

S.Nagieva ¹
A.Svintsitsky ¹
O.Kuryk ^{2,3}
I.Korendovych ¹

¹ Bogomolets National Medical University, Kyiv, Ukraine

² Medical centre “Universal clinic Oberig”, Kyiv, Ukraine

³ State Scientific Institution “Scientific and Practical Center of Preventive and Clinical Medicine” of Public Administration, Kyiv, Ukraine

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MORPHOLOGICAL CHANGES OF INTESTINAL MUCOSA IN PATIENTS WITH DIFFERENT CLINICAL VARIANTS OF IRRITABLE BOWEL SYNDROME USING TETRACYCLIC ANTIDEPRESSANTS AND SELECTIVE SEROTONIN REUPTAKE INHIBITOR

The study was performed as a part of research work “Development and implementation of scientifically substantiated algorithms for early diagnosis and differential treatment of comorbidity pathology of the organs of digestive, cardiovascular and locomotor systems considering the influence of exogenous factors, psychological status and age and sexual aspect” (state registration number 0115U000911).

ABSTRACT. Objective. To assess histological changes of colonic mucosa in patients with clinically different types of irritable bowel syndrome (IBS) before and after the treatment with tetracyclic antidepressant and selective serotonin reuptake inhibitor. **Methods.** Adult patients (over 18 years) with confirmed diagnosis of IBS were examined. Biopsy specimens were taken from colon during colonoscopy for the next histological examination. One expert gastrointestinal pathologist assessed all tissue samples. We present semi quantitative assessment of the severity of cell infiltration of colonic mucosa, which could be assessed as inflammatory (neutrophils), immune (lymphocytes, plasma cells, macrophages), or allergic (eosinophils) response (0 to 3 degrees). All patients received treatment due to the clinical variant of IBS: 1) IBS-constipation – mirtazapin 15 mg/night+lactulose 30ml/morning (+30ml/night if needed); 2) IBS-diarrhea – escitalopram 5mg/night+rifaximine 600mg/twice a day; 3) IBS-undefined – mirtazapin 15 mg/escitalopram 5mg/ night; 4) IBS-mixed – mirtazapin 15 mg, lactulose 30ml/morning (+30ml/night if needed) / escitalopram 5mg/night+rifaximine 600mg/twice a day. **Results.** 107 patients were examined, 36 of them had constipation (I group), 35 – diarrhea (II group), 22- undefined variant (III group) and 12 patients had mixed variant of IBS (IV group) due to Rome III criteria (2006). 1st degree of lymphocyte infiltration was detected in 100% IBS-constipation patients and in 58,3% IBS-mixed variant (p<0.01). 1st degree of macrophage infiltration was seen in all patients except IBS-diarrhea (p<0.05). 2nd degree of lymphocyte infiltration was detected in 82,1% IBS-diarrhea patients and in 66,7% IBS-undefined variant (p<0.01). 2nd degree of macrophage infiltration was seen in all patients except IBS-constipation, but more often in IBS-diarrhea (p<0.001). After the treatment we revealed the reduction of the degree of inflammation in all four groups of patients (zero and 1st degree, p>0.05). No cases of 2nd or 3rd degree of colonic mucosa infiltration were found. **Conclusion.** After the treatment with tetracyclic antidepressant and selective serotonin reuptake inhibitor we found that the degree of inflammation of colonic mucosa was reduced or disappeared, due to the zero degree of infiltration according to our patented classification.

