# CLINICAL CASE

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# Inflammatory Tumor of the Duodenal Diverticulum as a Cause of Gastrointestinal Tract Obstruction

## Guz zapalny uchyłka dwunastnicy jako przyczyna niedrożności przewodu pokarmowego

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### Abstract

The case of a male patient, diagnosed and treated in the internal wards for the abdominal pain ailments for a couple of months is presented. In the additional examinations the diagnosis was not specified. Despite the treatment the pain symptoms became more severe and finally led to the acute gastrointestinal tract obstuction. The patient was operated on, and intraoperatively in the retroperitoneal segment of duodenum, the tumor which caused the occlusion of the intestine was found. The segmental resection of the duodenum with the tumor was performed, and the intestine (end-to-end anastomosis was made) anastomosed end-to-end. The postoperative period was non-complicated, the patient was discharged from the hospital on the 7th day after the operation, in good condition. Microscopic examination showed the presence of inflammatory tumor extending from the duodenal diverticulum (**Adv Clin Exp Med 2006, 15, 1, 203–205**).

**Key words:** inflammatory tumor, duodenal diverticulum, gastrointestinal tract obstruction, operative treatment.

### Streszczenie

W pracy przedstawiono przypadek mężczyzny, który przez wiele miesięcy był leczony na oddziałach wewnętrznych z powodu dolegliwości bólowych brzucha. W wykonanych badaniach dodatkowych nie sprecyzowano rozpoznania. W miarę upływu czasu i prowadzonego leczenia dolegliwości bólowe stopniowo nasilały się aż do wystąpienia objawów znacznej niedrożności przewodu pokarmowego. Chorego operowano, stwierdzając śródoperacyjnie w odcinku zaotrzewnowym dwunastnicy guz zamykający światło jelita. Wykonano resekcję odcinka dwunastnicy z guzem, a jelito zespolono koniec do końca. Przebieg pooperacyjny był niepowikłany, pacjenta w 7. dobie wypisano w stanie ogólnym dobrym do domu. W badaniu histopatologicznym stwierdzono obecność zmian zapalno-przerostowych wychodzących z uchyłka dwunastnicy (**Adv Clin Exp Med 2006, 15, 1, 203–205**).

**Słowa klucze:** guz zapalny, uchyłek dwunastnicy, niedrożność przewodu pokarmowego, leczenie operacyjne.

The duodenum is, after the colon, the most common place for the diverticula to occur. Duodenal diverticula are in most cases asymptomatic, but they may proceed as an inflammation, perforation, hemorrhage, pancreatitis, stenosis of the bile duct, and the enterolith, formed in the diverticulum may occur [1–4].

Perforated diverticulitis is a rare illness diagnosed clinically [5, 6]. Duodenal diverticula occure in 4.8–10% of the patients undergoing radiological or endografical examinations of the gastrointestinal tract, and the signs occur in approximately 10% of the patients, when the acute inflammation, perforation, hemorrhage or occlusion of the diverticulum lumen [7, 8]. Perforated duodenal diverticulum may give clinical symptoms as an acute cholecystitis, appendicitis and perforated duodenal ulcer [3], traumatic duodenal rupture or swallowing of the foreign body [9–11].

## Case Report

56-year-old patient G. J., intellectual worker, was admitted to the Surgical Ward due to the acute abdominal pain. From the anamnesis it followed that for

many years he has underwent treatment because of the chronic pancreatitis, moreover, for the last 6 months he has been treated in the internal ward for the acute abdominal pain. During his stay in the internal ward, in the additional examinations (USG, RTG gastrointestinal passage) the constriction of the retroperitoneal segment of the duodenum was suspected.

Despite of the administered treatment the general condition of the patient became systematically worse, and the patient was sent to the surgical ward. In the laboratory examination leucocytosis with the value of 14.07 (normal range 4.0––10.0 K/ml), regular morphology with smear, other biochemical examinations were in the normal range, only the amylase in the serum valued 340 g/L (normal range 69.0–210.0 g/L).

In the abdomen CT in the elementary option and after the infusion of the contrast medium the enlargement of the stomach and the duodenum with the retention of the contrast medium was found. On the bordeline of the duodenum and jejunum heterogenic, softtissue structure with the impairment of the patency of the intestine was visible. No enlarged lymphatic nodes were visible. (Fig. 1, 2). After the general and surgical qualification the patient was operated on – intraoperatively in the retroperitoneal segment of the duodenum, at the section of a few centemeters the nodular lesion was found, with the enlarged lymphatic nodes in the area of the lession and enlarged lymphatic nodes of the pancreas. The resection of the segment of the duodenum with the end-to-end anastomosis was performed. The postoperative period was non-complicated, the patient was discharged in the 7th day after the operation, in the general good condition. The control morphology with smear and biochemical results were in the normal range. The normalization of the amylase results in blood was achieved.

