

## Adrenal Schwannoma: A Case Report

Yassine Hama\*, M. Dahiri, A. Chakiri, H. Dahmane, F. Azzaoui, S. Lafrouji, H. O. El Malki, M. Chefchaoui, L. Ifrine, A. Belkouchi

Surgical Department A, Ibn Sina Hospital, Faculty of Medicine and Pharmacy, Mohammed V University, Rabat, Morocco

**\*Corresponding author**

Yassine Hama

**Article History**

Received: 19.11.2018

Accepted: 28.11.2018

Published: 30.12.2018

**DOI:**

10.36347/sjmcr.2018.v06i12.001



**Abstract:** The adrenal schwannomas are very rare nerve tumors; they represent 1 to 10% of all the primitive retroperitoneal tumors. We report the case of a 53-year-old patient followed for left lumbago for 1 year, in whom the ultrasound showed a retro-gastric mass, while the abdominal CT showed a mass probably of left adrenal origin, the balance biological was normal, adrenalectomy was performed, and anapath examination concluded that adrenal schwannoma after immunohistochemical study. The retroperitoneal localization of schwannomas is rare. Few observations of adrenal localization have been described in the literature. Computed tomography and angiography make it possible to specify the origin of the mass. The treatment is surgical. The evolution is marked by the risk of recidivism.

**Keywords:** schwannoma, adrenal, surgery, laparoscopy.

**INTRODUCTION**

Schwannomas are very rare, usually benign, nerve tumors originating from the Schwann sheath of peripheral or cranial nerves. They present as solitary tumors of the cranial and peripheral nerves of the head, neck, extremities and stomach. In addition, they may come from the retroperitoneal space, spinal nerves, and less frequently from the adrenal medulla in the adrenal glands [1, 2]. This latter location is extremely rare, and only a few case reports can be found in the medical literature.

They represent 1 to 10 percent of all primitive retroperitoneal tumors. This tumor poses the problem of preoperative diagnosis because it is only asserted on the histological examination of the lumpectomy piece.

**CASE REPORT**

This is a 53-year-old patient with no history of pain who consults for low back pain and left hypochondrial pain with vomiting, no signs of high blood pressure or flush syndrome, all in a conservation setting of the general state. Abdominal ultrasonography showed a walled, regular-walled 90 × 70 mm retro-gastric mass (Figure 1). The abdominal CT scan showed a well-circumscribed bilobal mass measuring 10.5 \* 7.9 cm retro-pancreatic, pushing back the tail of the abdomen. pancreas forward and left renal vein back pseudo tissue-like probably adrenal origin (Figure 2). There were no other pathological findings, and MRI was not indicated for additional tumor characterization. Metabolic balance, including serum electrolytes, cortisol, urinary metanephrine, and vanillylmandelic acid (VMA) were in the normal range.

The patient underwent laparoscopic left adrenalectomy (Figure 3). The postoperative course was simple. Histopathological examination revealed a

proliferation of adrenal fusiform cells without evidence of malignancy suggestive after immunohistochemical study of an adrenal schwannoma. With a follow-up of 1 year, the patient remained asymptomatic and without local recurrence.

**DISCUSSION**

Schwannomas are tumors originating from neural crest cells, and they contain differentiated Schwann cells in a stroma with little collagen. Their first description was made in 1908 by Verocay [3, 4]. Schwannoma is a solid tumor that develops at the expense of Schwann cells [5, 6].

Three percent of schwannomas are retroperitoneal and four percent of primitive retroperitoneal tumors are schwannomas [7]. Usually, they are benign, slow-growing, encapsulated tumors, but rarely can be malignant. The malignant form is often associated with von Recklinghausen syndrome or other types of neurofibromatosis [11].

The association with a phacomatosis is usual [3, 6] Zang *et al.* reported 4 cases (8%) of retroperitoneal malignant schwannomas from 50 patients with retroperitoneal sarcomas [8]. The age of

onset vary from 30 to 70 years [5, 6]. The diagnosis is most often fortuitous and late, given the latency of the evolution of the tumor. The circumstances of discovery are often a painful abdominal mass or a symptomatology of compression of neighboring organs. While most adrenal schwannomas are discovered by

chance, sometimes patients have minor clinical symptoms: abdominal pain, lumbago, or hematuria [9]. Although schwannomas are nonsecreting tumors, one case has been reported of a retroperitoneal noradrenaline-secreting schwannoma [10].