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✉ o.kuryk@oberig.ua

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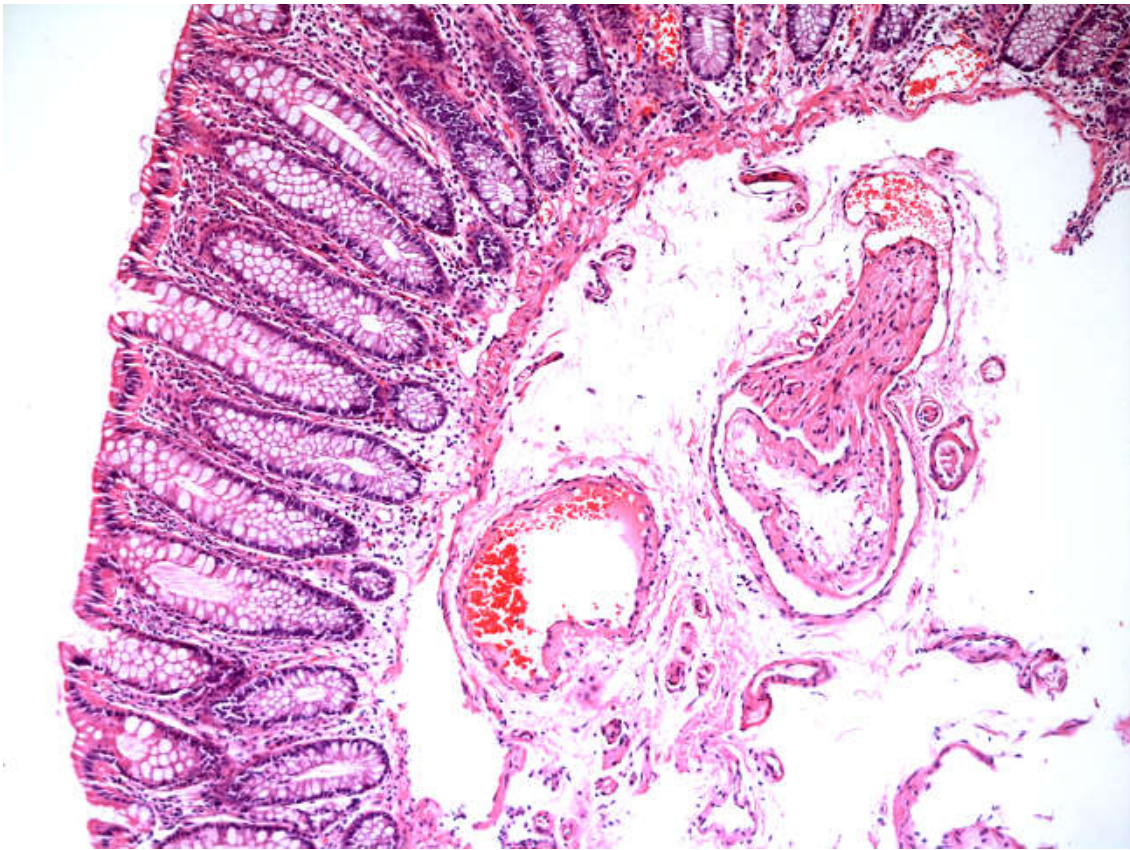


Fig. 1. Moderate swelling of submucosal layer. Hematoxylin&Eosin staining. $\times 100$.

