Case Report

A Case of a Male with Sigmoid Adenocarcinoma Which Accompanied with an Isolated Unilateral Adrenal Metastasis

Wassim Almahli, Ilyas Baskonus, Alper Aytekin, Latif Yilmaz

Department of General Surgery, Gaziantep University Hospital, Gaziantep, Turkey

Abstract

Although the liver and the lung are the main metastatic sites, the incidence of adrenal metastasis from colorectal cancer in autopsy ranges from 1.9% to 17.4% according to different reports. The most common primary tumors that metastasize to the adrenal glands are the lung, kidney, breast, and rarely colorectal cancer. The alone adrenal metastasis due to colorectal carcinoma is very rare. Due to their rarity, on the basis of international literature and our experience of adrenalectomy could represent the current "gold-standard" therapeutic approach. In this report, we explain the case of a patient who presented with sigmoid cancer and one side adrenal metastasis without any other different distant metastases.

Keywords: *Adrenal metastasis, colorectal cancers, sigmoid adenocarcinoma*

Introduction

Colorectal cancer is a major cause of morbidity and mortality throughout the world.[1] It accounts for over 9% of all cancer incidence,[2,3] and it is the third most common cancer worldwide and the fourth most common cause of death.[2] Up to 20% of the patients reveal distant metastasis at presentation, with most common sites being liver, lung, and bones. On the other hand, the most common primary tumors responsible for adrenal metastasis are carcinoma of the lung, kidney, and the breast.[4] The metastasis to the adrenal glands occurs in approximately 16% of patients with metastatic colorectal carcinoma.[5] However, in rare cases, the isolated adrenal metastasis can be found. Solitary adrenal metastasis of sigmoid cancer is a comparatively rare condition, especially coupled with metachronous contralateral adrenal metastasis, according to our review of the literature.[4,6]

Case Report

A 75-year-old male patient presented to the general surgery clinic with the complaint of a spasmodic abdominal pain, especially on the left side, accompanied with a lower gastrointestinal bleeding, a moderate abdominal distension. The patient said that he noticed his weight loss accompanied with his loss of appetite. The complaints began before 2 months ago. The physical examination showed a moderate distension of the abdomen, no rigidity or rebound, no signs of peritonitis, and anemia with paleness. The rectal palpation did not show any problem. The laboratory findings were as the following: Hb: 10.2, glucose: 173, total protein: 5.6, albumin: 3.4, calcium: 7.5, carcinoembryonic antigen (CEA): 1.5, white blood cells, and the other liver and renal functions were at the normal range and no other distinct changes in the laboratory findings.

The colonoscopy showed an ulcerative mass in the sigmoid colon with some residual blood clots as a consequence of the bleeding from this mass; some biopsies were taken and sent to the pathology department. Abdominal ultrasonography showed the evidence of a gall stone. The abdominal magnetic resonance imaging (MRI) showed 6 cm × 6 cm mass in the sigmoid colon accompanied by a thickness in the wall and a stenosis in lumen of the sigmoid colon [Figure 1]. Furthermore, MRI confirmed the evidence of 4 cm × 5 cm × 2 cm left adrenal suspicious solid mass [Figure 2], which later showed up that it was an isolated metachronous adrenal metastasis from the sigmoid carcinoma. No other distant metastasis to the liver or to the thorax by thoracic MRI [Figure 3a and b]. The result

How to cite this article: Almahli W, Baskonus I, Aytekin A, Yilmaz L. A case of a male with sigmoid adenocarcinoma which accompanied with an isolated unilateral adrenal metastasis. Clin Cancer Investig J 2017;6:144-7.