Histological examination of the material dissected during the operation revealed the fragments of the small intestine with the nodular, intramural structure with the diameter of 4 cm (Fig. 3). In the microscopic examination the overgrown mucosa with the massive, chronic inflammation, with the signs of the diverticular disease. There was a significant thickening of the mucous membrane, with the chronic, massive, fibrinous inflammatory process, focally purulent with the nests of the normotypical intestinal mucosa. The inflammatory infiltration covered the whole muscular coat of the intestine and reached the serous membrane. This image responds to the diagnosis: *diverticulitis et peridiverticulitis chronica exacerbata massiva partim acuta purulenta sine neoplasmata*. Periintestinal lymphatic nodes were without the neoplasmal lesion. Peripancreatical lympthatic nodes without the neoplasmal lesion.

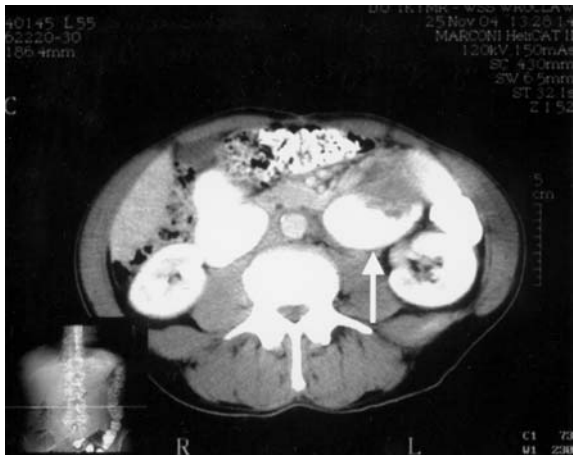

**Fig. 1.** CT with contrast medium – heterogenic structure on which the intestinal loops are enveloped

**Ryc. 1.** TK z kontrastem – niejednorodna struktura, na której opinają się pętle jelita cienkiego

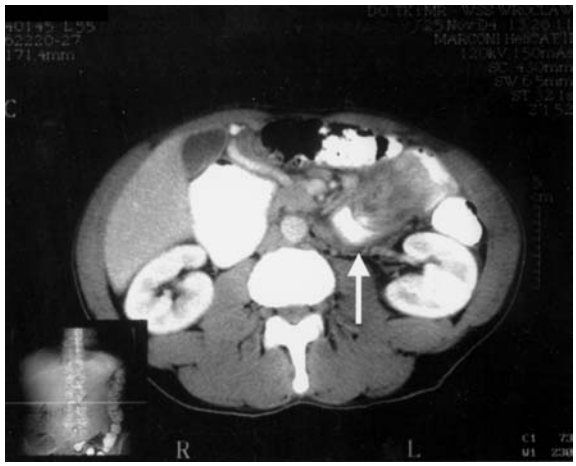

**Fig. 2.** CT with contrast medium – heterogenic structure that crowds into the contrasted intestinal loop

**Ryc. 2.** TK z kontrastem – niejednorodna struktura wpukla się do zakontrastowanej pętli jelitowej

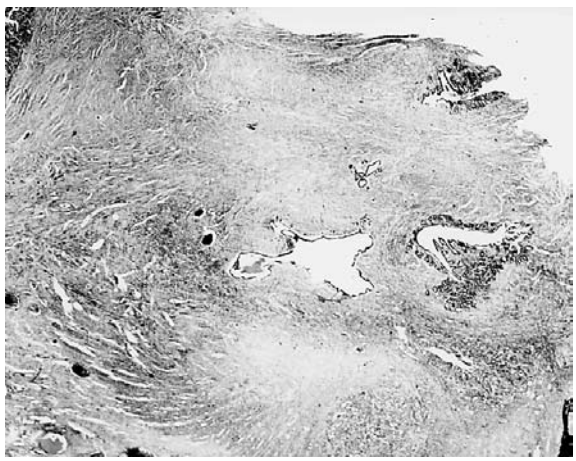

**Fig. 3.** The remaining of the mucoid tissue of the duodenal diverticulum in the massive inflammatory process

**Ryc. 3.** Resztki utkania śluzówki uchyłka dwunastnicy w masywnym odczynie zapalnym

# Discussion

In spite of the fact that there has been a significant progression in the diagnostics of the gastrointestinal tract diseases, including the capsular endoscopy, the diagnostics of the small intestine diseases is still difficult [7–14]. Symptomatology of the duodenal diverticula is not sufficient and the major symptom on which the patients complain is the abdominal pain [15]. Among few articles, Zhan et al. obtained results that among the diseases of the small intestine, which are 1–4% of the gastrointestinal tract diseases, the duodenal diverticula count on 28%. Aforementioned author admits also that in 70% of the cases, the disease was diagnosed intraoperatively.

The usage of the USG, gastroscopy and the gastrointestinal passage occurred insufficient in this case and the CT imaging suggested the proliferative disease.

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