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The relationship between inflammatory bowel disease and type 1 diabetes mellitus: a study of relative prevalence in comparison with population controls

To the Editor,

Genome wide association studies have identified that an overlap exists in the genetic architecture underpinning inflammatory bowel disease (IBD) and other immune-mediated inflammatory diseases [1]. Epidemiological studies have established that IBD patients have a higher prevalence of asthma, psoriasis, rheumatoid arthritis and multiple sclerosis, than persons without IBD [2, 3]. However, data remains unclear regarding the association between IBD and type-1 diabetes mellitus (T1DM). We have examined the prevalence of IBD in T1DM and T1DM in IBD and assessed the effect of concurrent IBD in T1DM patients on glycaemic control and quality of life (QoL).

Type 1 diabetes mellitus (n= 662) and IBD (n= 622) patients were recruited during attendance at outpatient clinics. Non-diabetic controls (n= 602) were recruited from general practices within the South Yorkshire region. Demographic information was recorded from patient case notes, alongside stated diagnoses of T1DM and/or histology confirmed IBD. Diabetic controls were selected from the diabetes cohort matched for age and sex in a 2:1 ratio for comparison of QoL and glycaemic control. Glycaemic control was assessed using HbA1c values and QoL using the Short Form-36 Version 2 (SF-36) questionnaire.

We found that the prevalence of IBD was 12/662 (1.5%) in those with T1DM and 2/602 (0.3%) in controls (OR 5.5, 1.2-24.9; p=0.03). The prevalence of T1DM in IBD patients was 4/662 (0.6%), which is comparable with the UK adult population prevalence of T1DM (0.4% [4]; OR 1.5, 0.38-6.07; p=0.56). In T1DM-IBD patients, QoL scores were significantly lower in the general health and vitality domains compared to T1DM-only patients (p=0.004 and p=0.041, respectively; Fig. 1). Adverse QoL was not explained by changes in the glycaemic control (Fig. 2).

In conclusion, the prevalence of IBD in T1DM was increased six-fold compared with that in the control population. However, our data suggest that there is no increase in the prevalence of T1DM in IBD patients. Similar to our findings, a recent Swedish

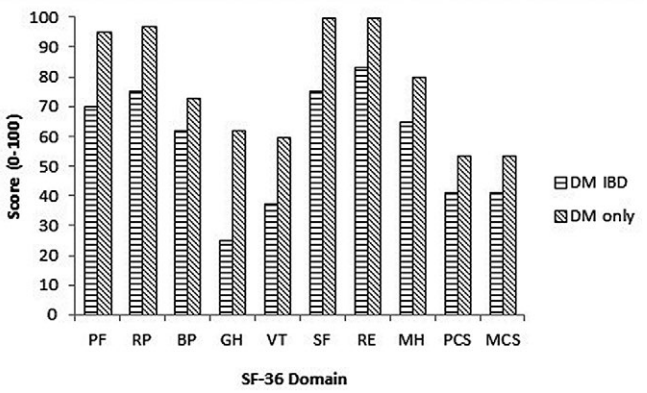

Fig. 1. Bar chart showing SF-36 scores for T1DM-IBD and T1DM-only patients. (PF, physical functioning; RP, role-physical; BP, bodily pain; GH, general health; VT, vitality; SF, social functioning; RE, role-emotional; MH, mental health; PCS, physical component score [combines PF, RP, BP, GH]; MCS, mental component score [combines VT, SF, RE, MH]). QoL scores were significantly different for GH and VT domains (p=0.004 and 0.041, respectively).

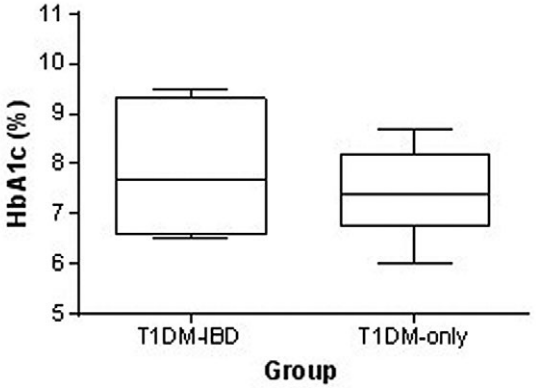

Fig. 2. Box and whisker plot of HbA1c results for T1DM-IBD and T1DM-only. HbA1c was 7.7% in T1DM-IBD and 7.5% in T1DM-only (p=0.43).

study found an increase in the incidence of ulcerative colitis in the offspring of parents with T1DM [5]. Moreover, two large North American studies also reported no difference in the prevalence of T1DM in IBD patients compared with healthy controls [2, 3]. Multiple shared susceptibility loci between IBD and T1DM have been described [6]. However, the clinical significance of these genes has yet to be established given the absence of a clear epidemiological link between these two diseases. Further studies are required to characterise the association between these two conditions.

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Does anatomical distribution of colorectal polyps show a rightward shift? Analysis of 2,372 colorectal polyps in 1,558 patients from Turkey

To the Editor,

We read the article of Visovan et al. [1] with great interest. In the last two decades, the literature has reported a change in the topographic distribution of colorectal cancer (CRC), comprising a shift towards the proximal colon [2, 3]. But as stated by the authors, data from the East are scarce. Since the majority of CRC arise from polyps, we aimed to evaluate the topographic distribution of colorectal polyps in our population over a six year period in order to assess any proximalization.

Colonoscopy procedures performed in Sisli Hamidiye Etfal Education and Research Hospital Gastroenterology Department between 2009 and 2014 were evaluated retrospectively. The gender, age and polyp localization in patients who were reported to have polyp(s) in colonoscopy were recorded from the hospital database.

A total of 1,558 patients who had 1,780 total colonoscopies accompanied with polypectomy(ies) were enrolled in the study. The mean age of the patients was 61.1±18.3 years, similar to the study mentioned above [1], as was the male predominance: 933 (60%) males, and 625 (40%) females. Polyp locations were evaluated according to a total of 2,372 poylpectomies performed in 1,780 procedures. One thousand and sixty one (48.9%) of the polyps were located in the rectosigmoid region. The other sites of the polyps are shown in Table I. The frequency of the right-sided polyps (from cecum up to the splenic flexure) was 26.6 % in 2009, 25 % in 2010, 23.3 % in 2011, 27.9 % in 2012, 26.2 % in 2013 and 28.5% in 2014.

We did not detect a shift in the localization of colorectal polyps from the left to the right side of the colon, at least 25% of the polyps were found in the right colon in our group. We could not confirm colonic polyp proximalization. However, we agree that rectosigmoidoscopy should not be considered sufficient and patients should be encouraged to undergo a total colonoscopy.

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Table I. The number and topographic sites of colorectal polyps distributed by years

	No. of patients	No. of colonoscopies	No. of polypectomies	Rectosigmoid region	Ascending colon	Transverse colon	Descending colon	Cecum
2009	124	143	184	95	40	35	9	5
2010	232	271	343	165	92	70	7	9
2011	198	225	297	145	83	53	11	5
2012	279	318	445	213	108	91	18	15
2013	444	490	637	318	152	102	39	26
2014 (8 months)	281	333	466	225	108	85	27	21
Total (n)	1558	1780	2372	1161	583	436	111	81
Total (%)			100	48.9	24.6	18.4	4.7	3.4