ADENOCARCINOMA OF THE SMALL BOWEL – A CASE REPORT

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The paper presents a rare case of a patient with adenocarcinoma of the small intestine who reported to the hospital due to non-specific gastrointestinal symptoms. Following diagnostic examinations, the patient underwent a surgery. The post-operative period proceeded with no complications. The case presented below confirms the usefulness of imaging examinations (abdominal CT) when pathologies within the small intestine are suspected. An accurate interpretation of the result was an indication for a surgical intervention, but the final diagnosis is still established on the basis of the histopathological examination.

Key words: adenocarcinoma, small intestine, abdominal CT

Small bowel neoplasms are rare and account for merely 2% of all gastrointestinal cancers. They are divided into adenocarcinomas, carcinoids, sarcomas, stromal tumours and lymphomas. Adenocarcinoma is the most common type and accounts for nearly a half of malignant lesions detected in this part of the gastrointestinal tract (1, 2, 3). The peak incidence is observed in the 5th-6th decade of life with the same frequency in both men and women (4, 5). In over a half of cases, the lesions are localised in the duodenum and the remaining ones – in the jejunum or, more rarely, in the ileum (6). The best known risk factor of adenocarcinoma is Crohn’s disease, which is associated with the development of this disease, changes that take place in the intestine and long-term aggressive conservative treatment (e.g. using 6-mercaptopurine). Other risk factors include: smoking, drinking alcohol, peptic ulcer disease, familial polyposis, hereditary non-polyposis colorectal cancer, coeliac disease and cystic fibrosis (7, 8, 9). It should also be remembered that patients with carcinoma of the small intestine more frequently manifest synchronous or metachronous tumours in other segments of the gastrointestinal tract (10).

The disease is asymptomatic in the first stage. Frequently, due to non-specific symptoms (weight loss, anaemia, pain in the abdominal cavity, diarrhoea), the diagnosis is delayed by months or even years and patients are treated due to psychological disorders or irritable bowel syndrome. A range of diagnostic examinations may be used to facilitate diagnosis. They include: contrast-enhanced X-ray examination of the gastrointestinal tract, computed tomography, magnetic resonance imaging, endoscopy (capsule endoscopy), arteriography and scintigraphy (11, 12). However, none of these methods is perfect, and carcinoma of the small bowel is, in the majority of cases, diagnosed in an intraoperatively advanced stage. As of today, there is no standard management that would prefer a given treatment method. Nevertheless, radical removal of the intestine with adequate lymphadenectomy is the basis in this rare neoplasm (13).
A 60-year old patient, W.R. (case history No 31602/2011), with arterial hypertension and insulin-dependent type II diabetes was admitted to the Internal Ward of the Western Hospital due to pain in the umbilical region persisting for several months with concomitant periodic bloating, weight loss, malaise, weakening and slight amounts of blood in the stool. He had been treated with iron supplements for weeks due to microcytic anaemia, but the outcome was poor. In the interview, the patient informed about cholecystectomy due to cholecystolithiasis, which he had undergone several years before. In the gastrointestinal X-ray examination, it was found that the first intestinal loop was slightly dilated without fluid levels. An abdominal US scan, however, did not reveal significant changes. Subsequently, gastroscopy and colonoscopy were performed and did not demonstrate any pathologies. In order to extend the diagnostic process, abdominal computed tomography was conducted. It revealed a single cortical cyst of the right kidney and dilatation of the jejunum in its initial segment, just under the duodenum, of up to 50 mm. Moreover, next to the dilatation, a circular thickening of the intestinal wall up to 8 mm was observed that spread along approximately 35 mm – the proliferative process was to be differentiated from inflammatory infiltration (fig. 1). In view of the above, the patient was prepared for surgery and operated. During the surgery, a tumour that circularly infiltrated the jejunum was identified approximately 90 cm from the ligament of Treitz (fig. 2). Segmental small bowel resection was performed encompassing the tumour and oncological margin of healthy tissue together with the local lymph nodes. Restoration of the gastrointestinal tract continuity was performed with the use of the end-to-end technique. Inspection of the abdominal cavity showed no other lesions. The postoperative period proceeded without complications. The patient was discharged in good overall and local condition in the eleventh day following the surgery.

The histopathological examination (No 100324148) revealed G2 adenocarcinoma of the small bowel that focally infiltrated the entire thickness of the wall but did not penetrate into the surrounding adipose tissue. Three metastatic lymph nodes were found in the mesentery of the small bowel. Stage pT3N1.

**DISCUSSION**

Due to low incidence, localisation that makes examinations difficult and non-specific clinical picture, carcinoma of the small bowel is a serious diagnostic problem. Anaemia and gastrointestinal bleeding, the cause of which cannot be identified based on generally available endoscopic examinations, as well as obstruction or perforation of the gastrointestinal tract are late consequences of the neoplastic disease. Such a situation requires urgent...
laparotomy during which a correct, late diagnosis is established. The knowledge of risk factors contributing to adenocarcinoma may sometimes facilitate an accurate diagnosis. However, in many cases (as in the case of our patient), patients do not belong to high-risk groups. Therefore, patients manifesting non-specific gastrointestinal signs and symptoms, in particular when such symptoms persist for a long time, require a thorough assessment and diagnostics. It must also be emphasised that if carcinoma of the small bowel is diagnosed, it is vital to examine other segments of the gastrointestinal tract in order to rule out synchronous proliferative lesions. The diagnostic process begins with abdominal X-ray, which enables diagnosis of obstruction. In less advanced cases, it is advisable to perform contrast-enhanced X-ray that allows the individual intestinal loops to be evaluated (14, 15). However, this is not always possible since sometimes the contrast agent does not fill the lumen sufficiently or the intestinal loops overlay one another, which prevents unequivocal interpretation.

It appears that computed tomography is a much more useful modality. It allows assessment of individual layers of the intestine and helps detect distant metastases (11). It is not as accurate as magnetic resonance imaging, which enables differentiation of the cause of narrowing without exposing the patient to the ionising radiation, but a high cost of MRI scan makes it less common (16, 17).

In the era of modern solutions, the techniques of double-balloon endoscopy or capsule endoscopy must not be left unmentioned. These examinations are highly specialist and poorly available. Moreover, bowel obstruction is a contraindication to capsule endoscopy (18).

Currently, the only form of treatment in small bowel adenocarcinoma is surgical treatment involving radical resection of the tumour together with the local lymph nodes. Prognosis in such lesions is uncertain, and five-year survival is estimated at 25-40% (19, 20). The available literature does not provide satisfying proofs concerning the effectiveness of adjuvant chemical treatment. There are reports about using oxiplatin, 5-fluorouracyl and leucovorin following surgical treatment, but longer observation and a larger group of subjects are required (21, 22).

**CONCLUSION**

Persisting, non-specific gastrointestinal symptoms with concomitant anaemia that does not react to treatment with iron supplementation should lead to endoscopic examinations of both the upper and lower segments of the gastrointestinal tract. When the most common pathological lesions of the gastrointestinal tract have been ruled out, a contrast-enhanced X-ray examination of the small bowel or computed tomography of the abdominal cavity should be conducted. The only factors that enable an accurate diagnosis and fast qualification to surgical treatment are early performance of the aforementioned examinations and cooperation with an experienced radiologist. This may improve the survival of patients with a neoplastic disease as rare as carcinoma of the small bowel.

**REFERENCES**


