Mesenchymal Stromal Cells of Bone Marrow Reduce the Risk of Postoperative Recurrence of Crohn’s Disease
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BACKGROUND: Crohn’s disease (CD) in the form of terminal ileitis occurs in approximately 1/3 of CD patients and is often complicated by the formation of ileum stricture or ileocecal valve. The operation of choice is resection of ileoceleal Department with the formation of ileo of ascendants. Depending on the combination of risk factors, as well as on the effectiveness of previous anti-relapse therapy, patients after surgery are stratified into groups with different risks of postoperative recurrence.

OBJECTIVE: To evaluate the effectiveness of mesenchymal stem/stromal cells (MS/SC) as anti-relapse therapy in patients with low-risk CD after ileocecal resection.

METHODS: 36 patients with CD in the form of terminal ileitis with a stricture of the terminal ileum with signs of intestinal obstruction after the ineffectiveness of the course of conservative therapy (application of GCS) underwent resection of the ileoceleal Department with the formation of ileo-ascendantanastomosis. All patients had a low risk of postoperative recurrence. The first group of patients was aged 18 to 58 years (Me=29) (n=18) received MS/SC. The second group of patients aged 20 to 68 years (Me=36) (n=18) received mesalazines 4 gr/day. The follow-up period was 60 months. The monitoring was carried out by endoscopic picture and/or CT-enterography, C-RP level, fecal calprotectin (FCP). Average baseline CRP in the 1st group was 29.5 in the 2nd group - 27.75 in the 2nd - 97.2 mg/l, in the 2nd - 97.2 mg/l, in the 2nd - 99.8 mg/l, 3.0 mg/l in the 2nd - 127.3 mg/l (P=0.39).

RESULTS: After 24 months in the 1st group of patients the average level of C-RP was 9.5 ± 1.9 mg/l in the 2nd group - 17.8 ± 3.3 mg/l (P=0.027). The level of the FCP in the 1st group was 98.0 ± 12.1 mg/kg/g, in the 2nd - 127.1 ± 14.2 mg/kg/g (P=0.27). After 24 months of follow-up, 10 (5.5%) patients from the 1st group (n=18) had a relapse that required the replacement of GCS, respectively. In the second group, relapse occurred in 4 (22.2%) patients out of 18 (OR 0.25, 95% CI 0.03-0.225; P= 0.15). After 60 months in the 1st group of patients the average level of C-RP was 10.76 ± 2.1 mg/l, in the 2nd group - 19.2 ± 3.5 mg/l (P=0.039). The level of the FCP in the 1st group of 100.4 ± 13.7 mg/kg/g, in the 2nd - 191.7 ± 24.9 mg/kg/g (P=0.002). After 60 months of follow-up, 6 (5.5%) patient from the first group had a relapse. In the second group, relapse occurred in 8 (22.2%) patients out of 18 (OR 0.125, 95% CI 0.017-0.9; P= 0.008).

CONCLUSION(s): The use of mesenchymal stem/stromal cells (MS/SC) as anti-relapse therapy in patients with low-risk CD after ileocecal resection significantly reduces the risk of postoperative recurrence of CD.