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Case Report

Large retroperitoneal cystic schwannoma causing mass effect

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ABSTRACT

Retroperitoneal schwannomas are rare benign tumors originating from Schwann cells of the peripheral nerve sheath. Due to their deep location and slow growth, they often remain asymptomatic until they reach a considerable size, leading to pressure symptoms on adjacent structures. We reported a case of a 52-year-old male, who presented with progressive abdominal swelling and urinary symptoms. Imaging revealed a large retroperitoneal cystic mass, which was completely excised. Histopathological examination confirmed the diagnosis of schwannoma. Retroperitoneal schwannoma should be considered in the differential diagnosis of retroperitoneal cystic lesions presenting with urinary complaints. Complete surgical excision is both diagnostic and curative.

Keywords: Retroperitoneal schwannoma, Cystic mass, Urinary obstruction, Nerve sheath tumor, Case Report

INTRODUCTION

Schwannomas (neurilemmomas) are benign, slow-growing neoplasms derived from Schwann cells of the peripheral nerve sheath. They most commonly occur in the head, neck, and extremities, whereas retroperitoneal schwannomas are rare, accounting for approximately 0.3–3% of all schwannomas and about 1–2% of primary retroperitoneal tumors.[1,2]

Their clinical presentation is often nonspecific, depending on tumor size and involvement of adjacent structures. Preoperative diagnosis is difficult because imaging findings are not pathognomonic. We present a case of a retroperitoneal schwannoma in a middle-aged male who presented primarily with urinary complaints

CASE REPORT

A 52-year-old male presented to the surgical outpatient department with complaints of difficulty in passing urine and increased urinary frequency for the past six months, along with progressive abdominal swelling and mild intermittent pain during the same period.

There was no history of haematuria, fever, weight loss, or altered bowel habits.

Physical examination

Abdominal examination revealed a well-defined, firm, non-tender swelling in the lower abdomen extending to the left lumbar region. The mass had smooth margins and limited mobility. No organomegaly or lymphadenopathy was noted.

Investigations

Ultrasonography

Revealed a well-defined cystic lesion in the left retroperitoneum compressing the urinary bladder.

Contrast-enhanced computed tomography

Demonstrated a 10×8 cm well-encapsulated cystic mass in the left retroperitoneal region, displacing adjacent bowel loops and urinary bladder without evidence of invasion (Figure 1).

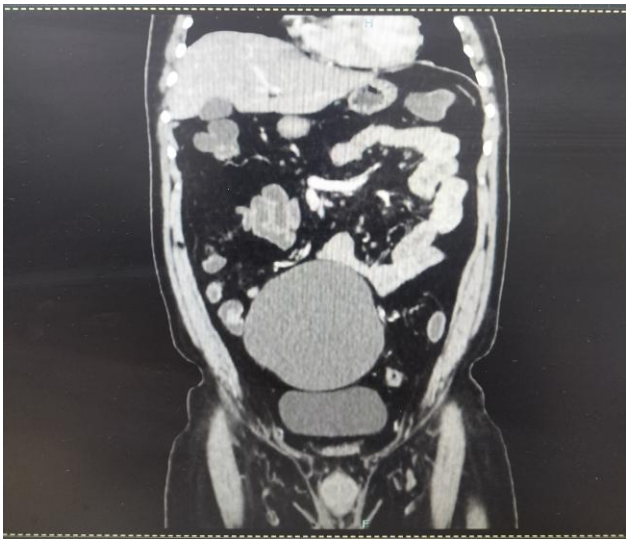

Figure 1: Radiological imaging.

Laboratory tests

Routine hematological and biochemical investigations were within normal limits.

Provisional diagnosis

Retroperitoneal cystic lesion -likely benign.

Surgical management

The patient underwent Laparoscopic complete excision of the mass. Intraoperatively, a well-encapsulated cystic mass was found in the left retroperitoneum, not adherent to surrounding organs or major vessels.

Gross pathology

The specimen measured 10×5×0.5 cm Cut section showed cystic and solid areas with focal hemorrhage.

Histopathology

Microscopic examination revealed a well-encapsulated tumor composed of spindle-shaped cells arranged in Antoni A and Antoni B patterns, with Verocay bodies. Immunohistochemistry: The tumor cells were strongly positive for S-100 protein, confirming the diagnosis of schwannoma (Figure 2).

Post-operative course

The postoperative period was uneventful. The patient's urinary symptoms resolved completely. He was discharged on the fifth postoperative day and remained asymptomatic during six-month follow-up. Follow-up ultrasonography showed no evidence of recurrence.

DISCUSSION

Retroperitoneal schwannomas are uncommon and usually benign. They arise from sympathetic or parasympathetic nerve fibers in the retroperitoneum.[3] These tumors can attain large sizes before producing symptoms due to the expansile nature of the retroperitoneal space. Symptoms typically arise from compression of adjacent organs, as in this case where the urinary bladder was displaced, leading to frequency and hesitancy of micturition.

Radiologically, retroperitoneal schwannomas may appear as well-defined cystic or solid lesions, but preoperative differentiation from other retroperitoneal cystic masses (e.g., lymphangioma, cystic teratoma or sarcoma) is difficult.[4] Magnetic resonance imaging (MRI) may provide additional information regarding the lesion's relation to neural structures and its internal composition.

Histopathology remains the gold standard for diagnosis, characterized by the presence of Antoni A (cellular) and Antoni B (hypocellular) areas. Verocay bodies are characteristic, and S-100 positivity on immunohistochemistry confirms Schwann cell origin.[5] The treatment of choice is complete surgical excision, which is both diagnostic and curative. Incomplete excision can lead to local recurrence. Malignant transformation is extremely rare, seen in less than 1% of cases.[6] Prognosis after total excision is excellent.

CONCLUSION

Retroperitoneal schwannoma, though rare, should be considered in patients presenting with unexplained abdominal swelling and urinary complaints. Imaging helps localize the lesion, but definitive diagnosis requires histopathological confirmation. Complete excision offers excellent outcomes and low recurrence rates.

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