Fig-1: image of the abdominal ultrasound showing a walled retro-gastric mass with regular walls

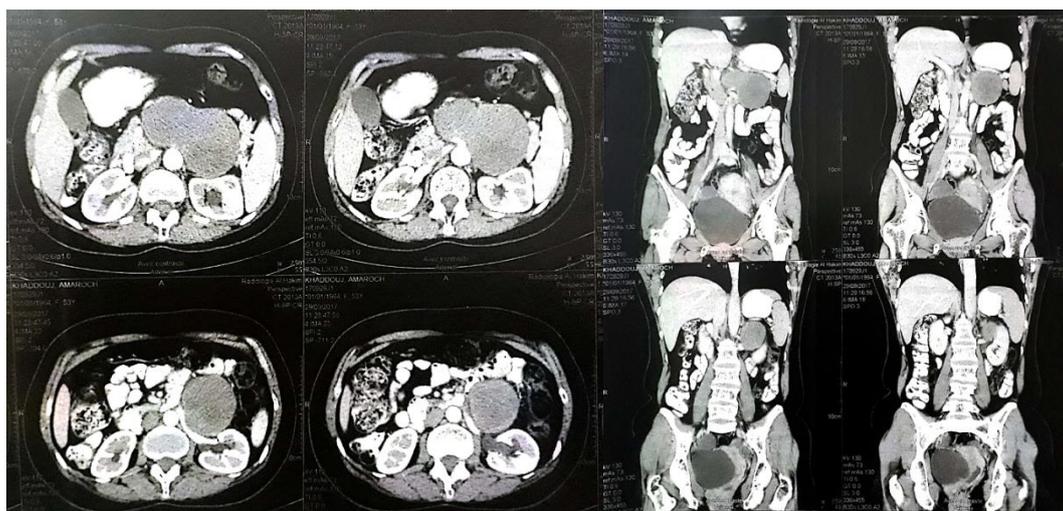


Fig-2: Axial and frontal section of the abdominal CT scan that showed a well-circumscribed retro-pancreatic mass of pseudo-tissue shape

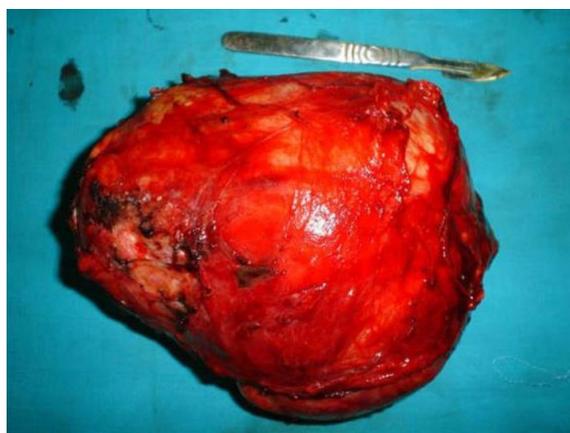


Fig-2: Surgical specimen of adrenalectomy

Abdominal ultrasound, a critical examination, provides information on the cystic and solid nature of schwannoma [12], and determines its size and relationship. The abdominal CT scan provides the diagnosis by showing a solid tumor, seat of calcifications, having a cystic component, well limited by a capsule and specifies its ratios [12, 13]. Nuclear magnetic resonance provides the same information as CT scan [12, 14]. It shows a well encapsulated tumor with a low signal in T1 and a heterogeneous hypersignal in T2 [15].

Arteriography is sometimes useful in the choice of operative tactics [3, 12]. Percutaneous aspiration biopsy is not recommended by most authors because of the difficulties of interpretation, the risk of neoplastic dissemination in case of malignant tumor and peritumoral hypervascularisation [5, 6]. The treatment is based on surgical enucleation which must be complete given the risk of recurrence. The approach is a function of seat and tumor volume [5,16].

However, recent studies show that laparoscopy is an excellent approach for surgical excision of adrenal lesions, and this is the modality of choice in many circumstances. Thus, at present, minimally invasive surgical approaches are being applied with increasing frequency. Except for cases where there is a high index of suspicion of malignancy, tumor size and previous operations are not considered an absolute contraindication. Therefore, the laparoscopic approach is currently the first option for an experienced surgical team. Laparoscopy allows the surgeon to search the entire abdomen, search for metastatic peritoneal lesions, perform biopsies if necessary, and examine the tumor more closely, assessing the prospects for completion of the operation by laparoscopy. In addition, the benefits of laparoscopic adrenalectomy are well documented, with minimal postoperative pain and rapid return to normal activities and normal life [17, 18].

In the case we describe, imaging studies demonstrated a presumably benign lesion of approximately 6 cm. Laparoscopy was the ideal approach, and the patient was discharged quickly and with minimal postoperative pain and quick return to her usual activities and normal life [19]. Diagnostic confirmation is only made on the histological study of the lumpectomy specimen with immunohistochemical study, which distinguishes two types of schwannomas (types A and B from Antoni): type A made of fusiform cells arranged in bundles with an oval nucleus and a small cytoplasm and type B where the fusiform cell arrangement is hazardous and the cells are separated by a heterogeneously colored matrix with hematoxylin eosin and alcian blue [20]. Subsequent monitoring includes a clinical examination and a CT scan performed six and 12 months after the procedure and

then every year for five years [12]. The degeneration of benign schwannomas is exceptional [3, 12].

#### CONCLUSIONS

The adrenal schwannoma, among the adrenal incidentalomas, is rare. Which must be evoked in front of a non-functional adrenal tumor. Surgical excision should be as complete as possible. The laparoscopic approach should produce good results with minimal morbidity and rapid recovery. Due to recurrence or even malignant transformation, further monitoring is required.

