



Right Hemicolectomy Plus Pancreaticoduodenectomy for a T4b Hepatic Flexure Tumor Extending to Duodenum and Gallbladder: Case Report

Duodenum ve Safra Kesesine Invaze T4b Hepatik Fleksura Tümörü için Sağ Hemikolektomi ile Birlikte Pankreatikoduodenektomi: Olgu Sunumu

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ABSTRACT

Locally advanced right hemi-colon cancers that invade surrounding structures are rare but complex tumors that should be handled with a multidisciplinary approach. En bloc resection of the tumor mass with negative surgical margins is the most crucial factor prolonging survival. We presented a patient with hepatic flexure tumor invading the gallbladder and duodenum.

Keywords: En bloc resection, pancreaticoduodenectomy, right-sided colon cancer

ÖZ

Çevre yapıları invaze eden lokal ileri sağ hemikolon tümörleri nadir fakat multi-disipliner bir yaklaşımla ele alınması gereken karmaşık tümörlerdir. Negatif cerrahi sınırlara sahip tümör kitlesinin en blok rezeksiyonu sağ kalımı uzatan en önemli faktördür. Bu yazıda safra kesesi ve duodenumu invaze eden hepatic fleksura tümörü olan bir hasta sunuldu.

Anahtar Kelimeler: En blok rezeksiyon, pankreatikoduodenektomi, sağ kolon kanseri

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INTRODUCTION

Colorectal cancer is now the third most common cancer after breast and lung cancer, and is the second most common cause of death among all cancers after lung cancer (1). Presence of synchronous or metachronous liver metastases at the time of diagnosis, presence of metastatic lymph nodes, resection of the tumor with negative surgical margins, whether the regional lymph nodes are removed in sufficient numbers, histopathological stage of the tumor and the degree of tumor differentiation are factors that affect the course of the disease and survival (2).

Recto-sigmoid region tumors show signs and symptoms of luminal obstruction, while tumors originating from the cecum, ascending colon, and hepatic flexure generally cause anemia rather than obstruction due to their large luminal diameter. However, luminal stenosis in right sided colon tumors is usually a matter of locally advanced tumor (3). In this case, along with transmural involvement; the possibility of invasion of the tumor mass into adjacent organs and structures is also high with spreading out of the lumen. Possible retroperitoneal invasion areas of hepatic flexure tumors can be listed as Gerota's fascia, right kidney and/or ureter and the vena cava. In the intraperitoneal region, organs and structures likely to be invaded are duodenum, gall bladder, liver, hepatic artery, portal vein, common bile duct,

segmental part of small intestine, meso-colonic root containing superior mesenteric artery / vein, pancreas and stomach (4,5).

We present a case who had to undergo surgery under emergency conditions due to complete obstruction of colon cancer arising from the hepatic flexure involving the gall bladder and the second part of the duodenum.

CASE REPORT

A 56-year-old female patient presented with complaints of abdominal pain, weakness and weight loss that had been going on for a month. Upon the detection of a palpable fullness in the right upper quadrant during the abdominal examination, she was hospitalized for further screening and treatment. Blood biochemistry and white blood cell count (WBC) values were within normal limits. Carcino Embryonic Antigen (CEA) was elevated (5.8µg/L). A thoraco-abdominal tomography (CT) revealed a mass located in the hepatic flexure that invaded the gall bladder and the second part of the duodenum (Figure 1). The colonoscopy procedure detected a mass in the hepatic flexure which obstructed the lumen and did not allow to passage of the colonoscope. During hospitalization, the patient's obstruction became complete. The patient was then taken to emergency surgery. On exploration, it was observed that a mass originating from the hepatic flexure invaded the free edge of the gallbladder and

spread to the second part of the duodenum. In addition, the small intestines were dilated due to complete obstruction. The terminal ileum was divided with a cutting stapler 20 cm proximal to the cecum. The dilated small intestine was decompressed with milking by evacuating approximately 2 L of intestinal content from Treitz ligament towards the proximal open end of the terminal ileum. Afterwards, a right hemicolectomy procedure was performed which resection margins extended up to the second part of the duodenum including the gallbladder. The lumen of the second part of the duodenum was narrowed due to mass metastasis. Thereupon, the classical Whipple procedure was performed where the distal 1/3 part of the stomach, the common bile duct, gall bladder, duodenum and the first 20 cm of proximal jejunum are removed (Figure 2). The pancreaticojejunostomy reconstruction was performed using the wirsungo-jejunojejunostomy technique. Subsequently, hepaticojejunostomy, gastrojejunostomy, and Braun anastomosis between the afferent and efferent jejunal loops are created. Finally, ileotransversostomy anastomosis was created. After placing two drains, the abdomen was closed. The patient was uneventful postoperatively and was discharged on the 11th postoperative day. Her histopathology examination revealed a moderately differentiated (Grade 2) colonic adenocarcinoma which was 3.5cm in size and originated from the

right hepatic flexura. The tumor spread out of the serosa and invaded both the gallbladder and the duodenum. Two lymph nodes were metastatic and surgical margins were negative, (PT4bN1b). However, the patient was re-hospitalized in the following days due to an abscess discharge from the midline skin incision. The abscess progressed to fasciitis despite antibiotic treatment, and after intestinal contents came from the wound, she was re-explored. Upon detection of leakage from the ileotransversostomy line, the anastomosis was disrupted and a new ileo-tranversostomy was performed. The patient was discharged on the 10th day without any problems in the postoperative course. The patient is currently 9 months postoperatively and continues to receive oxaliplatin chemotherapy regimen. Her control CEA level is 3.8 µg/L and control PET/ CT showed no evidence of recurrence.

