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Feasibility of Complete Resection of the Retroperitoneal Tumor with Preservation of Adjacent Organs

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ABSTRACT

INTRODUCTION

The retroperitoneum represents a complex potential space with multiple vital structures. Retroperitoneal tumors are relatively rare neoplasm. Sarcomas comprise a third of retroperitoneal tumors. Among them, liposarcoma is the most common. Complete resection of the tumor without a breach in the capsule of the tumor is the treatment of choice. In a well-differentiated retroperitoneal liposarcomas, removal of the tumor intact with its capsule contributes to a good prognosis not necessitating resection of surrounding vital organs. One should always try to save surrounding structures if organs are uninvolved by the tumor.

KEYWORDS

Retroperitoneal tumors; Liposarcoma; Radiation therapy.

INTRODUCTION

The retroperitoneum space (RPS) represents a complex potential space with multiple vital structures. RPS is bounded anteriorly by the peritoneum, ipsilateral colon, mesocolon, pancreas, liver, and stomach. The posterior margins are by large composed of the psoas, quadratus lumborum, transverse abdominal, and iliacus muscles. Similarly, the medial boundary includes the spine, paraspinous muscles, the inferior vena cava (for right-sided tumors), and the aorta (for left-sided tumors).

The lateral margin is formed by the lateral abdominal musculature [1]. Sarcomas comprise a third of retroperitoneal tumors, with two histological subtypes predominating, namely liposarcoma (70%) and leiomyosarcoma (15%) [2]. Retroperitoneal liposarcoma is usually asymptomatic until the liposarcoma is large enough to compress the surrounding organs [3]. It is often misdiagnosed due to its rarity and absence of symptoms. In the experience of many authors, symptoms would only occur if the liposarcoma presses on the surrounding organs. The 5-year survival rate of well-differentiated retroperitoneal liposarcoma is 83%, while it is 20% for the de-differentiated tumor subtype [4].

CASE REPORT

A 42-year-old female presented with complaints of a painless, progressively increasing abdominal lump. The

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patient underwent CECT (Abdomen+ Pelvis) showed the presence of a 40*30 cm mass occupying most of the abdomen, displacing the pancreas and spleen superiorly, and kidney and ureter medially (Figure 1). The biopsy was done and reported as a well-differentiated retroperitoneal Liposarcoma.

The patient was taken up for Surgical Intervention after detailed counseling and informed consent. A midline incision was taken from the xiphisternum to the pubic symphysis and the abdominal cavity was opened in layers. The intra-operative finding confirmed surrounding the vital organs kidney, colon, spleen, pancreas, and stomach are only displaced and not involved by tumor. Tumour was excised completely intact with its capsule (Figure 2). There was no breach in the capsule of the tumor.

All the surrounding vital organs- kidney, colon, spleen, pancreas, and stomach were preserved (Figure 3). Intra and postoperative recovery were uneventful. The patient recovered well and was discharged on postoperative day 6 with discharge advice. No adjuvant treatment was given. The patient followed up regularly and two-year post-surgery, the patient is healthy and disease-free.

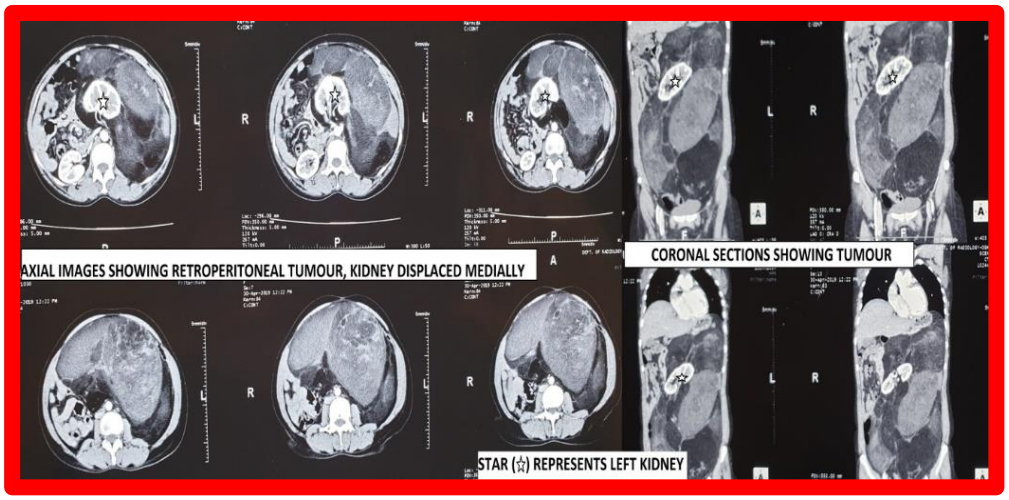

Figure 1: CECT (Abdomen+ Pelvis).

