Section: General Surgery

Original Research Article

FROM SYMPTOM TO SURGERY: DIAGNOSTIC DILEMMAS AND THERAPEUTIC CHALLENGES IN MANAGING RETROPERITONEAL NEOPLASMS

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ABSTRACT

Background: Retroperitoneal neoplasms represent a rare and heterogeneous group of tumors that often present late due to their deep anatomical location. Diagnostic dilemmas, challenges in operability assessment, and limited therapeutic options complicate management. **Aim:** This study presents a series of nine patients with retroperitoneal neoplasms treated at a tertiary care hospital, highlighting clinical presentation, diagnostic difficulties, surgical and non-surgical management, and outcomes. **Materials and Methods:** A prospective case series was conducted between July 2024 and June 2025 at Stanley Medical College and Hospital, including nine patients with confirmed retroperitoneal tumors. Clinical data, imaging, histopathology, treatment modalities, and outcomes were analyzed. **Result:** Patients presented with varied symptoms including abdominal pain, mass effect, weight loss, and incidental detection. Tumor types included sarcomas, schwannoma, adrenal adenoma, lymphoma, and mucinous adenocarcinoma. Four patients underwent successful surgery, one had debulking with adjuvant chemotherapy, two were managed medically, and two declined surgery or were deemed inoperable. Outcomes were heterogeneous depending on pathology and stage. **Conclusion:** Retroperitoneal neoplasms remain a diagnostic and therapeutic challenge, requiring multimodal strategies. Early diagnosis, complete surgical resection where feasible, and individualized treatment plans are crucial for improved survival.

INTRODUCTION

Retroperitoneal neoplasms are uncommon tumors, comprising a spectrum of benign and malignant entities, with soft tissue sarcomas being the most frequent. Their insidious growth within the retroperitoneum often delays diagnosis until the disease is advanced, complicating treatment. Surgery remains the mainstay of management, but operability is frequently limited by tumor size, local invasion, and proximity to vital structures. This study was undertaken to describe the clinical presentation, diagnostic dilemmas, and therapeutic challenges faced in managing retroperitoneal tumors at a tertiary care center.

MATERIALS AND METHODS

This was a prospective observational study conducted in the Department of General Surgery, Stanley Medical College and Hospital, Chennai, over a period of one year from July 2024 to June 2025. Nine patients diagnosed with retroperitoneal tumors were included. Inclusion criteria comprised patients with radiological or histopathological confirmation of retroperitoneal neoplasm. Exclusion criteria were patients with recurrent tumors previously treated elsewhere and those with poor general condition unfit for further evaluation. Data were collected on demographics, presenting symptoms, imaging, surgical findings, histopathology, management strategies, and outcomes. Ethical clearance was obtained prior to initiation of the study.

RESULTS

Nine patients with retroperitoneal neoplasms were studied. The age of patients ranged from 35 to 60 years, with a slight male predominance. The most common symptom was abdominal pain, followed by abdominal distension and weight loss. Imaging primarily included contrast-enhanced CT scan, which

aided in diagnosis and operability assessment. Histopathology revealed a spectrum of tumors including sarcomas, schwannoma, adrenal adenoma, lymphoma, and mucinous adenocarcinoma.