Address for correspondence:
Dr. Wassim Almahli, Department of General Surgery, Gaziantep University Hospital, Gaziantep, Turkey.
E-mail: dr_wasimmahli@hotmail.com

Access this article online

Website: www.ccij-online.org

DOI: 10.4103/ccij.ccij_36_17

Quick Response Code:

of the colonoscopy biopsy revealed an adenocarcinoma of the sigmoid colon. Moreover, the investigation of the adrenal mass revealed that it is nonfunctional. The patient was prepared to the operation by the irrigation and the cleaning of the GIS one day preoperatively, a good hydration, preparing suitable blood units when the blood transfusion will be recommended. The laparotomy by a midline incision is indicated. In the sigmoid colon, a mass of 6 cm × 6 cm is noticed and the sigmoidectomy was performed to the patient [Figure 4]. The exploration of the abdomen also revealed the absence of any adenomegalies or other metastatic lesions except a left adrenal gland which was nearly completely occupied by a yellowish to reddish neoplastic-like tissue solid mass [Figure 5]. Hence, the adrenalectomy performed, and the postoperative histology classified as an adrenal metastasis from an intestinal adenocarcinoma, which is a sigmoid adenocarcinoma in our case [Figure 6]. The gallstone was managed by the cholecystectomy. The patient has been transmitted to the intensive care unit. The Patient's postoperative course was uneventful. The pathological report showed the result of the following:

1. The moderately differentiated adenocarcinoma of the sigmoid
2. The adrenal metastasis of the sigmoid cancer
3. The chronic cholecystectomy. The patient was discharged 7 days after operation to continue his therapy by the oncology specialists.

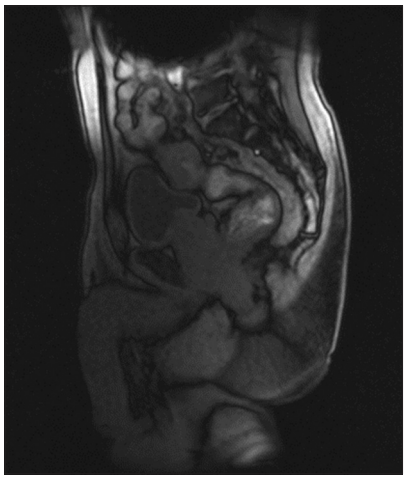

Figure 1: The abdominal magnetic resonance imaging showed 6 cm × 6 cm a mass in the sigmoid colon accompanied by a thickness in the wall and a stenosis in the lumen of the sigmoid colon

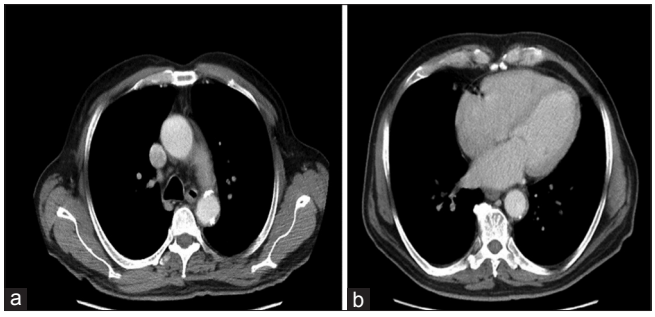

Figure 3: (a and b) No other distant metastasis to the liver or to the thorax by thoracic magnetic resonance imaging

Discussion

In this report, we explained the case of a male patient presented to the department of general surgery with a complaint of the abdominal pain accompanied with a lower gastrointestinal bleeding. During the investigations, we found that his problem caused by the evidence of sigmoid cancer. Incidentally, at the same time, we noticed a suspicious mass in the left adrenal gland, which then the pathology report supported our expectation that it was an isolated metastasis of the sigmoid adenocarcinoma. The most common primary tumors responsible for adrenal metastasis are carcinomas of the lung, kidney, and breast. Adrenal metastasis from colorectal carcinomas is less frequent and occupy the fourth most common site of the colorectal metastasis after lung, liver, and bone.[7]

Figure 2: Magnetic resonance imaging confirmed the evidence of 4 cm × 5 cm × 2 cm left adrenal suspicious solid mass

Figure 4: The laparotomy showed a mass of 6 cm × 6 cm in the sigmoid colon, and the sigmoidectomy was performed to the patient