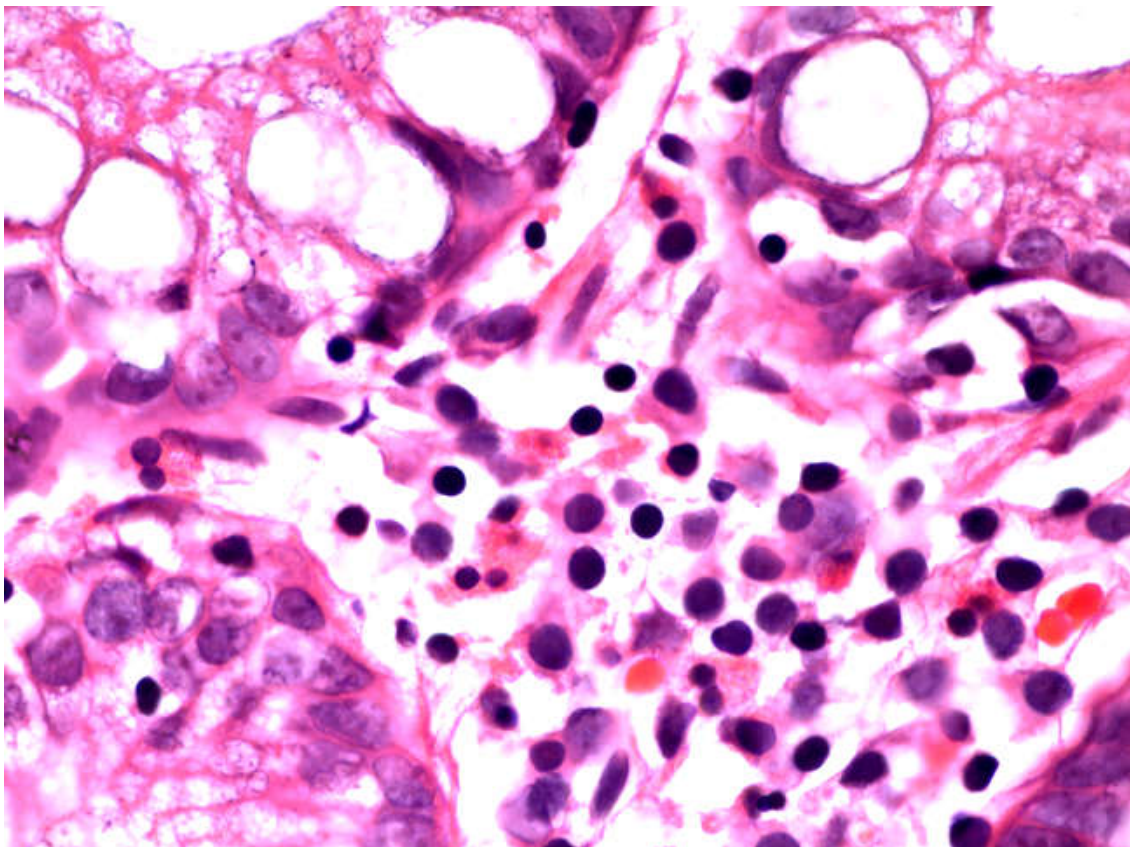


Fig. 2. Grade 2 lymphocyte and plasmacyte infiltration. Hematoxylin&Eosin staining. $\times 1000$.

