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LETTER TO THE EDITOR

Gallbladder volume and ejection fraction in patients with Behçet's disease

To the Editor

Behçet's disease (BD) is a kind of multisystem vasculitis with numerous systemic manifestations. The prevalence of gastrointestinal (GI) involvement is low in Turkey (3—5%), however this prevalence has a high frequency in Japan (50—60%) and the most common encountered GI lesion is ileocecal ulcerations [1,2]. Recently it has been shown that some of the patients with BD exhibit esophageal motor dysfunction [3]. Abnormalities involving esophageal motor function in BD bring in mind the existence of a generalized dysmotility involving gallbladder. The aim of this study was to investigate whether gallbladder motility is altered in patients with BD. Thirty consecutive BD patients who fulfilled the diagnostic criteria of international study group for BD [4] and 30 age- and sex-matched healthy subjects were enrolled into the study. Patients with BD who had two or more active clinical features related to BD at the time of the study were considered to have active BD, and patients who had had no symptoms apart form recurrent oral ulcers for at least 1 month prior to the study were considered to have inactive BD [4]. Patients who had gallstone disease, cholecystectomy, diseases that may affect gallbladder and gastric motility (diabetes mellitus, thyroid diseases, gastric surgery and other systemic and neurological diseases), drugs that might affect gallbladder motility (e.g. anti-cholinergics) were excluded from the study. Cigarette smoking, alcohol and caffeine consumption were not allowed for 24 hours prior to ultrasonographic evaluation in order to avoid possible effects on gallbladder motility. The gallbladder was measured in three dimensions. In brief, one longitudinal (D1) and two cross-sectional diameters (D2 and D3), and the volume was calculated by using the ellipse formula ($\pi/6 \times D1 \times D2 \times D3$) as described by Dodds et al. [5]. The mean gallbladder volume (GBV) was calculated from the measurements of three sequential gallbladder volumes. All patients and healthy subjects were investigated after 12 hours of fasting and 30 minutes after a meal consisting of 100 g milky chocolate of the same brand (54.1% carbohydrate, 31.5% lipid, and 9.2% protein) [6]. Fasting gallbladder volumes (FGV) and postprandial gallbladder volumes (PPGV) were substituted into the following formula in order to calculate the gallbladder ejection fraction (GEF): GEF (%) = (FGV − PGBV) / (FGV) × 100 [7]. The mean age of the patients enrolled in the study ($n = 30$, 22 women) and control group ($n = 30$, 22 women) were 41.9 ± 9.6 and 42.4 ± 10.7 years respectively ($P = 0.829$). Mean BD duration was 10.4 ± 7.7 years (range: 1—30 years). The mean FGV in the BD group was lower than the control group (22.1 ± 9.91 vs. $30.31 \pm 11.29\,cm^3$, $P = 0.033$). The mean PPGV in the BD group was lower than the control group, however this difference was not statistically significant (12.12 ± 5.42 vs. 14.02 ± 8.20, $P = 0.295$). The GEF (%) of the BD group was lower than that of the control group (45.86 ± 17.28 vs. 54.84 ± 14.47, $P = 0.04$) and the difference was statistically significant. There were no significant difference between active BD patients ($n = 11$) and inactive BD patients ($n = 19$) by means of FGV (21.38 ± 8.04 vs. $22.51 \pm 11.04\,cm^3$, $P = 0.768$), PPGV (13.08 ± 5.32 vs. $11.59 \pm 5.54\,cm^3$, $P = 0.485$) and GEF (%) (38.39 ± 10.25 vs. 49.89 ± 19.39, $P = 0.093$). The results of this study indicated that BD patients have smaller FGV and ejection fraction compared to healthy controls. Altered motility of gallbladder may help to explain a part of unexplained upper GI symptoms in patients with BD.

Disclosure of interest

The authors declare that they have no conflicts of interest concerning this article.

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