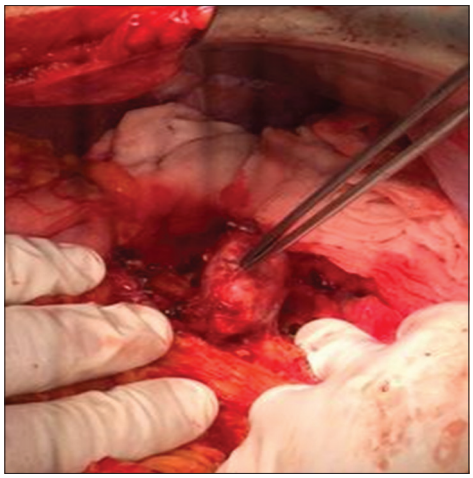

Figure 5: A left adrenal gland which was nearly completely occupied by a yellowish to reddish neoplastic-like tissue solid mass

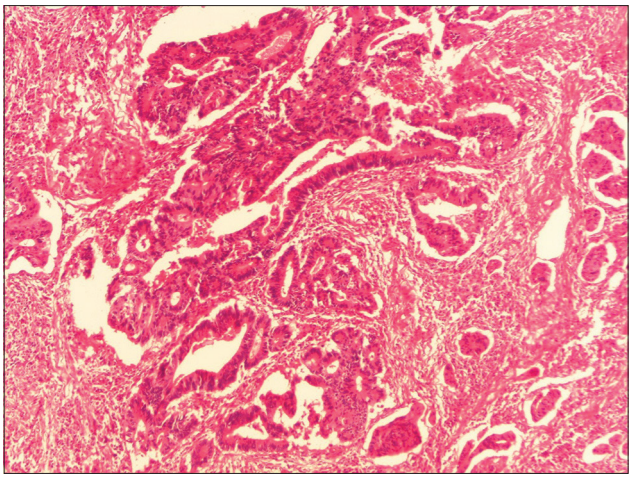

Figure 6: Pathology: sigmoid adenocarcinoma

About 20% of patients with sigmoid cancers show distant metastasis at the initial diagnosis.[8] In literature, the global incidence of adrenal metastasis ranges between 8.6% and 27%, whereas the incidence of adrenal metastasis from colorectal cancer ranges from 1.9% to 17.4%.[9,10] Literature reveals reasonably good long-term outcomes for colorectal cancers with metastasis to liver and lung. However, the presence of metastasis to the adrenal gland is regarded as an indicator of widespread disease. Hence, most of these patients are treated with palliative intent. We reported a case of isolated metastasis to the adrenal gland treated with curative intent.

The potential routes of adrenal metastasis from colorectal cancer include systemic venous, portal venous, lymphatic, and hematogenous through lungs.[4] Although the serum CEA is thought to be essential in predicting the presence of adrenal metastasis in the metastasis period of colorectal cancer,[4,11,6] there have been multiple cases as our case, in which the serum CEA level remains within the normal range in spite of an occurrence of adrenal metastasis.[12,13] Therefore, a variety of modalities combined with serum CEA levels should be applied to accurately detect the status of colorectal cancer. The presence of metastasis in the adrenal glands represents the second most frequent cause of "adrenal incidentaloma," following cortical-adrenal adenomas. Although systemic therapy forms the backbone of management of metastatic colorectal cancer, the surgical resection in selected patients leads to improved survival, and the early detection of the adrenal metastasis is of paramount importance. In spite of there is no consensus on the management of patients with isolated adrenal metastasis, the surgical resection remains controversial although a median survival of 32 months was found in the largest reported case series,[14] and it has been postulated that surgical resection should be offered when the adrenal metastasis develops more than 6 months after the treatment of the primary tumor.[15] The role of adjuvant therapy after resection of the adrenal metastasis is not well defined in view of the rarity of these cases.