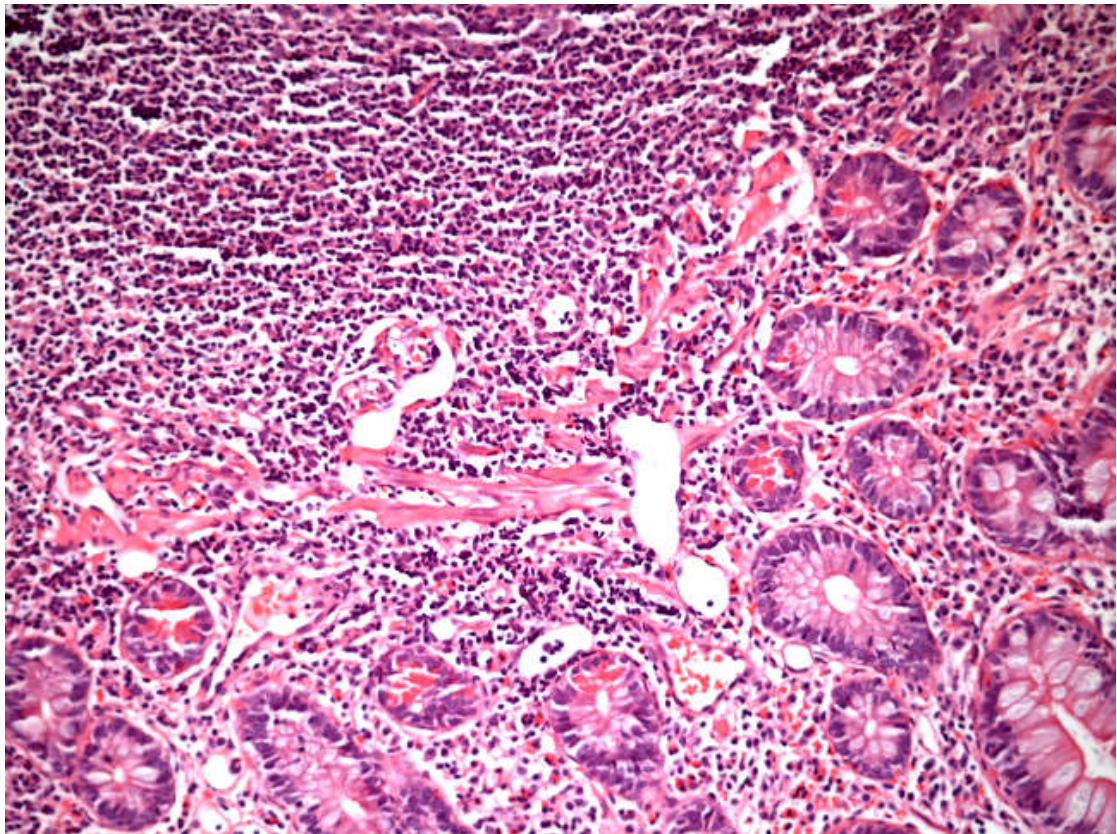


Fig. 3. Area of grade 2 diffuse lymphocyte infiltration of large intestine mucosa. Hematoxylin&Eosin staining. $\times 200$.



Fig. 4. Grade 1 infiltration (infiltration predominantly with plasmacytes and lymphocytes) Hematoxylin&Eosin staining. $\times 400$.

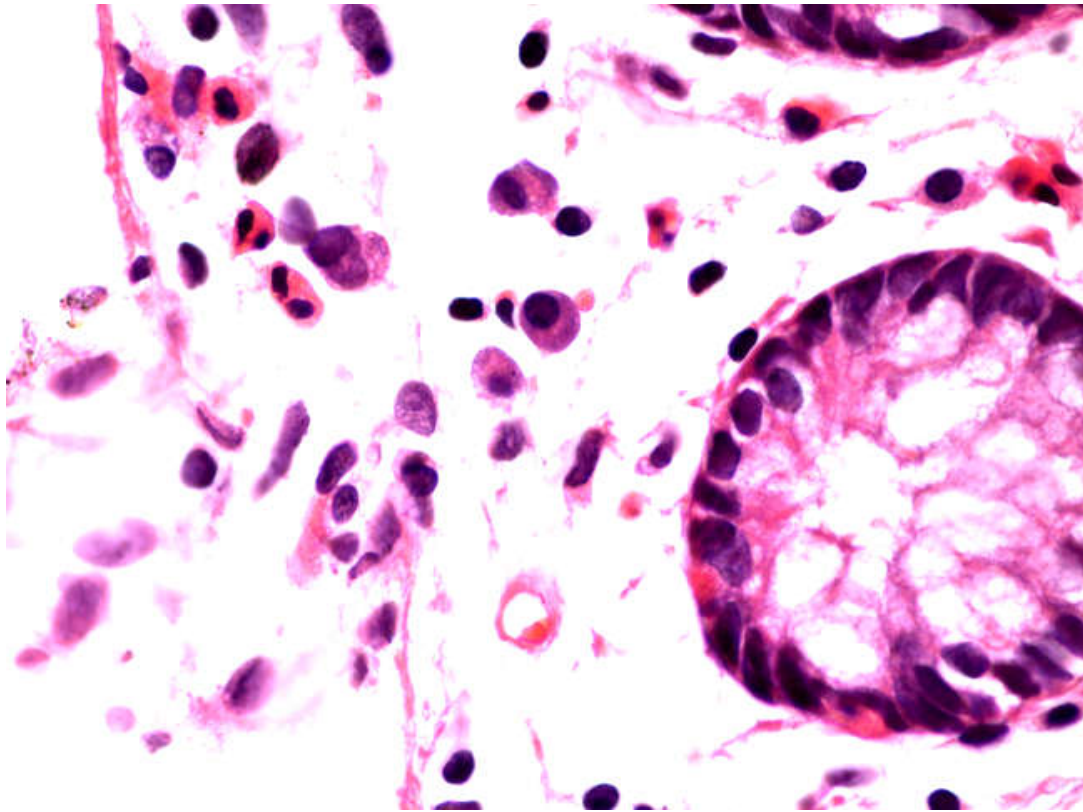


Fig. 5. Grade 0 infiltration with lymphocytes. Hematoxylin&Eosin staining. ×100.

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