Case Report

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Appendicovesical Fistula, as the First Presentation of Mucinous Adenocarcinoma of Appendix: A Case Report

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ABSTRACT

In this case report, a man presenting with a rare symptom of appendix cancer is discussed.
Hematuria, which was the key diagnostic feature in this patient, has never been reported as a presenting feature of appendix cancer which may explain why this patient has been experiencing this symptom for months and yet have not get the proper diagnosis.
As we discussed in the case report, although appendiceal cancer is a potentially life-threatening issue, it is frequently missed in patients. Therefore, we believe reporting this key symptom in this journal would help physicians to make a more accurate diagnosis in this matter.

Introduction

Appendiceal Cancer is a rare type of gastrointestinal cancer often discovered accidentally after appendectomy due to appendicitis [1]. Gastroenteropancreatic neuroendocrine, mucinous neoplasms and adenocarcinomas are the most prevalent subtypes of Appendiceal Cancer [2].

Clinical manifestations include a vast spectrum of signs and symptoms like acute appendicitis symptoms, abdominal pain and palpable mass, among others [1].

Due to the aggressive character of this type of cancer and the invasive measures required to treat them, a precise and comprehensive approach is necessary to avoid missed diagnosis and misdiagnosis [3, 4].

Case presentation

In this case, a 54-year-old man presented to Imam Khomeini hospital with hematuria for six months prior to his visit. Other than gross hematuria, urinary frequency and slight tenderness in the abdomen, there was no significant sign or symptoms. Notably, he was healthy, non-smoker with no significant past medical or surgical history.

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In his initial consult with his primary care physician, he was treated with routine antibiotics regimen for urinary tract infection but showed no improvement. Further assessment with a computed tomography (CT) scan revealed normal urinary bladder with normal wall thickness; while pointing out a soft tissue mass in the right lower quadrant of the abdomen (Fig. 1). With symptoms continue to remain, the patient underwent diagnostic cystoscopy which indicated a non-papillary lesion at the orifice of what then seemed to be a diverticulum. The pathologic features were consistent with mucinous adenocarcinoma. To evaluate the extent of the lesion, colonoscopy and MRI were conducted, and while colonoscopy did not describe any gross pathological findings, abdominopelvic MRI showed an almost solid mass at the anterosuperior aspect of the bladder with fistulation to the colon (Fig. 2). Due to the radiologic findings and the anatomical situation of the mass, appendix cancer with bladder involvement was in mind.

