Area of the IBD Disk correlated strongly with disease activity compared to the conventionally used IBD Disk score

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Dear Editors,

We read with great interest the recently published article by Le Berre *et al*. assessing the validity of the Inflammatory Bowel Disease (IBD) Disk, a self-administered instrument to measure IBD-related disability.[1] It is well-known that IBD has a significant burden on all areas of the patients' lives. Quick, simple, and effective questionnaires are needed to reflect the subjective symptoms and functional conditions of the patients both for themselves and the physicians at regular visits. The Inflammatory Bowel Diseases Disability Index (IBD-DI) is effective, but its daily use is limited by the length of the questionnaire.[2] The VALIDation study verified the usability of the IBD Disk, a simple, visual tool for measure disability along 10 axes filled by the patients. This elegant study demonstrated the significant correlations of the IBD Disk score amount with clinical factors such as gender, Physician Global Assessment, Harvey-Bradshaw index and pMayo scores, over and above scores tended to be associated with CRP and fecal calprotectin.

Size of the IBD Disk area indicates the severity of the IBD-related disability of the patients, thus we hypothesized, that the area of the polygon would correlate with clinical factors better than the sum of the item scores. Therefore, we compared the correlation of the clinical characteristics and disease activities of IBD with the area of the IBD Disk polygon and with the sum of the item scores.

In this study, 45 consecutive IBD patients (male/female ratio 21/24, average age 42 years) treated with infliximab (25 CD, 16 UC) or vedolizumab (3 CD, 1 UC) at our tertiary centre were enrolled. 20 % of patients suffered from perianal manifestation. The average disease duration time was more than 13 years. We calculated pMayo and CDAI scores, measured serum CRP, hematocrit, haemoglobin, leukocyte, thrombocyte, iron and calprotectin levels and asked the patients to fill IBD Disk questionnaire in every second month throughout the 12-months follow-up period. In this way we assessed linear regressions of the connections used all the four visits' data per model. Our results showed that CDAI and pMayo scores associated significantly with IBD Disk area (CDAI R^2 = 0,05,

pMayo R^2 = 0,18) as well as with the sum of the item scores (CDAI R^2 = 0,07, pMayo R^2 = 0,07). Stronger correlation was shown between the IBD Disk area and hematocrit (R^2 = 0,071) and haemoglobin (R^2 = 0,08) than using sum of the scores (hematocrit R^2 = 0,055; haemoglobin R^2 = 0,06). None of the other examined biochemical parameter correlated with the IBD Disk scores.

The COVID-19 pandemic highlighted the importance of telemedical instruments during long-term follow-up amongst IBD patients. Our study demonstrates using the area of the IBD Disk polygon could help to achieve treat-to-target approach during the visits more accurately.

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