivation rates of 9% and 8.3%, respectively) and after delivery (with reactivation rates of 36.4% and 41.7%, respectively).

Conclusions: IBD underwent changes during pregnancy and after delivery in 19.2% and 37.4% of the cases, respectively. These changes were more common in patients with UC. In CD, prior surgery was a risk factor for disease modification during pregnancy. In UC, disease modification during pregnancy was a strong risk factor for disease flare-up in the year following delivery. No differences were observed in the course of IBD between patients who discontinued medication and those who do not – this probably being conditioned by the small number of women who suspended therapy, and the good previous control of IBD. The miscarriage rate was 7%, and proved significantly lower in patients with UC.

P193  Mitochondrial enzymes activity of peripheral lymphocytes in children with IBD

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Background: It is known that IBD is accompanied with intoxication, nutrients, vitamins and mineral deficiency, which lead to inadequate metabolic and energetic supply of all cells and tissues. Lymphocytes play an important role in the immune mediated inflammation. Theirs functional activities depends on the energetic metabolism activity. Mitochondrial enzymes activity (respiratory chain enzymes activity) reflects cell energetic process intensity. Investigation of the lymphocytes mitochondrial enzymes activity can be useful for inflammation intensity evaluation.

Methods: We studied 44 children with Crohn’s disease (CD) and 26 patients with ulcerative colitis (UC) at the age from 10 to 18 years, who received infliximab for a long period. We investigated lymphocytes mitochondrial enzymes – succinate dehydrogenase (SDH) and NADH dehydrogenase (NADH-D) – activity by quantitative cytochemical method, based on the n-nitrotetrazolium violet ability to form insoluble formazan granules during enzymic reduction. We applied 2 modifications of this method – using flow cytometer Beckman Coulter FC500 (USA) and hardware and software complex Morphology (Videotest, Russia). Clinical effect of the therapy was assessed using pediatric Crohn’s disease activity index (PCDIA) and pediatric ulcerative colitis activity index (PUCAI).

Results: We found out that children with the high baseline lymphocytes mitochondrial enzymes activity had better curative effect of infliximab than children with low dehydrogenases activity. Lymphocytes main subsets size changes characterized with absolute and relative B-lymphocytes number decrease in 95% children with CD and 75% patients with UC. At the disease manifestation we observed SDG activation in all lymphocytes subsets, most expressed in cytolytic T-lymphocytes (CTL), NK-cells (NK) (+36% and +35% from the norm). First remission was characterized with increased CTL SDG activity (+12% from the norm), SDG decreased activity in B-cells and T-helpers (−19% and −10% from the norm respectively). At relapses we registered less SDG activation in CTL and NK subsets (+23% and +30% from the norm), the remission at this case characterized with the SDG decreased activity in all subsets. We showed that long duration causes gradual lymphocytes mitochondrial dehydrogenases activity decrease.

Conclusions: Our results proved that the level of lymphocytes energetic processes depends on the disease stage and duration.

P194  Methyline Blue orally administered tablets (MB MMX®) is effective in detecting intraepithelial dysplasia in patients with long standing ulcerative colitis

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Background: Patients with UC have an increased risk of colonic dysplasia and colon cancer. Chromoendoscopy (CE) with methylene blue (MB) can increase dysplasia detection. A formulation of MB 25 mg orally administered tablets (MB MMX®) allows colonic mucosal staining and could facilitate CE. The PK characteristics of the tablets were: mean Cmax 114.9 ng/mL, Tmax 16.0 hrs, and T1/2 15.08 h. 38.7% of the dose was escrited (Videotest, Russia). Clinical effect of the therapy was assessed using flow cytometer Beckman Coulter FC500 (USA) and hardware and software complex Morphology (Videotest, Russia). Clinical effect of the therapy was assessed using pediatric Crohn’s disease activity index (PCDIA) and pediatric ulcerative colitis activity index (PUCAI).

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Mean number of biopsy was 39 (range 16–65), mean time of endoscopy was 47 minutes (range: 20–110 minutes). The mucosal staining efficacy of Methylene Blue MMX tablets was on average acceptable (50% of the mucosa stained in all 4 examined colonic regions). The majority of subjects (63.4%) had a number of stained areas with a staining score >2 of 4 regions. Histopathological analysis confirmed IN in 4 subjects with endoscopic suspected areas. IN were found in 3/44 subjects with no endoscopic suspicion of dysplasia (2 in the RES, 1 in the AC). Accuracy was 86% (CI 95%, 74%-94%).

Conclusions: MB MMX® appears to be accurate in detecting or excluding IN in UC patients. Improvements in colonic staining, in bowel cleaning, and endoscopist’s training might increase the sensitivity of this procedure. Phase III trial comparing this technique with standard light endoscopy is planned.

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Mannose-binding lectin deficiency is not associated with anti-Saccharomyces cerevisiae antibody in Korean Crohn’s disease patients
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Background: Mannose-binding lectin (MBL) is a soluble pattern-recognition molecule and an important component of the innate host defense mechanism. Anti-Saccharomyces cerevisiae antibody (ASCA) is a well known serologic marker of Crohn’s disease (CD) and it is associated with severe clinical presentations. However, the relationship between the ASCA and MBL deficiency is controversial in patients with CD. The aim of this study is to investigate the serum MBL level, the prevalence of MBL deficiency and the relationship between ASCA and MBL deficiency in Korean CD patients. We also investigate the ASCA positivity and clinical manifestations in Korean CD patients.

Methods: Two hundred eighty-three well-characterized CD patients (male 215; age 34.2 ± 10.8 years) were included. MBL levels were measured by ELISA (RBd Systems, Minneapolis, MN, USA). Both serum IgG and IgA levels of ASCA were determined by ELISA (QUANTA Lite TM, INOVA Diagnostics, San Diego, CA). The absolute MBL deficiency and low MBL level were defined when serum MBL levels were below than 100 or 500 ng/mL, respectively.

Results: Absolute MBL deficiency was noted in only one CD patient (0.4%). Low MBL levels were observed in 54 patients with CD (18.1%) and in 9 patients in the control group (30%) (p = 0.096). MBL levels showed no difference according to age at the diagnosis (p = 0.84), behavior (p = 0.20) or the location (p = 0.63) of patients with CD. ASCA positivity in CD patients was 48.1% (136/283), which was significantly higher than the control (6.7%) (p < 0.01). MBL levels (p = 0.49) and the frequency of low MBL levels (p = 0.133) showed no difference according to ASCA positivity. In addition, ASCA IgG and MBL levels showed no correlation (r = 0.89). ASCA positive CD patients showed more presence of perianal fistula (77/136, 56.6% vs. 65/147, 44.2%; p = 0.043), younger age at the diagnosis (25.2 ± 8.27 vs. 28.1 ± 11.87; p = 0.021) and frequent intestinal surgery (62/136, 45.6% vs. 50/147, 34.0%; p = 0.047) than ASCA negative CD patients.

Conclusions: MBL deficiency is very rare in Korean CD patients. MBL level has no association with clinical features of CD patients. Moreover, the frequency of low MBL level has no association with ASCA positivity. ASCA positivity is associated with the presence of perianal fistula, younger age at diagnosis and history of intestinal surgery, which suggests for a more severe clinical course in Korean CD patients.