Case study

METASTATIC SIGMOID COLON CANCER PRESENTED AS INCARCERATED INGUINAL HERNIA – CASE REPORT

ABSTRACT

Inguinal hernia containing intestinal adenocarcinoma metastases is a rare finding. Sigmoid carcinoma metastases are most commonly found inside hernia sac. Older males are more often affected. 84-years old male patient presented with pain in the right groin, considered to be incarcerated right inguinal hernia. During emergency operation small intestinal mesentery metastases were found inside the hernia sac. Histopathological result of biopy has shown adenocarcinoma metastasis of intestinal type. Additional diagnostics has shown sigmoid colon carcinoma, peritoneal carcinosis and liver metastases. Primary tumor was locally advanced and unresectable, groin hernia was repaired using Bassini technique and diverting colostomy was performed. Due to advanced metastatic disease, symptomatic treatment was advised.

In patients presenting with groin hernia, when suspected malignant lesion is found within hernia sac, histopathologic verification of the lesion is needed. Further diagnostic modalities are also indicated for verification of primary tumor.

KEYWORDS: right inguinal hernia, male gender, intestinal carcinoma metastases, colon cancer.

INTRODUCTION

Malignant lesion inside the inguinal hernia sac is a rare finding [1]. Colorectal carcinoma is localized within inguinal hernia sac in less than 1/200 cases [2]. Patients are usually asymptomatic [2]. Data suggest that it occurs almost exclusively in elderly male patients. The most common origin is from sigmoid colon and is incarcerated in the left groin [1, 2]. The first case of a tumor inside the inguinal hernia sac was reported in 1749 [3].

The following case report presents a case of a older male patient with right inguinal hernia containing metastases of a well differentiated adenocarcinoma of intestinal type. The origin was a adenocarcinoma of a sigmoid colon.

CASE REPORT

84-years old male patient was reffered to the emergency department (ED) with pain and bulge in the right groin, suspected to be an incarcerated right inguinal hernia. He had pain in the right groin for a longer time, which intensified two days prior to the examination. He reported nausea without vomiting. In the past, he had been conservatively treated at our department due to acute cholecystitis. For a few months patient had some difficulties with defecation and he lost some weight.

On clinical examination irreducible right inguinoscrotal hernia was found. The lower abdominal quadrants were painful on palpation. Abdominal x-rays has shown signs of small intestinal obstruction (Figure 1). Abdominal ultrasound (US) was performed, which showed aperistaltic, edematous and poorly vascularised segment of small intestine. Bilateral hydrocele was also described. Right testicle was hyperemic, without focal lesions and left testicle was normal.

On the day of admission patient was operated. Right parainguinal skin incision was made. Inside the hernia sac small intestine was found. The instesine was vital, without signs of obstruction. In the small intestinal mesentery a large suspected neoplastic lesion was found (Figure 2). We took a sample for histopathological evaluation. At that time we did not decide for further abdominal exploration, because we wanted to perform further diagnostics and to wait for histopathological results. We performed only a hernioplasty of the right inguinal hernia using Bassini technique.

During hospitalization, after the first operation, further diagnostics was performed and we acquired the result of histopathological examination, which has shown a well differentiated adenocarcinoma of the intestininal type - mesenteric carcinosis. Colonoscopy showed a obstructive tumor at 15 cm proximally from anal verge. Biopy was taken and sent for histopathologic verification, the result was colonic adenocarcinoma. Irigography showed colonic obstruction 13 cm proximally from anal verge (Figure 3). Abdominal computed tomography (CT) has shown a heterogenous tumor formation of distal sigmoid colon, measuring 12x7.5 cm. Enlarged intraabdominal lymph nodes were described, up to 1.2 cm. Colon was elongated, filled with intestinal content, without signs of intestinal obstruction. Liver metastases were also seen on abdominal CT (Figure 4).

According to the results of extensive diagnostics, we knew that the primary tumor was a sigmoid colon adenocarcinoma with peritoneal carcinosis and liver metastases. The primary tumor was causing a bowel obstruction, so we decided for an exploratory laparotomy. Patient was once again operated 21 days after the first operation. We performed a median laparotomy and a thorough abdominal exploration. During abdominal exploration we found a large tumor in the upper third

of the rectum and distal sigmoid colon, also peritoneal carcinosis and liver metastases were found. Primary tumor was large and fixed in to the retroperitoneum. According to the advanced metastatic disease we decided to perform a diverting colostomy to avoid further colonic obstruction. A loop bipolar sigmostomy was performed.

Further recovery was uneventful and patient was discharged from hospital 10 days after the second operation.

Patient was presented to oncological mulitidisciplinary team - symptomatic treatment was advised.