Case 1 was a 52-year-old female, Mrs. Ammu, who presented with abdominal pain and weight loss and was diagnosed with an inoperable retroperitoneal sarcoma with pulmonary metastases. She was managed symptomatically. Case 2, Mr. Manikandan, a 48-year-old male, had a renal capsular pleomorphic leiomyosarcoma for which en bloc nephrectomy was successfully performed. Case 3, Mrs. Muniyammal, a 48-year-old female, had a benign retroperitoneal schwannoma arising near the right renal vein, which was excised completely with uneventful recovery. Case 4, Mr. Perumal, a 55-year-old male, was found to have a left adrenal cortical adenoma, managed with successful laparotomy and adrenalectomy. Case 5, Mr. Gangadharan, was diagnosed with diffuse large B-cell lymphoma involving retroperitoneum, confirmed by biopsy, and was referred to medical oncology for systemic chemotherapy. Case 6, Mr. Somasundaram, had an advanced sarcomatoid renal malignancy with local invasion and distant spread; he was managed conservatively with palliative chemotherapy. Case 7, another patient named Mr. Perumal, presented with a suspected retroperitoneal sarcoma but had an inconclusive biopsy. PET-CT was deferred due to financial constraints, and the patient declined surgical exploration. Case 8, Mr. Anandhan, had a large retroperitoneal dedifferentiated liposarcoma for which debulking surgery and right renopexy were done; histopathology confirmed high-grade liposarcoma, and adjuvant chemotherapy was initiated. Case 9, Ms. Kavitha, was an incidental case detected following trauma, found to have a retroperitoneal mucinous adenocarcinoma. She underwent laparoscopic excision, and histopathology confirmed adenocarcinoma. She was treated with adjuvant CAPEOX chemotherapy, and follow-up PET-CT showed no residual disease.

Of the nine cases, four underwent curative resections, one underwent debulking, two were managed with chemotherapy, one was inoperable, and one declined surgery. Postoperative morbidity was minimal in surgical cases, with no perioperative mortality.

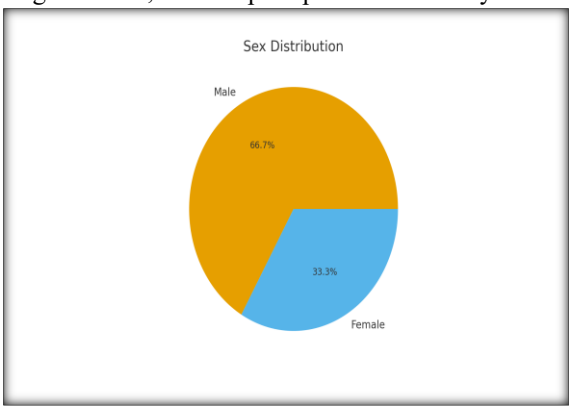
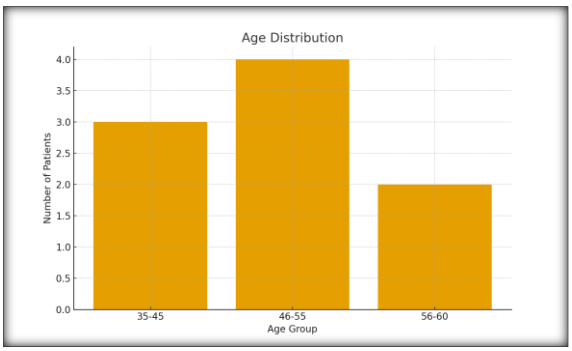


Figure 1



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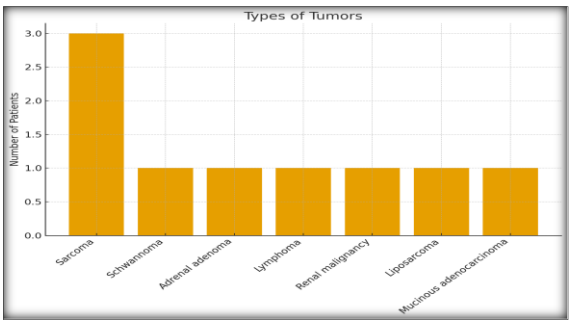
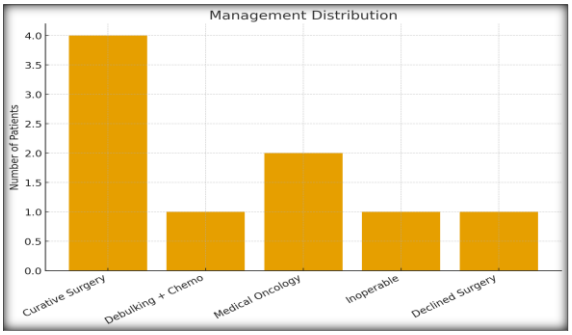


