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# COVID-19: changes in IL-10 and faecal markers in patients with IBD

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**Background.** COVID-19 may include symptoms of gastrointestinal tract damage, which can come to the fore in the clinical picture of the disease and precede the onset of respiratory symptoms. Patients with chronic inflammatory bowel disease (IBD) receiving immunosuppressive therapy are at increased risk of developing COVID-19. However, so far, there is no specific data on the features of changes in faecal markers and some interleukins (except for IL-6 and  $\alpha$ -TNF).

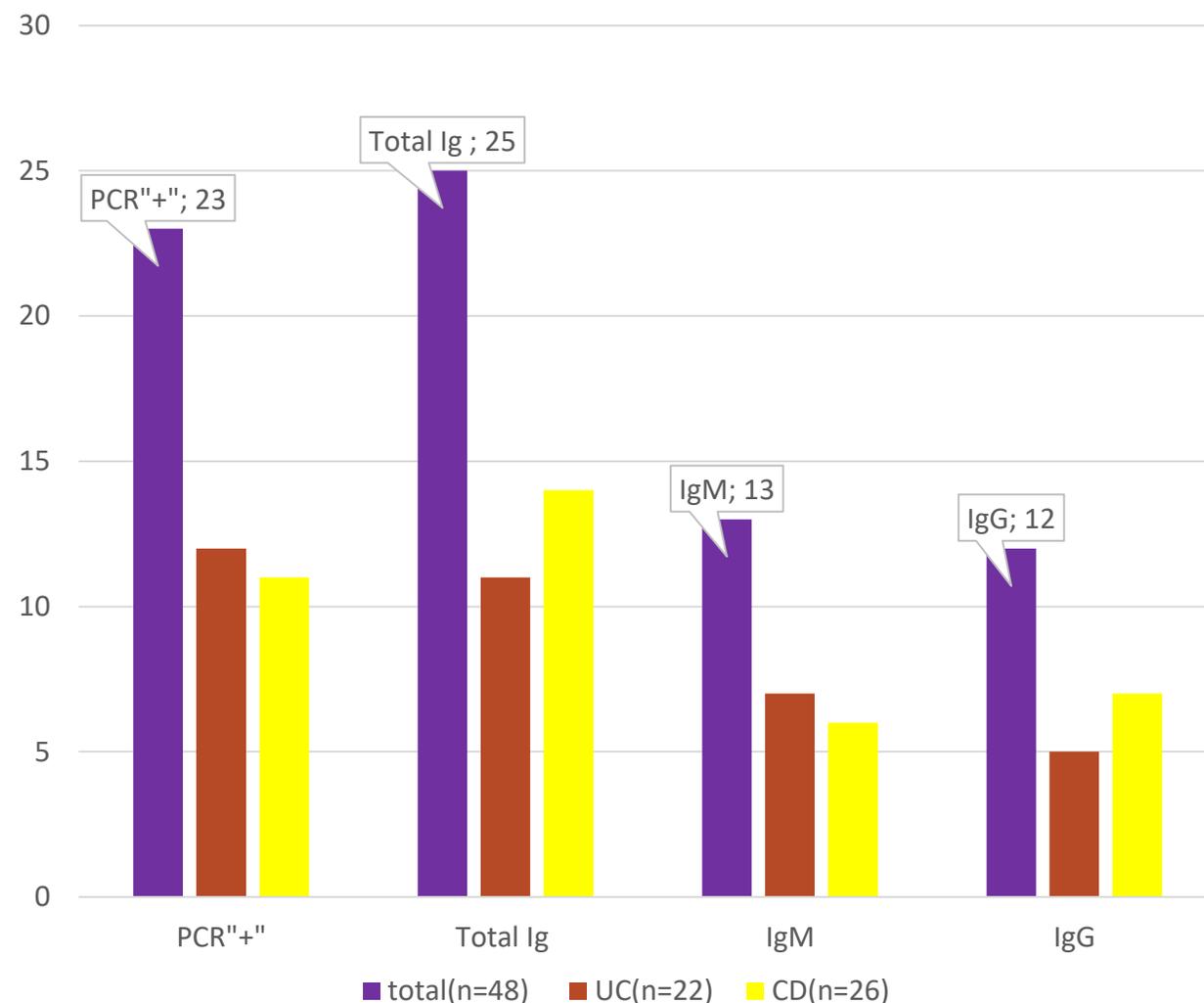
**Aim.** To monitor the condition of patients with IBD who have undergone COVID-19 and to identify specific changes characteristic of this condition.

