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PRESENTATION OF A CASE OF RETROHEPATIC CAVAL MASS EXCISION WITH VASCULAR RECONSTRUCTION

Medicine

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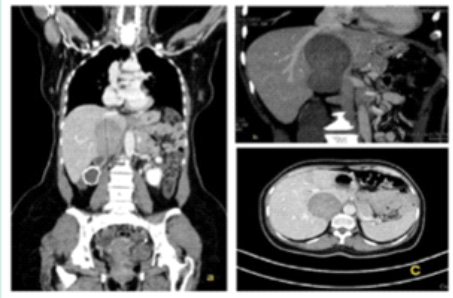
INTRODUCTION

Soft tissue sarcomas (STS) represent a rare group of tumors constituting 1% of solid malignancies. Retroperitoneal sarcomas (RPS) represent 15–20% of STS and present with less heterogeneity in histology, predominately represented by leiomyosarcoma and liposarcoma.2 Complete surgical resection of RPS with negative margins is associated with the best chance for long term disease free and overall survival (OS). Because of these unique anatomic challenges aggressive multi-visceral resection of involved organs is often necessary in order to achieve complete RPS extirpation with negative margins and the greatest chance for cure. Most frequently this includes retroperitoneal structures such as ipsilateral colon, kidney or psoas muscles/fascia. However, major vascular structures such as the inferior vena cava (IVC) may also be involved, posing a more technically challenging surgical approach.

CLINICAL PRESENTATION AND PREOPERATIVE EVALUATION

A 60 year male visited OPD with non specific upper abdominal dull pain from 6 months, patient was a chronic smoker with no cardio-pulmonary co-morbidity. Also, there is recent onset pedal oedema. His Complete Blood Count (CBC) and basic metabolic panel were within normal limits. Tumor markers [Beta Human Chorionic Gonadotropin (HCG), Ca 125, Alfa Fetoprotein (AFP), Ca 19.9, Carcinoembryonic antigen (CEA)] were normal.

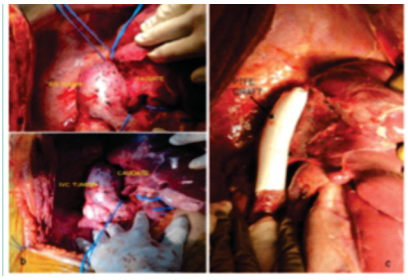
Contrast Enhanced Computed Tomography (CECT) Abdomen revealed well-defined homogenous, hypodense mass measuring 8.9cm (CC) X 5.5 cm (TR) X 6 cm (AP) in upper retro peritoneum on right side, in close relation to IVC in its intrahepatic course. The mass showed moderate post-contrast enhancement and no necrosis/fat density/calcification. The mass was abutting posterior wall of IVC with some compression of its lumen in the intrahepatic course.



The case was discussed with CTVS team and a CT angiography was done to quantify and asses exact three dimentional anatomy.

OPERATIVE PROCEDURE

Abdomen opened with a midline incision. There was no evidence of metastasis. Liver was fully mobilized from the left and right sides by cutting triangular ligament. There was a heterogeneous vascular mass arising from intra-hepatic part of IVC between the renal and hepatic veins , extending more to the right, measuring 5x9 cm. The mass had compressed the IVC. All vascular communications between mass in IVC anteriorly and the caudate lobe were ligated and divided. Retro-hepatic cava was mobilized off the posterior abdominal wall. IVC above renal veins was looped which provided proximal control. IVC just below hepatic veins was looped which provided distal control. Segment of IVC (10 cm) with the mass was removed between vascular clamps. Frozen section of proximal and distal IVC margins and retroperitoneal margin were sent. With the tumor removed, a PTFE graft 22 mm in diameter and 10cm in length was used as conduit and end to end anastomoses were performed using running 4-0 prolene at both ends (Figure 2). The IVC flow was restored. Frozen section of the IVC margins were negative for malignancy.



POST-OPERATIVE AND FOLLOE-UP

The patient had an unremarkable postoperative course and was discharged on postoperative day (POD) 7. Postoperatively patient received anticoagulation with intravenous heparin for 5 days and then long-term oral anticoagulation to achieve target INR of 2.5. Patient received Deep Vein Thrombosis (DVT) prophylaxis measures. Daily ultrasound dopplers were done to confirm IVC patency. Patient was followed up with monthly Doppler ultrasound to confirm IVC patency for 6 months.

HISTOPATHOLOGY

On Histopathological examination, Grossly the specimen was globular soft tissue mass measuring 8.5cm. Cut surface showed grey white, firm and had whorled appearance. On microscopy, section showed an encapsulated tumour composed of spindle cells seen in intersecting fascicles. The cells showed moderate pleomorphism with focal bizarre nuclei, tumour giant cells. Mitosis was increased (30-35/50 hpf). Resection margins were free. On IHC, SMA was diffusely positive, S-100 was negative, Ki67 was 15-20%. Vimentin was positive. Final diagnosis of retroperitoneal leiomyosarcoma was made.

DISCUSSION

Retro peritoneal sarcomas are itself a surgical challenge for onco-surgeons. Most of the cases declared inoperable due to need of complex surgical procedure like multi-visceral or major vascular resection. Successful resection of complex RP sarcomas along with major vascular resection and reconstruction increases survival. Multidisciplinary approach helps to manage this cases successfully with better outcome at tertiary care centre.

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