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Left adrenal ganglioneuroma: Report of a new case

Walter Sebastián Nardi^{a,*}, Sergio Damián Quilidrian^b^a Department of General Surgery, British Hospital of Buenos Aires, Buenos Aires, Perdriel 74, CABA, 1280AEB, Argentina^b Soft Tissue Tumors Unit, Department of General Surgery, British Hospital of Buenos Aires, Buenos Aires, Perdriel 74, CABA, 1280AEB, Argentina

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ABSTRACT

INTRODUCTION: Adrenal ganglioneuroma (AGN) represents about 20% of the reported cases.**PRESENTATION OF CASE:** We present a 37-year-old man referred to our institution for a history of abdominal discomfort and a left adrenal solid mass incidentally discovered in CT abdominal scan (24 × 20 mm). Patient underwent laparoscopic surgical excision of the tumor.**CONCLUSION:** The histopathology examination showed areas of spindle cells and scattered mature ganglionic cells compatible with AGN.© 2018 The Authors. Published by Elsevier Ltd on behalf of IJS Publishing Group Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

1. Introduction

Ganglioneuroma (GN) is a rare and benign neoplasm that arises from neural crest tissue [1]. Adrenal ganglioneuroma (AGN) represents about 20% of the reported cases [2]. Characteristically, GNs do not secrete catecholamines or steroid hormones and are often clinically silent [4]. It is difficult to diagnose these tumors precisely as GN preoperatively. Definitive diagnosis is done by the histopathologic examination of the specimen. Assessment and management of these tumors are similar to other adrenal tumors.

We present a patient with a ganglioneuroma of the left adrenal gland. To our knowledge this is the first report of adrenal GN in an adult patient from Argentina in the English literature.

The research work has been reported in line with the SCARE criteria [1].

2. Presentation of case

A 37-year-old man, former smoker was referred to our department for a history of abdominal discomfort and a left adrenal solid mass incidentally discovered in CT abdominal scan.

The patient was in good general status. Blood pressure and hormonal profile were within normal limits. Complete preoperative hormonal evaluation was carried out in order to evaluate functionality and the lesion was considered a non-secreting tumor. Abdominal CT showed a well-demarcated, homogeneous, hypodense, left adrenal solid mass (24 × 20 mm) with faint calcifications (Fig. 1a and b).

After a multidisciplinary committee evaluation surgical resection was recommended because of the impossibility to rule out malignancy.

Laparoscopic approach was done and the abdominal cavity was explored showing no abnormalities. After surgical dissection a solid nodule in the left adrenal gland was found (Fig. 2a). Adrenal vessels were identified and complete excision was done (Fig. 2b). Postoperative course was uneventful being discharged on postoperative day 1.

Gross examination showed an encapsulated solid mass of 2,5 × 2 cm while microscopic examination showed areas of spindle cells (positive for S-100 protein in immunohistochemical staining) and scattered mature ganglionic cells. Diagnosis of ganglioneuroma of the adrenal gland was made (Fig. 2c and d).

3. Discussion

Ganglioneuroma is a rare, benign, differentiated neurogenic tumor that arises in neural crest cells [1]. The most common locations of GNs are posterior mediastinum and retroperitoneum.

Adrenal ganglioneuroma occurs more frequently in children and young adults such as in our patient. It has benign histology and biologic behaviour with no hormonal secretion. Adrenal ganglioneuromas are usually found to be silent and are incidentally discovered. In most cases AGNs are asymptomatic because of the nonhormone secreting nature of the tumor [7,8]. They may occasionally secrete catecholamines [3]. Some studies have demonstrated that GNs are not associated with endocrine hormonal activity [4–6] but is expected to be found if as a composite tumor with pheochromocytoma [2].

Characteristically AGNs appear as well-defined masses with fibrous shapes on CT-scans. They present low attenuation on precontrast phase with increase in the postcontrast phase.

* Corresponding author.

E-mail addresses: nardi.ws@gmail.com (W.S. Nardi), squildrian@intramed.net (S.D. Quilidrian).

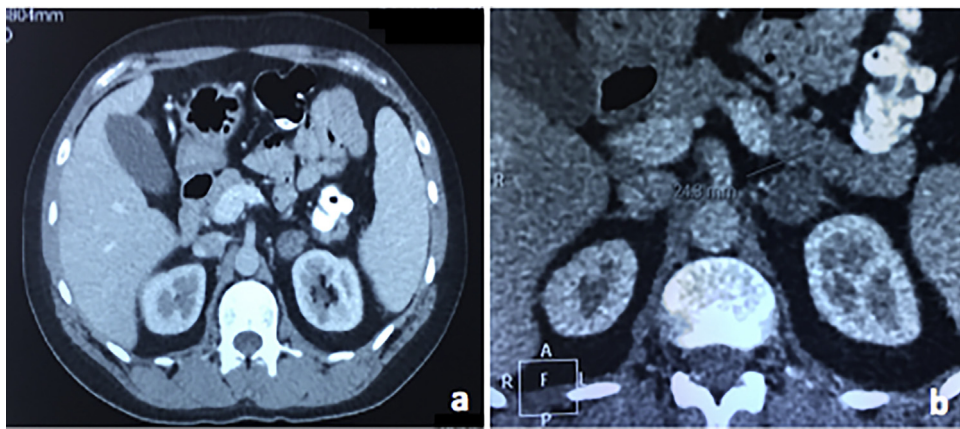


Fig. 1. CT-scan showing a left adrenal solid mass.

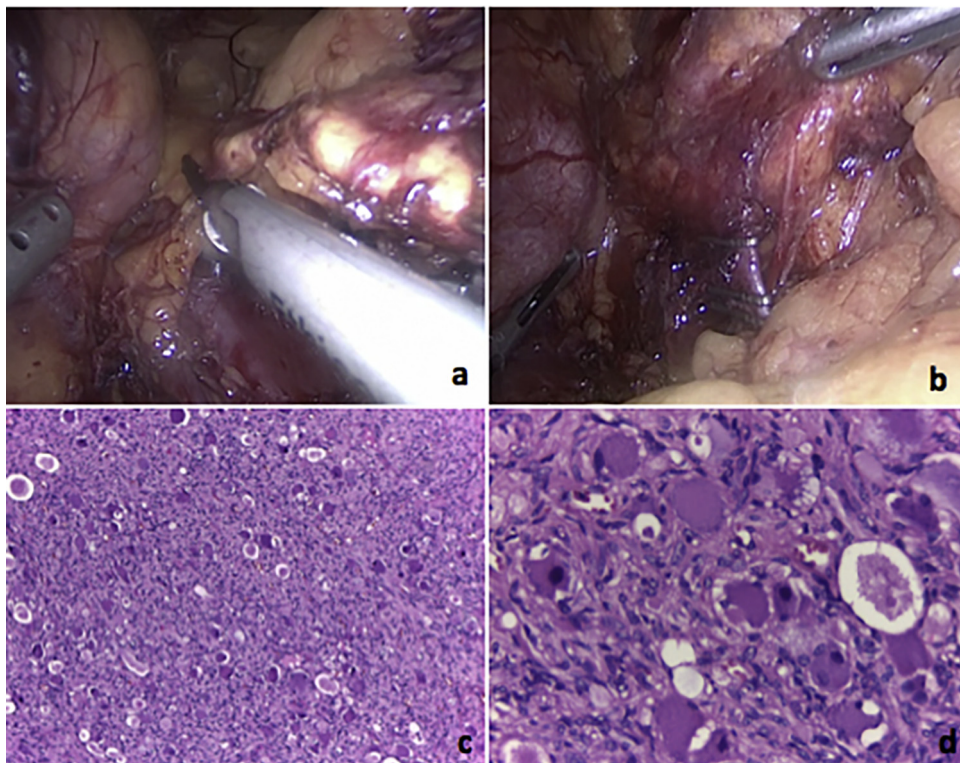


Fig. 2. A: Solid tumor in left adrenal gland. B: Left adrenal vein. C-D: Microscopically, features include mature ganglion cells admixed with clusters of spindle cells.

Homogenous appearance in precontrast phase and heterogeneous in postcontrast phase is also another characteristic of neurogenic tumors [8]. The presence of punctate calcifications with no vessel involvement and low precontrast attenuation on CT should lead the physician to consider GN as a possible diagnosis [7]. Adrenal adenomas have homogeneous morphology similar to AGN, however, are often small and present washout of more than 50% contrast on postcontrast phase [9].

Macroscopically, GNs are encapsulated solid masses with homogeneous grayish surface. Microscopically, features include mature ganglion cells admixed with clusters of spindle cells (positive for S-100 protein) [2,5,7].

4. Conclusion

AGNs are rare tumors and, despite some clues for radiologic diagnosis, preoperative diagnosis is difficult. Therefore, complete resection is recommended once malignancy cannot be excluded.

Conflict of interest

None.

Funding

None.

Ethical approval

The study is exempt from ethical approval in our institution.

Consent

Written informed consent was obtained from the patient and there are no alterations that distort scientific meaning.

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Authors contribution

Nardi: Operated and managed the patient. Study design.
Quildrian: Operated and managed the patient. Study design.

Guarantor

Nardi and Quildrian.

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