**Methods.** 48 (22 UC, 26 CD) patients with IBD (aged 18 to 58 (average age  $34.2 \pm 1.2$  years), who underwent COVID-19 were examined in the period from August 2020 to January 2021. The patients underwent a routine examination corresponding to their severity; monitoring included laboratory tests (hemogram and C-highly sensitive protein (h/s CRP),  $\alpha$ -TNF and IL- $1\beta, 2, 4, 6, 8, 10, 18$ ; stool tests and faecal calprotectin, lactoferrin); endoscopic examination was prescribed for calprotectin values above  $100 \mu\text{g/g}$  ( $N \leq 50 \mu\text{g/g}$ ). In 23 patients, COVID-19 was established based on a PCR test (there were clinical symptoms and/or there were contacts), and in 25 patients, COVID-19 was established based on data from serological studies (IgM, IgG).

## Results

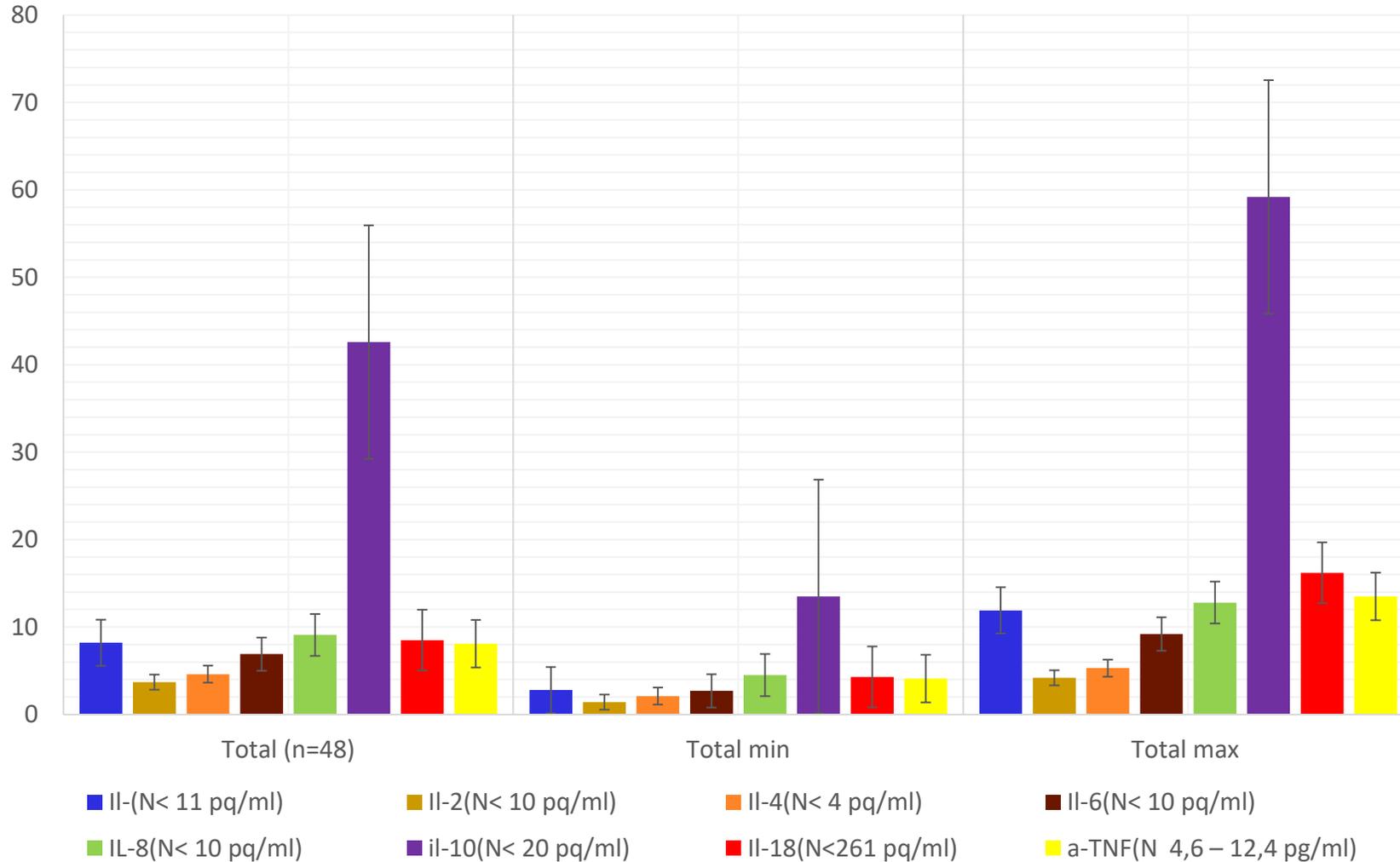
- When studying the data of hemogram and h/s CRP, significant changes corresponding to the severity of the patients were not found, however, when studying the data on the interleukin profile and faecal markers, a definite relationship was found: all 48 patients, regardless of the severity of IBD, showed an increase in the level of IL-10 (13.5–59.2 pq/ml;  $N < 20$  pq/ml) (which was not previously observed in these patients) and the levels of faecal calprotectin (52.3–2500  $\mu\text{g/g}$ ) and lactoferrin (7.9–69.9  $\mu\text{g/g}$ ,  $N < 7.25$   $\mu\text{g/g}$ ); changes in lactoferrin levels were more pronounced than changes in calprotectin levels. There were no statistically significant differences between the groups of patients with UC and CD ( $p > 0.05$ ).