#### REFERENCES

1. Ohta I, Lin PH, Rau CL, Wang KC. Evaluation of perinephric, retroperitoneal schwannomas: case report and review of the literature. *Southern medical journal*. 2007 Jan 1;100(1):80-3.
2. Gubbay AD, Moschilla G, Gray BN, Thompson I. Retroperitoneal schwannoma: a case series and review. *Australian and New Zealand journal of surgery*. 1995 Mar;65(3):197-200.
3. Rattier B, Desrousseaux B, Dereux HJ, Atat I, Ampé J. Les schwannomes bénins rétropéritonéaux pelviens: à propos de 2 observations. *Journal de chirurgie*. 1990;127(4):209-12.
4. Bastounis E, Asimacopoulos PJ, Pikoulis E, Leppaniemi AK, Aggouras D, Papakonstadinou K, Papalambros E. Benign retroperitoneal neural sheath tumors in patients without von Recklinghausen's disease. *Scandinavian journal of urology and nephrology*. 1997 Jan 1;31(2):129-36.
5. Krid M, Elleuch A, Gouchem M, Hbacha M, Ben Sorba N, Tlili Graies K, Mosbah AT, Jeddi M. Schwannome rétropéritonéal. Demarche diagnostique et thérapeutique. *Acta urologica belgica*. 1997;65(1):69-72.
6. Weber O, Zerbib M, Peyret C, Desligneres S, Debre B. Schwannome bénin rétropéritonéal. *Journal d'urologie*. 1993;99(4):189-91.
7. Aubert J, Debiais F, Levillain P. Schwannoma of the obturator nerve with urologic manifestations: report of a case. In *Annales d'urologie* 2000 Feb (Vol. 34, No. 1, pp. 58-65).
8. Zhang G, Chan K, Marrievél C. Sarcom thr retroperitoneum and genitourinary tract, *J urol*. 1989;141
9. Sharma SK, Koleski F, Husain A, Albala D, Turk T. Retroperitoneal schwannoma mimicking an adrenal lesion. *World journal of urology*. 2002 Sep 1;20(4):232-3.
10. Hori T, Yamagiwa K, Yagi S, Iida T, Taniguchi K, Yamamoto C, Eshita Y, Kozuka Y, Takaki H, Kato T, Saito K. Noradrenalin-secreting retroperitoneal schwannoma resected by hand-assisted laparoscopic surgery: report of a case. *Surgery today*. 2006 Dec 1;36(12):1108-13.
11. Eugen T, Raluca A, Dan F. Adrenal Schwannoma *JSLs*. 2009 Jan-Mar; 13(1): 116–119.

12. Fauchery A, De Meeûs JB, Turc I, Bascou V, Goujon JM, Magnin G. Le schwannome bénin pelvien: à propos d'un cas. *Journal de gynécologie obstétrique et biologie de la reproduction*. 1994;23(3):279-82.
13. Kinoshita T, Naganuma H, Ishii K, Itoh H. CT features of retroperitoneal neurilemmoma. *European journal of radiology*. 1998 Mar 1;27(1):67-71.
14. Hayasaka K, Tanaka Y, Soeda S, Huppert P, Claussen CD. MR findings in primary retroperitoneal schwannoma. *Acta Radiologica*. 1999 Jan 1;40(1):78-82.
15. Maeda N, Yoshida T, Higuchi Y. A case of retroperitoneal schwannoma: diagnostic usefulness of magnetic resonance imaging. *Hinyokika Kyo*. 2000 ; 46 : 173-5.
16. Ortiz Rey JA, Alexandro Da Silva E, Rico Gala S. A retroperitoneal cellular schwannoma. *Acta Urol Esp*. 1999; 23 : 455-8.
17. Descazeaud A, Coggia M, Bourriez A. Laparoscopic resection of a retroperitoneal schwannoma. *Surg Endosc*. 2002;17(3):520–522.
18. Pinto D, Kaidar-Person O, Cho M, Zundel N, Szomstein S, Rosenthal RJ. Laparoscopic resection of a retroperitoneal degenerative schwannoma: a case report and review of the literature. *Surgical Laparoscopy Endoscopy & Percutaneous Techniques*. 2008 Feb 1;18(1):121-3.
19. Konstantinos TG, Dimitrios T, Panagiotis KB, Nikolaos MV, Ioannis F, Andreas M, Geogrios Z. Laparoscopic resection of an adrenal schwannoma. *JSLs: Journal of the Society of Laparoendoscopic Surgeons*. 2012 Oct;16(4):663.
20. Moualli SB, Hajri M, Amna MB, Kolsi K, Chebil M, Jilani SB, Zaouech A, Ayed M. Le schwannome rétropéritonéal. A propos d'un cas. In *Annales d'urologie* 2001 Jan 1 (Vol. 35, No. 5, pp. 270-272). Elsevier Masson.