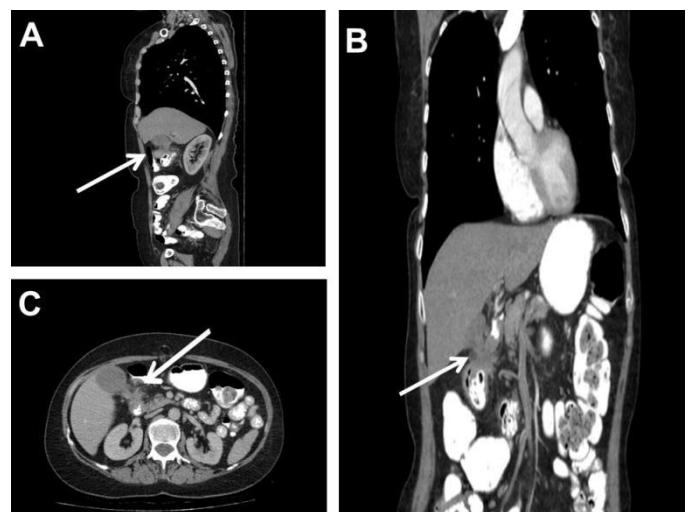


Figure 1. :Abdominal CT image showing the hepatic flexura tumor extending to gall bladder and second part of duodenum: A) sagittal plane, B) coronal plane, C) transverse plane.

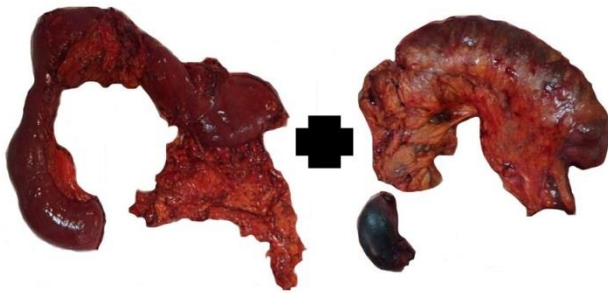


Figure 2.: Image of pancreaticoduodenectomy+right hemicolectomy resection specimen.

DISCUSSION

Currently, locally advanced colon cancers that extend beyond the serosa and invade surrounding organs and /or structures are considered T4b lesions according to the 8th edition of American Joint Committee on Cancer (AJCC) (6). Approximately 10 to 20% of colon cancers presented as locally advanced cancer which requires multi-organ resection to achieve R0 resection (7). In locally advanced colon cancers, there are almost no patients achieving 5-year survival with R1 or R2 resection in cases where R0 resection cannot be performed (8). However, many surgeons avoid such complex surgeries, especially in emergencies, and turn to more palliative procedures, believing that radical resection may be more harmful than its benefits. Of course, in cases requiring emergency surgery, many factors such as the patient's hemodynamic status,

age, presence or absence of co-morbid diseases, and the surgeon's experience should be considered when deciding on multi-visceral organ resection (9). Further, locally advanced hepatic flexure tumors rarely invade pancreas or duodenum (10). On the other hand, it has been observed that removal of the tumor by en bloc pancreaticoduodenectomy plus right hemicolectomy with R0 resection provides a longer survival advantage compared to removing the mass with local duodenal resection (11). The most important factor affecting survival after pancreaticoduodenectomy + right hemicolectomy with R0 resection is the presence of metastatic lymph nodes in the specimen (12). Although mucinous adenocarcinomas does not affect the overall survival, it progresses with a higher rate of local recurrence (13).

Tomography taken preoperatively to determine the extent of the tumor and the relation with neighboring structures cannot always distinguish malignant adhesions from inflammatory changes. However, it provides valuable information in demonstrating the involvement of vital vessels and organs and thus on the resectability status of the mass (14).

A tumor involvement detected on preoperative CT or during surgery up to the mesenteric root (including the superior mesenteric artery /vein), portal vein (vessel segment involvement of more than 2 cm) / or hepatic artery does not enable to R0

resection of the mass (15). In the presence of an unresectable mass leading to complete obstruction, an end colostomy or end ileostomy from the proximal to the occluded segment should be performed for passage.

Conclusion

Colon tumors invading the duodenum / pancreas (T4b) should be handled with a multidisciplinary approach and treated in tertiary centers. The most effective and survival-enhancing treatment approach -if possible- is en bloc resection of the mass with negative surgical margins.

Ethical statement: This case report did not require ethical approval. The patient gave permission for the publication.

Conflict of Interest: There is no conflict of interest.

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Informed Consent: This a retrospective study.

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