Distribution of patients by COVID-19 detection method

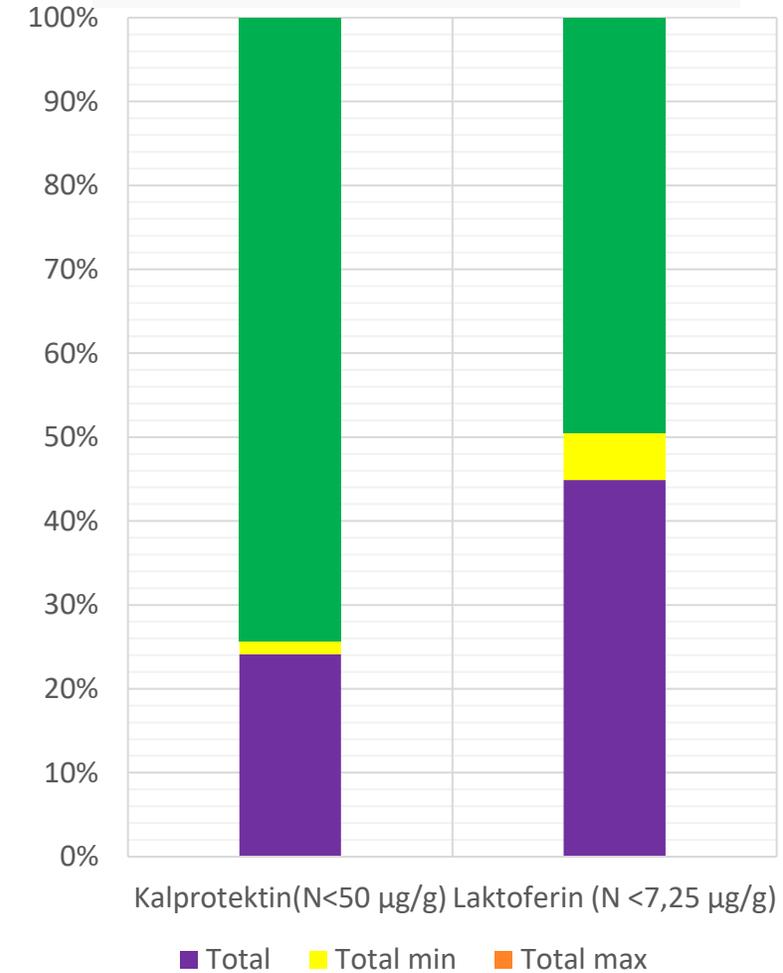


# Results

## Distribution of patients by interleukin levels



## Distribution of patients by levels of fecal markers



**Conclusion.** Monitoring in patients with IBD who underwent COVID-19 revealed a change in certain markers to the fore: an increase in the level of IL-10 and changes in the levels of faecal calprotectin and lactoferrin, and the changes in lactoferrin were more pronounced than changes in calprotectin, respectively, in terms of the severity of IBD.

The primary data obtained by the authors suggest that during the COVID-19 period, the inclusion of new markers, IL-10 and lactoferrin, is possible in the diagnostic package.