A Retroperitoneal Mass Encasing the Renal Hilum Presenting as a Parapelvic Tumor: A Case Report with Laparoscopic Resection Approach

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Abstract
Retroperitoneal masses are a rare condition that may be discovered incidentally in routine abdominal imaging. These lesions are commonly asymptomatic but may be associated with intestinal obstruction and rarely presented with acute abdomen. They may originate from the retroperitoneal organs, including the genitourinary or gastrointestinal tract, or originate primarily from retroperitoneal space, such as retroperitoneal fat, muscle, nervous system, and lymphatic system. The malignant masses are more common than benign masses, and sarcoma is the most malignant tumor in this space. We present a case with the hilar lesion of the left kidney that was managed with laparoscopic resection. The laparoscopy revealed that the mass completely enclosed the left renal hilum, but the mass was excised without any complication. The final pathologic report revealed a benign mesenteric cyst. Although most of the retroperitoneal mass had a malignant etiology, in cystic lesions in the renal hilar area, the benign mesenteric cyst may keep in mind the differential diagnosis of a mass in this anatomic region.
Introduction

Retroperitoneal masses are a rare condition that may be discovered incidentally in routine abdominal imaging. These lesions are commonly asymptomatic but may be associated with intestinal obstruction and rarely presented with acute abdomen. They may originate from the retroperitoneal organs, including the genitourinary or gastrointestinal tract, or originate primarily from retroperitoneal space such as retroperitoneal fat, muscle, nervous system, and lymphatic system [1]. These masses may have a cystic, solid, or mixed appearance in imaging. Sometimes the differentiation of benign lesions from malignant lesions may be difficult. We present the case of retroperitoneal mass near the left renal hilum that was managed with laparoscopic resection.

Case Presentation

A 45-year-old man presented with recurrent left flank pain. This case report is presented based on CARE guidelines. The patient signed the written informed consent form. The physical examination revealed no abnormality. The laboratory data revealed no abnormal findings except microscopic hematuria. The testicular tumor markers were in the normal range. An abdominal contrast-enhanced computed tomography (CT) scan showed a 45-mm cystic retroperitoneal mass without enhancement adjacent to the upper renal pole. The initial diagnosis proposed in the CT report was hilar renal mass, probably cystic lesions like pseudocyst of the pancreas or cystic teratoma tumor. Figure 1 depicts CT of mass (axial and coronal view). The patient was scheduled for the laparoscopic resection of the mass and placed in the left flank position. We used one 10-mm port in supraumbilical and two 5-mm trocar in the pararectal border; we began the tumor release transmesenteric approach.

The mass was encased in the renal hilum but separated from the renal pedicle meticulously, and excision of the mass was performed uneventfully. The laparoscopic view of mass during the laparoscopy and resected mass is shown in Figures 2 and 3, respectively. The patient was discharged on postoperative day three without any complications. The final pathologic report revealed a benign mesenteric cyst.

Fig. 1. Axial and coronal view of the retroperitoneal mass (red arrows depicted to the retroperitoneal mass next to the renal hilum).
Retroperitoneal masses are uncommon conditions that may not produce specific symptoms due to their location until they grow to a large size [2]. The incidence of 1/100,000 in adults and 1/20,000 in children was mentioned, and a female to male ratio of 2:1. They may originate from the retroperitoneal organs, including the genitourinary or gastrointestinal tract, or originate primarily from retroperitoneal space such as retroperitoneal fat, muscle, nervous system, and lymphatic system [1]. The malignant masses are more common than benign masses, and sarcoma is the most malignant tumor in this space [3]. These tumors may have a cystic or solid feature on diagnostic imaging; the differential diagnosis of cystic lesions are pancreatic pseudocysts, cystic teratoma, cystic ovarian lesions in women, and hydatid cysts.

Regarding the asymptomatic nature and the incidental findings in routine imaging, the exact management is not straightforward [4, 5]. The primary imaging modality is an abdominopelvic CT scan. The finding is presented as thin wall cystic retroperitoneal lesions, but a definite diagnosis is usually difficult upon only imaging. The primary step of management is surgical resection in symptomatic cases [6, 7]. We present a case with the hilar lesion of the left kidney that was managed with laparoscopic resection. The laparoscopy revealed that the mass completely enclosed the left renal hilum, but the mass was excised without any complication. In retroperitoneal cystic mass, the laparoscopic approach is the suitable minimally invasive approach to manage these lesions. The final pathologic report revealed a benign mesenteric cyst. The other viable differential diagnoses are para-aortic lymphatic mass, metastatic testicular mass, pancreatic pseudocyst, and parapelvic cystic mass.
Conclusion

Although most of the retroperitoneal mass had malignant etiology in cystic lesions in the renal hilar area, the benign mesenteric cyst may be considered in the differential diagnosis of a mass in this anatomic region.

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Statement of Ethics

This case report is presented based on CARE guidelines. The Tehran University of Medical Sciences Ethics Committee approved that the ethical approval is not required for this study by local or national guidelines. The patients signed the written informed consent form to publish the details of their medical case and any accompanying images.

Conflict of Interest Statement

The authors have no conflicts of interest to declare.

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Author Contributions

Seyed Mohammad Kazem Aghamir and Mohammad Reza Nikoobakht participated in the sequence alignment. Seyed Hassan Inanloo participated in the study's design and performed the statistical analysis. Abdolreza Mohammad, Seyed Reza Hosseini, Mohammad Javad Nazarpour, and Mohammad Lotfi conceived the study, its design and coordination, and helped draft the manuscript. Shima Esamaeil Panah and Masoud Bahoush prepared the images and references.

Data Availability Statement

“All data generated or analyzed during this study are included in this article.” Further inquiries can be directed to the corresponding author.

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