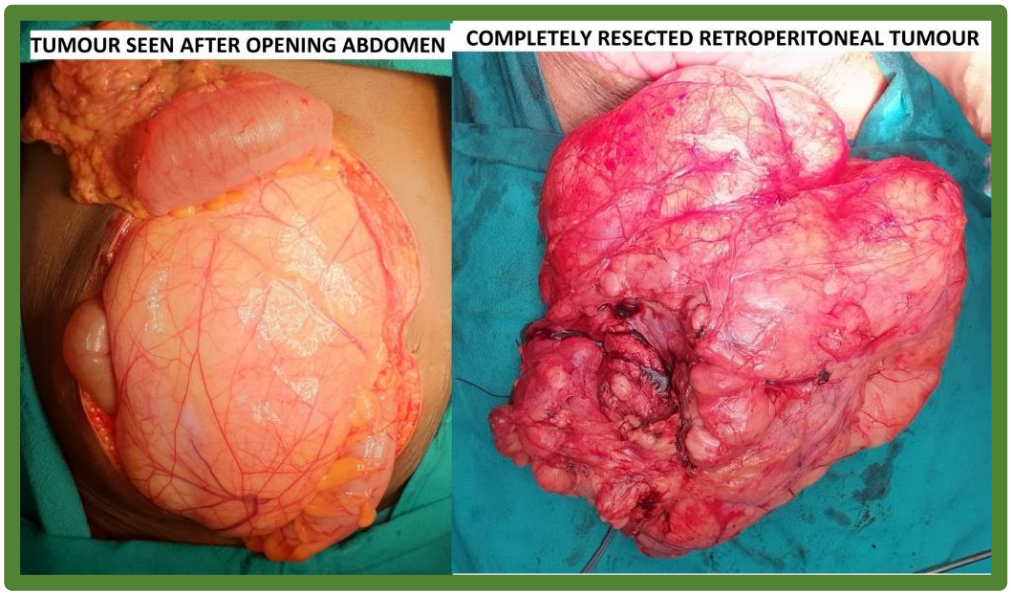

Figure 2: Intra-operative Finding.

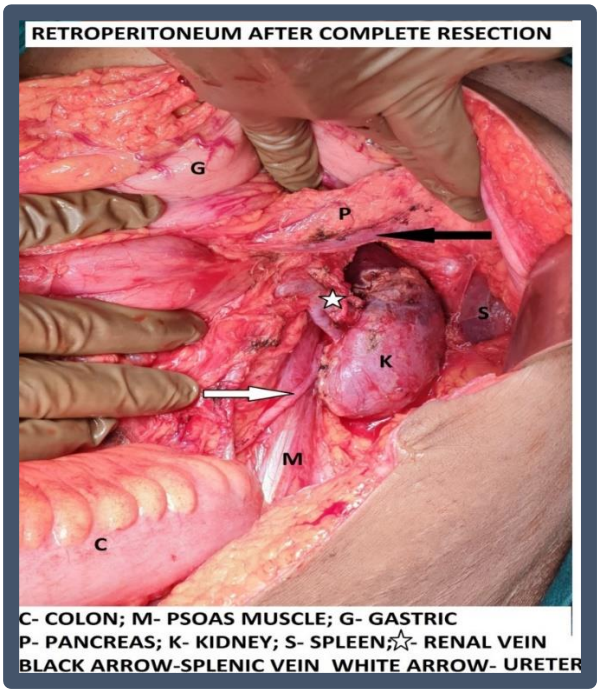

Figure 3: Intraoperative showing the tumor bed post complete surgical resection.

DISCUSSION

The treatment of retroperitoneal sarcomas requires a multidisciplinary approach. Treatment is based on several factors, most notably the tumor location, size, and histological grade/ subtypes. The principle of treatment includes maximal loco-regional control with complete surgical resection and when required, pre-operative or postoperative radiation therapy, and/or chemotherapy. The most critical component of the treatment of retroperitoneal sarcomas remains the surgical excision, and the best chance for cure is at the time of primary surgery [5].

The current research says that Surgery should achieve macroscopically complete excision of the tumor (R0 or R1) [6]. En-bloc resection of all potentially involved structures and that an extended surgical approach leads to lower local recurrence rates than simple excisions, precisely because it reduces marginality/positive margins [7].

In selected cases of well-differentiated retroperitoneal liposarcoma, complete resection of the tumor with an intact capsule while preserving surrounding structures also results in disease-free survival and good prognosis [8]. Proper case selection is a must to preserve surrounding structures rather than performing extended surgery. The two most important criteria to see before preserving surrounding structures are graded (Well differentiated) and only uninvolved surrounding organs. Excision of the tumor while preserving surrounding structures posed a challenge intraoperatively but can be done successfully as demonstrated in our case. In well-differentiated retroperitoneal liposarcoma, we should always try to preserve the adjacent organs provided the tumor is well-differentiated and surrounding organs are not invaded.

CONCLUSION

Retroperitoneal tumors are rare. In well-differentiated retroperitoneal liposarcomas, removal of the tumor intact with its capsule contributes to a good prognosis not necessitating resection of surrounding vital organs. Proper management of RPS revolves around appropriate case selection and planning of each case individually.

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