Fig. 1. CT scan sagittal and transverse view

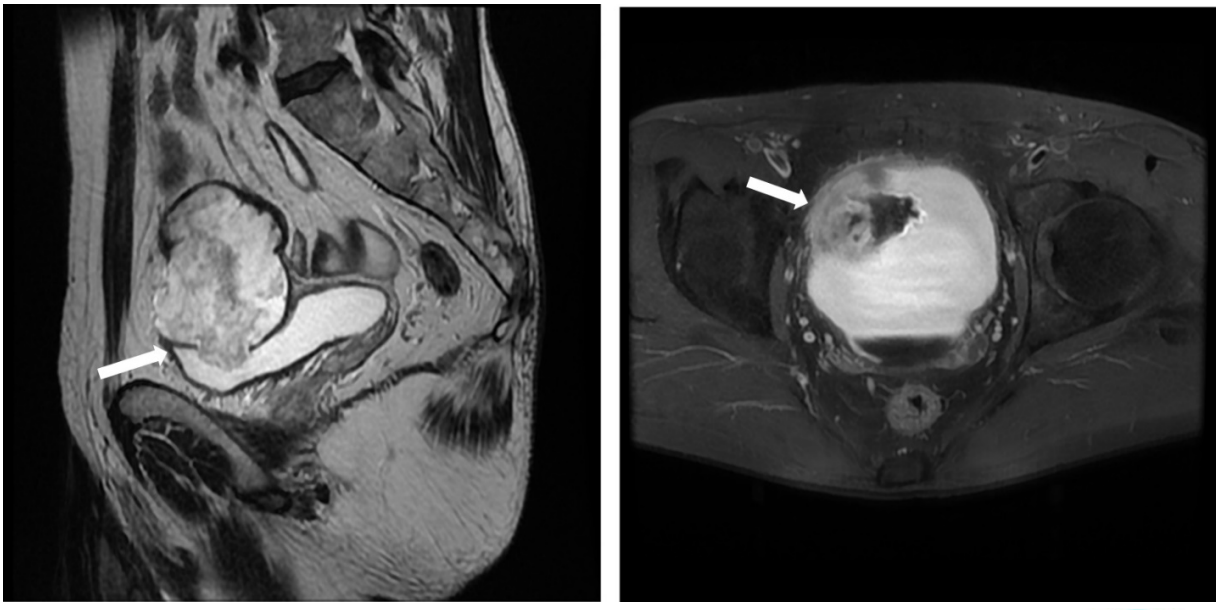

Fig. 2. MRI image sagittal and transverse

Ultimately, the patient underwent surgery in which appendix tumor involving bladder was evident, so right hemicolectomy and Partial Cystectomy was performed. Frozen section of bladder margins was free after resection and primary repair of bladder done. Further assessment of resected specimen revealed a mucinous adenocarcinoma of appendix, 5 cm in diameter, invading pericolonic adipose tissue with tumoral nests in the serosal surface of the bladder wall.

Based on the findings of MRI and also the evidences of laparotomy, the special and educational point of this case presentation is the report of bladder diverticulum in the cystoscopy. In fact, the reported diverticulum was enlarged fistulized appendix which was misdiagnosed, and this was the key point of delayed correct treatment of the patient. Fortunately, based on the surveillance studies the patient is healthy and tumor free after two years.

Discussion

Appendiceal neoplasms are potentially life-threatening and aggressive lesions, and yet, in most cases, the tumors are only found after they have spread [4]. The most common pathology is mucinous, followed by adenocarcinoma, carcinoid, goblet and signet cell carcinoma [2].

While pointing out the overall survival difference, with carcinoid being the best and signet being the worst; the study conducted by McCusker et al. (2002) shows that the age and the extent of the tumor play a more significant role in determining the prognosis than histology among other types [5].

The clinical presentation includes a broad, non-specific set of signs and symptoms. Symptoms of acute appendicitis are the most common findings as the tumor obstructs the appendiceal lumen [4].

Abdominal pain, palpable mass, gastrointestinal or genitourinary obstruction, gastrointestinal or abnormal uterine bleeding, and Carcinoid syndrome are among reported manifestations [1, 3].

Abdominal distention due to pseudomyxoma peritonei (PMP) is another symptom that may appear in advanced stages. PMP occurs when a mucinous neoplasm implants in the peritoneum. As a result, the mucin secreted by the tumor accumulates and causes mucinous ascites. In most cases, the primary tumor causing PMP arises from appendiceal mucinous neoplasms [6].

With a sensitivity of 95%, CT scan is usually the modality of choice to diagnose appendiceal lesions and also as a method to follow up and rule out regional and distant metastasis. Colonoscopy, on the other hand, is not a useful choice as the tumor may not be intraluminal [1].

Surgery remains the optimal option in operable masses. Appendectomy is the suggested technique for carcinoid tumors smaller than 1cm, whereas right hemicolectomy should be performed in non-carcinoid invasive tumors [2].

The appendicovesical fistula as a feature of appendix cancer has been reported in few cases before. Masataka Yokode et al. have reviewed all the articles of internal fistulization of appendix because of the malignancy in 2018. Based on this review article, the skin and bladder were the most common sites for appendix tumor fistulization. But the number of presentations with isolated hematuria was very few [7]. In this case study, the isolated hematuria as the main presentation of appendix cancer was distracting and also caused a prominent delay in diagnosis and treatment of the patient. The other rare finding of our patient was the large luminal fistulized appendix which was reported as a vesical diverticulum in the cystoscopy. This feature of fistulization in cystoscopy was the same as Yang J, et al. [8] case report, but different from other cases, which was presented with intraluminal mass in vesical cavity [9].

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Ethical Considerations

An informed written consent was acquired to use the patient's data and radiology pictures for publication. And all identifying data have been removed from photos.

Consent

The consent was taken from the patient for the case report to be published.

Compliance with ethical guidelines

There were no ethical considerations to be considered in this research.

Conflict of interest

Authors announce that there is not any conflict of interest.

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Authors' contributions

All authors equally contributed in preparing this article.

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