Figure 3



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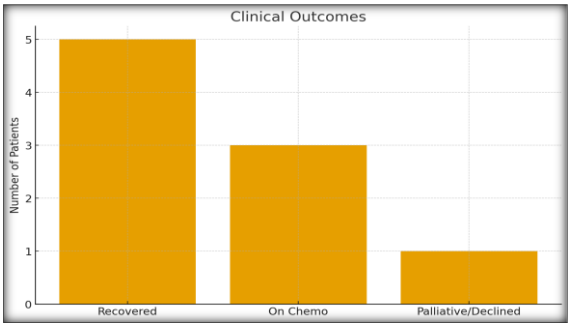

Figure 4

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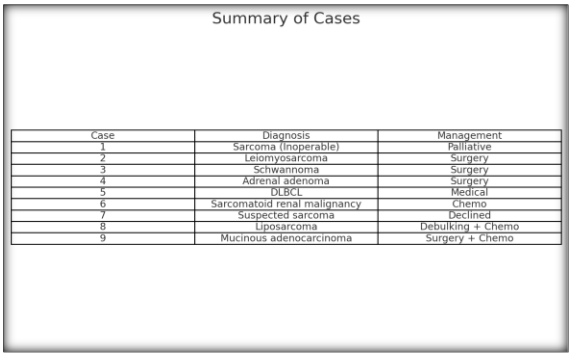

Figure 5:

DISCUSSION

Retroperitoneal tumors constitute a rare subset of neoplasms with diverse histological profiles. The cases presented in this series reflect the diagnostic and therapeutic spectrum encountered in real-world practice. The major challenge remains delayed diagnosis, as these tumors often reach large sizes before producing symptoms. Imaging modalities such as CT and MRI are crucial not only for detecting tumors but also for determining operability. Histopathology continues to be the gold standard for diagnosis. Surgery is the cornerstone of treatment for resectable tumors, and complete surgical excision offers the best survival outcomes. In our study, four patients underwent complete resection with favorable short-term outcomes. For unresectable or advanced cases, adjuvant chemotherapy and palliative care are the mainstay. However, prognosis remains poor in high-grade sarcomas and metastatic disease. Our findings are consistent with existing literature that emphasizes the importance of aggressive surgical approaches whenever feasible, while highlighting the limitations posed by tumor biology, patient condition, and resource constraints.

CONCLUSION

Retroperitoneal neoplasms remain a formidable clinical challenge due to their rarity, late presentation, and anatomical complexity. Our case series underscores the heterogeneity in presentation and outcomes. Surgery, when feasible, remains the best option for long-term survival, while chemotherapy plays a role in systemic and unresectable disease. Early detection, individualized treatment planning, and a multidisciplinary approach are crucial for improving outcomes in patients with retroperitoneal tumors.

REFERENCES

1. Stoeckle E, Coindre JM, Bonvalot S, Kantor G, Terrier P, Bonichon F, et al. Prognostic factors in retroperitoneal sarcomas: a series of 165 patients. Br J Cancer. 2001;85(1):37–42.
2. Brennan MF, Antonescu CR, Maki RG. Management of Soft Tissue Sarcoma. Springer; 2013. Chapter 11: Retroperitoneal Sarcomas.
3. Nishida Y, Tsukushi S, Shido Y, Yamada Y, Sugiura H, Nakashima H, et al. Clinical features and prognosis of retroperitoneal liposarcoma. Int J Clin Oncol. 2007;12(2):160–5.
4. Strauss DC, Hayes AJ, Thway K, Fisher C, Thomas JM. Surgical management of primary retroperitoneal sarcoma. Br J Surg. 2010;97(5):698–706.
5. Gronchi A, Lo Vullo S, Fiore M, Mussi C, Stacchiotti S, Collini P, et al. Aggressive surgical policies in a retrospectively reviewed single-institution case series of retroperitoneal soft tissue sarcoma patients. J Clin Oncol. 2009;27(1):24–30.
6. Lee SY, Goh BKP, Teo MCC, Chow PKH, