Case study

Retroperitoneal schwannoma: a case report

Abstract:

Schwannomas are benign tumors that arise from neural sheath Schwann cells, generally located in the head and neck, often along the cranial nerves, they constitute a particularly rare neoplasm among tumors of the retroperitoneal area.

We report the case of a 63-year-old lady consulting for abdominal discomfort and urinary symptoms and was found to have a retroperitoneal mass at CT Scan and MRI.

Keywords: *Schwannoma, retroperitoneum, peripheral nerve tumors, surgical resection.*

Introduction:

Schwannomas are benign encapsulated tumors developed from Schwann cells that constitute the sheath of nerve fibers. Schwannomas can arise at all ages, with a peak between the fourth and sixth decade. They may be located in a peripheral nerve of the head and neck[1], the intra-abdominal location of schwannomas is exceptional[2], at this region, they usually appear as a palpable mass, slowly growing, which may give signs of compression and abdominal pain[3]. The diagnosis is usually made only after histological examination, because of nonspecific clinical and radiological symptoms. Treatment is based on radical surgery with negative margins.

Case report:

A 63 years old lady, with a medical history of hypertension, presents an abdominal discomfort of heaviness, associated with urinary signs of pollakiuria. On clinical examination a hypogastric abdominal mass was detected.

CT revealed a central retroperitoneal well-defined round cystic mass with a border of soft tissue in repressing the bladder. There were neither calcifications nor evidence of infiltration. Peripheral enhancement was observed after intravenous administration of the contrast product.

MRI showed a smooth marginated low intensity mass on T1-weighted image and high-intensity on T2-weighted image. (Figure1)

The patient underwent surgery, during which the surface of the tumor was found to be smooth. The resected mass was oval and firm and measured 14x11x9 cm. (figure 2, figure 3)

Pathological findings showed a nodular tumor proliferation delimited by a thin connective capsule, and made of spindle cells with elongated nuclei with tapered ends, arranged in loosely intersecting bundles in a loose fibrous stroma (Antoni-B), the immunohistochemical complement shows a positive and intense labelling of the tumor cells to the S100 protein thereby confirming the diagnosis of schwannoma.

Outcome was uneventful and the patient was discharged 4 days after surgery.

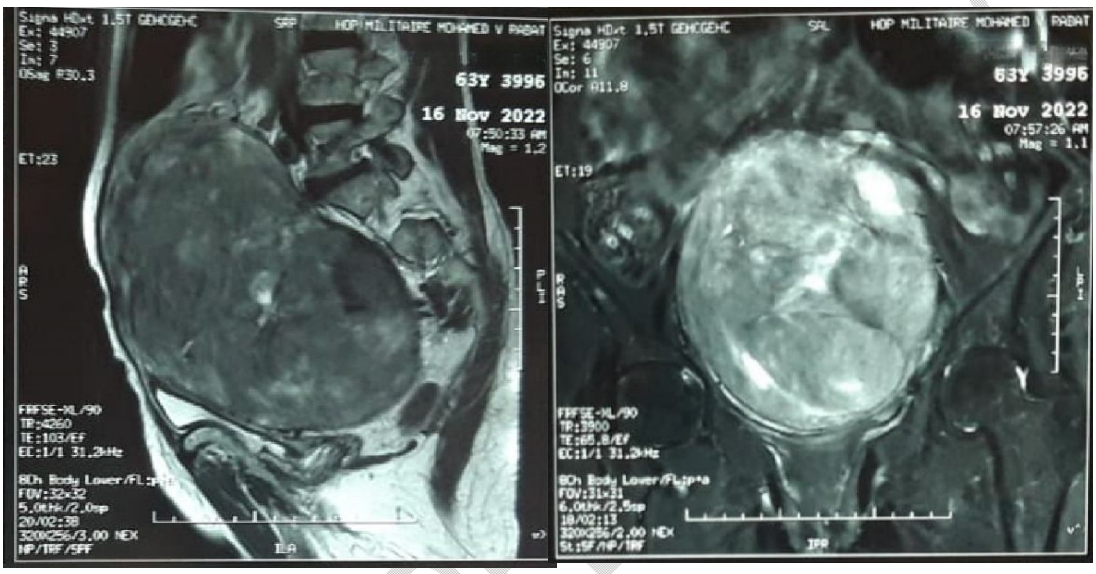

Figure 1 : MRI showing a retroperitoneal mass

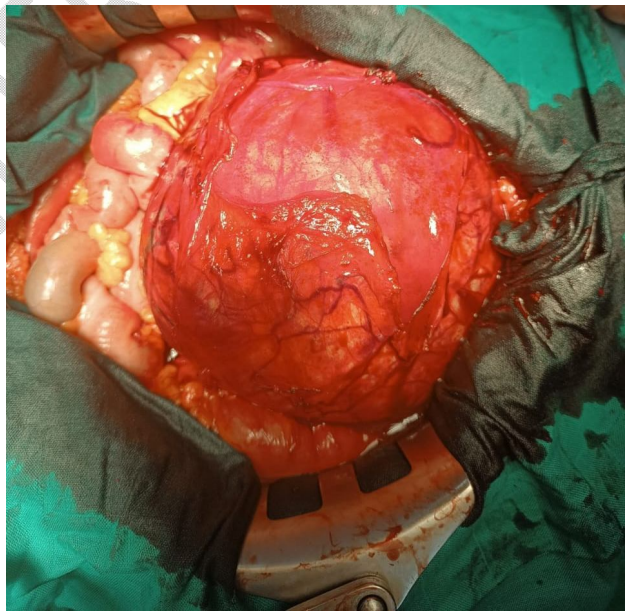

Figure 2 : Per operative image of the mass

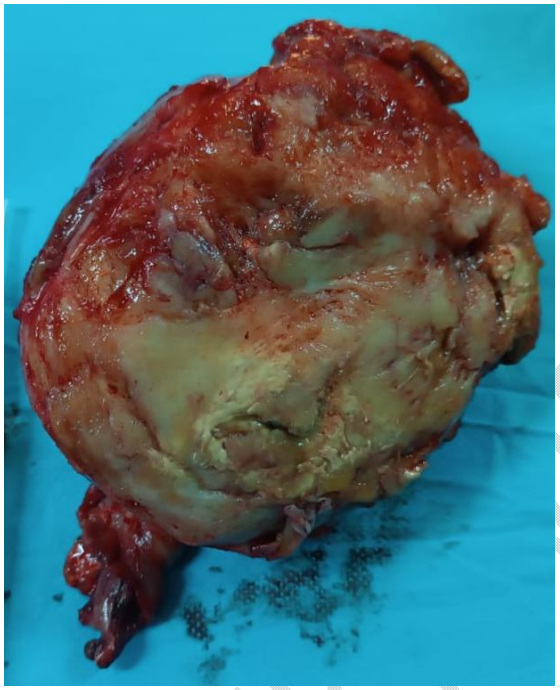

Figure 3: Image of the resected mass

Discussion:

First described by Verocay in 1910, schwannoma is a solid tumor that develops from cells of Schwann's nerve sheath[4,5].

Often benign, schwannoma is a ubiquitous lesion that can occur in any part of the body, limbs: 53.1% of cases, chest: 13%, head and neck: 13.9%, the retroperitoneal localization accounts for 3% of schwannomas[6]. Exact incidence of schwannoma is difficult to determine as many series include these tumors with neurofibromas, both sexes are equally affected and the age of the patients is age of the patients is most often between 30 and 60 years[7].

The retroperitoneal schwannoma is often discovered when exploring unexplained back pain or due to organ compression: gastric pain and dyspepsia, but also portal thrombosis or ureteral compression[8]. This lack of specificity of clinical signs makes its diagnosis difficult and often delayed.

Abdominopelvic ultrasound shows a well encapsulated and solid tumor when solid when it is small. It may become hemorrhagic and necrotic when its size is larger[8]. CT scan shows a solid tumor, with calcifications, a cystic component, well limited by a capsule and specifies its connections with adjacent organs and its location. MRI provides the same information,

showing a well encapsulated tumor with a hyposignal in T1 and a heterogeneous hypersignal in T2[9]. Calcifications have also been identified in favor of a degenerative disease[7]. Two histological types of schwannomas are identifiable on histological study: Antoni A composed of well-organized bipolar cells interlaced in palisades and Antoni B where pleiomorphic cells are arranged in a fibrillar, loose pattern[7], the expression of the S100 protein in immunohistochemical study is the witness of a neuroectodermal differentiation, its positivity therefore points to a schwannoma[10,11].

Complete surgical resection is the treatment of choice for these tumors which respond poorly to radiation and chemotherapy. This resection can be difficult and sometimes incomplete because of the intimate contact with large vessels or noble organs. Furthermore, there is the possibility of local recurrence and malignant change of benign schwannomas despite a previous diagnosis of benignity, consequently, it is very important to completely remove the tumor[12]. This risk, even low, of transformation and recurrence makes annual postoperative surveillance by CT scan highly required.

Conclusion:

Retroperitoneal schwannomas are mostly benign tumors that can occur at any age, clinical and radiological signs being poor, the diagnosis is based on histology and immunohistochemistry

The treatment is exclusively surgical but can be complex because of tumor's size and close connection with neighboring organs.

An annual surveillance is necessary despite the low risk of recurrence and degeneration.

Ethical approval

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

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