

Laparoscopic approach for the diagnosis and treatment of retroperitoneal schwannoma

Sir,

Retroperitoneal schwannoma is a rare category of tumors including about 3% of all retroperitoneal tumors which usually does not manifest any remarkable symptom. Preoperative diagnosis of a retroperitoneal schwannoma may be challenging, in spite of new improvements in the imaging technology. In addition, image-guided biopsy of a retroperitoneal lesion is not recommended due to the risk of great vessels injury. Complete surgical resection is considered as the treatment of choice.^[1] Indebted to new progressions in minimally invasive surgeries and relevant devices, laparoscopic resection has become a safe and practical approach to these tumors.

A 33-year-old male was referred by a gastroenterologist for the evaluation of vague abdominal pain and constipation for 1 year. General physical and abdominal examinations revealed normal findings. A few aphtus ulcers were found in duodenal bulb in esophagogastroduodenoscopy. Colonoscopy did not demonstrate any remarkable finding. Laboratory tests indicated normal white blood cell count and a microcytic anemia. Abdominopelvic computed tomography scan with IV contrast, revealed a 32 mm × 22 mm hypo-dense lesion in front of inferior vena cava (IVC) in the retroperitoneal space [Figure 1a]. The patient underwent diagnostic laparoscopy. During the operation, we found the mass below the Treitz ligament. A smooth yellow tumor was apparent which was strongly adhered to the IVC [Figure 1b]. We carried out laparoscopic resection of the tumor with success. He was discharged the next day and passed postoperative period without any problem.

Histopathologic evaluation of the lesion was compatible with schwannoma accompanying S-100 protein expression in immunohistochemical examination, meanwhile smooth muscle actin, CD 117 (C-Kit) and desmin were not expressed.

Retroperitoneal schwannomas can be benign or malignant in pathologic investigations, but most of them has been reported as benign type.^[1,2] These neoplasms are usually diagnosed in the third to sixth decades of

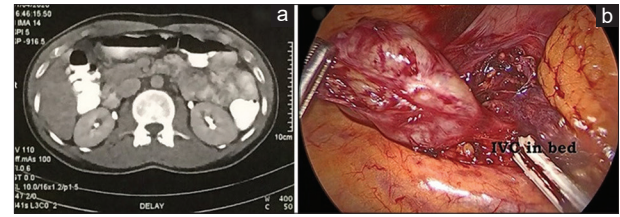


Figure 1: (a) Abdominal computed tomography scan demonstrating the retroperitoneal mass. (b) Intraoperative view of the retroperitoneal mass lying under the duodenum

life. The diagnosis is impossible according to the clinical examination alone. MRI findings such as calcification or cystic changes are nonspecific.^[2] Schwannomas should be considered in the presence of any retroperitoneal abdominal lesion.^[3] Complete local excision or simple enucleation may be contemplated as the treatment of choice because benign schwannomas almost never transform to malignant ones.^[4,5]

Rare benign tumors such as schwannomas may be found out incidentally, without any specific symptoms. Limited cases of laparoscopic approach to a retroperitoneal schwannoma located beside the vital organs and great vessels have been reported so far.^[1] We concluded that laparoscopic technique for these lesions is pragmatic and safe and should be considered even if the tumors have a probability of malignancy when managed with appropriate laparoscopic technique and proper patient selection.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given his consent for his images and other clinical information to be reported in the journal. The patient understands that his name and initials will not be published and due efforts will be made to conceal his identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

Amir Hajimohammadi^{1,2}, Mohammad Kermansaravi^{1,3}

¹Minimally Invasive Surgery Research Center, Iran University of Medical Sciences, Tehran, Iran, ²Department of Surgery, 5 Azar Hospital, Golestan University of Medical Sciences, Gorgan, Iran, ³Center of Excellence of European Branch of International Federation for Surgery of Obesity, Tehran, Iran

Address for correspondence: Dr. Mohammad Kermansaravi, Minimally Invasive Surgery Research Center, Rasool-e-Akram Hospital, Niyayesh Avenue, Sattarkhan Street, Tehran, Iran.
E-mail: kermansaravi.m@iums.ac.ir

Submitted: 19-May-2020; **Revised:** 20-May-2020;
Accepted: 10-Jun-2020; **Published:** 28-Oct-2020

REFERENCES

1. Pazouki A, Khalaj A, Shapoori P, Vaziri M, Najafi L. Laparoscopic resection of a retroperitoneal schwannoma. *Surg Laparosc Endosc Percutan Tech* 2011;21:e326-8.
2. Cury J, Coelho RF, Srougi M. Retroperitoneal schwannoma: Case series and literature review. *Clinics (Sao Paulo)* 2007;62:359-62.
3. Holbrook C, Saleem N. Retroperitoneal schwannoma: An unusual cause of abdominal distention. *BMJ Case Rep* 2017 May 12;2017.
4. Gu L, Liu W, Xu Q, Wu ZY. Retroperitoneal schwannoma mimicking hepatic tumor. *Chin Med J (Engl)* 2008;121:1751-2.
5. Zhang L, Gao M, Zhang T, Chong T, Wang Z, Liu W, *et al.* Surgical management of retroperitoneal schwannoma complicated with severe hydronephrosis: A case report. *Medicine (Baltimore)* 2018;97:e12528.

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

Access this article online

Quick Response Code:



Website:

www.jmsjournal.net

DOI:

10.4103/jrms.JRMS_510_20

How to cite this article: Hajimohammadi A, Kermansaravi M. Laparoscopic approach for the diagnosis and treatment of retroperitoneal schwannoma. *J Res Med Sci* 2020;25:100.