

Increased genomic damage and vitamin B status in inflammatory bowel disease patients

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Background/Aims: Vitamin B deficiency in patients with inflammatory bowel disease (IBD) is well-documented; however, few studies have explored genomic damage in patients with IBD using the cytokinesis-blocked micronucleus cytome (CBMN-Cyt) assay. This study investigated the frequency of micronuclei (MNi) using the CBMN-Cyt assay and the level of vitamin B in patients with IBD. **Methods:** This prospective study was conducted in 15 patients with ulcerative colitis, 15 patients with Crohn's disease, and 30 healthy controls from one tertiary hospital. Serum vitamin B and homocysteine levels were measured, and the MNi status was analyzed using the CBMN-Cyt assay. **Results:** The patients with IBD showed significantly lower serum pyridoxine levels and significantly higher homocysteine levels than controls. The frequencies of binucleated cells (BNCs) with MNi, nucleoplasmic bridges (NPBs), and nuclear buds (Nbuds) were 8.5 [5.8 – 13.5], 1.0 [0.0 – 1.9], and 5.4 [4.3 – 7.4] for the IBD group, and 5.9 [4.8 – 7.7], 0.2 [0.0 – 1.0], and 3.5 [2.9 – 5.4] for the control group (P=0.011, P=0.010, and P=0.002), respectively. **Conclusions:** This study suggests that patients with IBD have increased frequencies of MNi and decreased levels of pyridoxine than healthy controls.

Table. Cytokinesis-blocked micronucleus cytome assay scores according to IBD type and activity.

	UC (n = 15)		CD (n = 15)		P value
MNi	10.4 ± 6.2		10.2 ± 5.3		0.924
NPBs	1.1 ± 1.1		1.1 ± 1.0		0.894
Nbuds	5.8 ± 1.8		6.0 ± 2.6		0.762
	Remission (n = 8)	Mild (n = 4)	Moderate (n = 7)	Severe (n = 1)	P value*
MNi	6.1 [4.9 – 6.9]	11.3 [5.7 – 23.1]	10.8 [7.0 – 14.2]	12.8	0.212
NPBs	0.8 [0.1 – 1.9]	0.3 [0 – 1.6]	1.0 [0.3 – 1.9]	2.9	0.336
Nbuds	4.9 [4.5 – 5.9]	4.5 [3.4 – 6.8]	5.4 [4.5 – 9.0]	3.9	0.378

*Kruskal-Wallis test

UC, ulcerative colitis; CD, Crohn's disease; MNi, micronuclei; NPBs, nucleoplasmic bridges; Nbuds, nuclear buds.

Ectopic pancreas (heterotopic pancreas) in jejunum.

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Background: Ectopic pancreas is also known as heterotopic pancreatic tissue. The condition is depended on where pancreatic tissues lie outside and separate to pancreatic gland. Most are completely asymptomatic. 95% of heterotopic pancreatic lesions found in the stomach. According to the analysis of 431 published cases 30.5% in the duodenum, 26.5% in the stomach, 16.5% in the jejunum, 5.8% in the ileum, 5.3% in the Meckel's diverticulum. This case is who had atypical symptom (LLQ pain), and finally we figured out because of an ectopic pancreas in jejunum. **Case:** A 43-year-old man with any other medical history, came to OPD because he had abdominal pain (LLQ) 1 day ago. Laboratory studies showed a mildly elevated CRP (35.2), WBC (12940, ANC 8500, Neutrophils 65.7%). Doudenoscopy and colonoscopy were done, but no significant finding. CT shows that 2.3 cm and 2 cm sized, lobulating and conglomerated soft tissue mass at mesenteric border of small bowel loop in LLQ area, probable distal jejunum or proximal ileum. These were well homogenous enhancing mass, hazy infiltration at mesentery, subtle enlarged mesenteric LNs, so we thought these might be GIST or carcinoid tumor. A segment of the jejunum was obtained by small bowel segmental resection, measuring 28 cm in length and 5.5 cm in maximum diameter. The mucosal surface is unremarkable. The cut surface of small intestine shows yellow lobulated mass, measuring 3.5 x 2.8 cm. The mass is located from submucosa to mesentery. The cut surface of mesentery shows necrotic change. Final pathology demonstrated heterotopic pancreas(size 3.5 x 2.8cm) with fat necrosis in mesentery, 5 reactive lymph nodes. Fortunately, no evidence of malignancy was present. He could discharge without any problems. **Conclusion:** Ectopic pancreas is frequently found the upper gastrointestinal tract (duodenum, stomach). And most of them were discovered incidentally, because patient did not have any symptom. But some cases have a symptom like abdominal pain, gastrointestinal bleeding, abscesses, and chronic pancreatitis. Since the patient was symptomatic, it's important to get a segment of the jejunum to pathological diagnosis and treatment.