DISCUSSION

Malignant neoplasm inside the hernia sac is found in less than 0.5 % of all inguinal hernias [1]. Hernia sac tumors are classified into three groups regarding the relationship of the tumor to the hernia sac [3]. Intrasaccular tumors include primary tumors of organs incarcerated in hernia (e.g. bladder cancer, colon cancer, appendix cancer, metastatic neoplasms involving omentum) [1, 3, 4]. Saccular tumors are primary or secondary malignant lesions that involve peritoneum (e.g. primary mesothelioma, peritoneal metastases from prostate, ovary, colon, pancreas) [1, 3, 5]. Extrasaccular malignant lesion is any tumor protruding through hernia defect but outside the hernia sac (e.g. metastatic inguinal lymph node) [3, 6, 7]. Carcinomas are the most frequent tumors found in a hernia sac. However, these malignant epithelial tumors are rare [8]. Inguinal hernia sac containing malignant lesion is usually asymptomatic [3]. There are some hypotheses, that a longstanding hernia, that becomes acutely incarcerated, has a higher likelihood of containing tumor [3]. Some authors believe, that any irreducible inguinal mass, that lacks a

tactile impulse should rise suspicion of cancer [3]. Data from literature suggest, that about fifth of all male patients with colorectal cancer have concurrent inguinal hernia or have had a repair of inguinal hernia 1-2 years prior to cancer diagnosis. Every malignant lesion found within hernia sac should be examined histologically [3, 4, 6]. Hernias are the most frequent structural abnormalities of the groin area. Differential diagnosis includes groin masses as they may simulate inguinal or femoral hernias. Therefore, malignant disease should be considered as a possible diagnosis in patients who present with unexplained groin masses. The surgeon should be alert to the possibility of encountering malignant disease at hernia sites [8, 9, 10]. A prospective study has shown no association between inguinal hernia and colorectal cancer [4, 5]. Symptoms such as abdominal pain and weight loss should arise suspicion of cancer [3]. Our patient had some bowel symptoms prior to the first operation. He lost his appetite and had difficulties with defecation. He also lost some weight. Even though the sigmoid colon tumor was causing colonic obstruction, patient was passing a liquid stool and he did not have any major abdominal pain. This was probably because he was on a liquid diet for some time because of reduced appetite.

Routine microscopic study of all hernia sacs is inadequate for the high cost (insufficient cost-benefit ratio). This practice should be reserved for cases in which a significant lesion is clinically or macroscopically suspected. Therefore, all hernia sacs should be examined grossly. Microscopic evaluation should be done for abnormal tissue discovered, at surgery or at the pathology ward, which is suggestive of an underlying disease process. The decision to submit each hernia sac for histology may be left to the discretion of the surgeon [8, 11].

There are no clear guidelines, which surgical approach is the best [1, 4]. It usually depends on local anatomy, surgical findings and surgeons' experience [1, 4 ,7]. In most reported cases colonic resection at laparatomy is followed by conventional inguinal hernia repair through separate incision [1].

In our case, we decided for a two stage operation, because at the time of first operation, we did not have any diagnostics, except of abdominal x-ray and we wanted to wait for a histopathological result of biopsy.

CONCLUSION

Inguinal hernia sac containing colon cancer metastases is a rare finding. In such patients additional diagnostic evaluation is indicated to find the origin and to evaluate the stage of disease. Systematic histologic study of all hernia sacs is impractical because of the high cost. The decision to examine microscopically the hernia sacs may be left to the discretion of the surgeon. The finding of a malignant epithelial tumor in a hernia sac usually suggests advanced disease and a short life expectancy in the patient. Surgical approach depends mostly on patients' habitus and surgeons' experience and preferences.

CONSENT

As perinternational standard of university standard written patient consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

It is not aplicable.

REFERENCES

1. Ruiz Tovar J, Ripalda E, Beni R, Nistal J, Monroy C et al. Carcinoma of the sigmoid colon in an incarcerated inguinal hernia. Can J Surg. 2009; 52: 2.

2. P. B. Salemans, G. F. Vles, S. A. F. Fransen, and R. M. Smeenk, “Sigmoid Carcinoma in an Inguinal Hernia: A Blessing in Disguise?,” Case Reports in Surgery.2013; Article ID 314394, 3 pages. doi:10.1155/2013/314394.

3. Phifer Nicholson C, Donohue IH, Thompson GB, Lewis IE. A study of metastatic cancer found during inguinal hernia repair. Cancer. 1992; 69: 3008-3011.

4. Marsden M, Curtis N, McGee S, Bracey E, Branagan G et al. Intrasaccular caecal adenocarcinoma presenting as enlarging right inguinoscrotal hernia. International Journal of Surgery Case Reports. 2014; 5: 643-645.