Conclusion

In spite of the rarity of the adrenal metastasis from colorectal cancer, we can see an isolated unilateral adrenal metastasis without any more common distant metastasis. Furthermore, we should not forget that the early detection of adrenal metastasis by measuring of serum CEA and imaging examination, such as ultrasonography and computed tomography, should be done routinely. Moreover, we will not forget that we cannot depend only on the CEA values to investigate colorectal cancer metastasis to the adrenal gland without doing the radiological investigations. Moreover, due to the relative rarity of adrenal metastasis from colorectal cancer, there are not randomized studies supporting the effectiveness of surgical treatment.[16] Nevertheless, on the basis of our experience and international literature, we believe that adrenalectomy in patients with alone lesions represents at present the "gold standard" therapeutic approach, especially in the early diagnosed cases, in which the complete removal of the solitary adrenal metastasis by adrenalectomy should be done to achieve good prognosis unless there is local recurrence or other distant metastases.

In this case, robotic adrenalectomy was performed as:

1. Metastasis was isolated to the adrenal gland
2. Metastasis diagnosed at the same time of the sigmoid cancer diagnosis
3. The laparotomy preferable to perform the resection of sigmoid cancer, adrenalectomy, and cholecystectomy at the same time
4. We preferred the laparotomy to make wide lymph nodes dissection of the sigmoid colon.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. World Health Organization. Cancer Incidence in Five Continents. Lyon: The World Health Organization and the International Agency for Research on Cancer; 2002.
2. World Cancer Research Fund and American Institute for Cancer Research. Food, Nutrition, Physical Activity, and the Prevention of Cancer: A Global Perspective. Washington, DC: American Institute for Cancer Research; 2007.
3. Boyle P, Langman JS. ABC of colorectal cancer: Epidemiology. BMJ 2000;321:805-8.
4. Katayama A, Mafune K, Makuuchi M. Adrenalectomy for solitary adrenal metastasis from colorectal carcinoma. Jpn J Clin Oncol 2000;30:414-6.
5. Cedermark BJ, Blumenson LE, Pickren JW, Holyoke DE, Elias EG. Ths significance of metastases to the adrenal glands in adenocarcinoma of the colon and rectum. Surg Gynecol Obstet 1977;144:537-46.
6. Fujita K, Kameyama S, Kawamura M. Surgically removed adrenal metastasis from cancer of the rectum. Report of a case. Dis Colon Rectum 1988;31:141-3.
7. Lam KY, Lo CY. Metastatic tumours of the adrenal glands: A 30-year experience in a teaching hospital. Clin Endocrinol (Oxf) 2002;56:95-101.
8. Jemal A, Siegel R, Ward E, Hao Y, Xu J, Murray T, *et al.* Cancer statistics, 2008. CA Cancer J Clin 2008;58:71-96.
9. Suzuki H. Laparoscopic adrenalectomy for adrenal carcinoma and metastases. Curr Opin Urol 2006;16:47-53.
10. Murakami S, Terakado M, Hashimoto T, Tsuji Y, Okubo K, Hirayama R. Adrenal metastasis from rectal cancer: Report of a case. Surg Today 2003;33:126-30.
11. Watatani M, Ooshima M, Wada T, Terashita H, Matsuda T, Shindo K, *et al.* Adrenal metastasis from carcinoma of the colon and rectum: A report of three cases. Surg Today 1993;23:444-8.
12. Thrumurthy SG, Jadav AM, Pitt M, Dobson M, Hearn A, Scott NA, *et al.* Metachronous bilateral adrenal metastases following curative treatment for colorectal carcinoma. Ann R Coll Surg Engl 2011;93:e96-8.
13. Capaldi M, Ricci G, Bertolini R, Alessandroni L, Di Castro A, Saraco E, *et al.* Colon cancer adrenal metastasis: Case report and review of the literature. G Chir 2011;32:361-3.
14. Mourra N, Hoeffel C, Duvillard P, Guettier C, Flejou JF, Tiret E. Adrenalectomy for clinically isolated metastasis from colorectal carcinoma: Report of eight cases. Dis Colon Rectum 2008;51:1846-9.
15. Kim SH, Brennan MF, Russo P, Burt ME, Coit DG. The role of surgery in the treatment of clinically isolated adrenal metastasis. Cancer 1998;82:389-94.
16. Candel AG, Gattuso P, Reyes CV, Prinz RA, Castelli MJ. Fine-needle aspiration biopsy of adrenal masses in patients with extraadrenal malignancy. Surgery 1993;114:1132-6.