5. Rong Q, Qiaoyu Z, Jianfeng W, Yongdong P. Incidental finding of a malignant tumour in an inguinal hernia sac. Contemp Oncol. 2014; 18(2): 130–133. doi: 10.5114/wo.2014.42728.

6. Chen KT. Metastatic carcinoma in inguinal hernia sac. J Surg Oncol. 1984; 25(4): 248-249.

7. Ping-Hung L, Wen-Ching K, Yu-Chiuan W, Shang-Tao C, Wen-Yen C, Chin-Wen H. Metastatic malignant gastrointestinal stromal tumor mimicking a right incarcerated inguinal hernia. Formosan Journal of Surgery. 2014; 47(5): 189-192.

8. Val-Bernal JF, Mayorga M, Fernández FA, Val D, Sánchez R. Malignant epithelial tumors observed in hernia sacs. Hernia. 2014; 18(6): 831-835. doi: 10.1007/s10029-014-1283-z.

9. Qin R, Zhang Q, Weng J, Pu Y. Incidental finding of a malignant tumour in an inguinal hernia sac. Contemp Oncol. 2014; 18(2): 130-133. doi: 10.5114/wo.2014.42728.
10. Burke TP, Waters P, Khan W, Barry K. Bilateral saccular inguinal hernias in an elderly woman presenting with advanced ovarian cancer. BMJ Case Rep. 2014; 27. doi: 10.1136/bcr-2013-202337.
11. Li S, Li Y, Tang L, Zhao P. Obstructed small bowel ruptured toward the inguinal canal resulting from metastatic colon carcinoma in an irreducible, recurrent inguinal hernia with mesh-plug repair: Report of a case. Eur J Surg Oncol. 2010; 36(10): 1012-1014. doi: 10.1016/j.ejso.2010.01.008.

FIGURES

Figure 1: Abdominal x-ray showing signs of small intestinal obstruction.

Figure 2: Small intestine with large metastatic lesion in the mesentery (arrow).

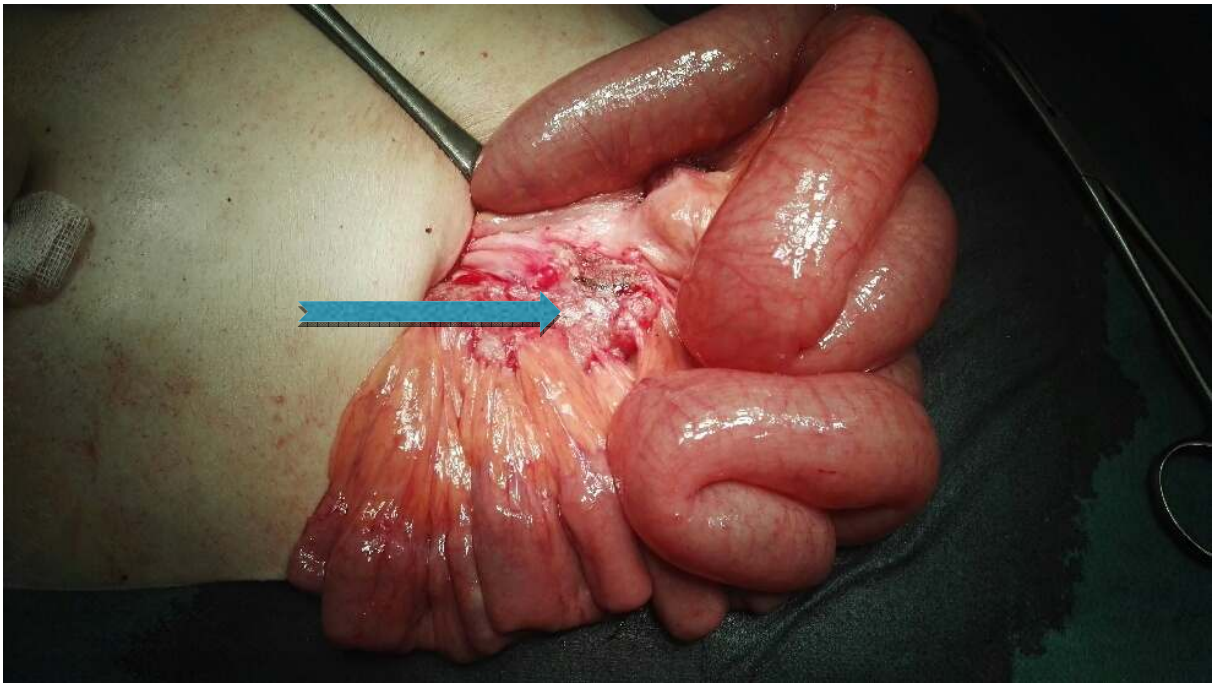

Figure 3: Irigography showing a colonic obstruction at 13 cm from anal verge.

Figure 4: Abdominal CT showing a large sigmoid colon tumor (arrow).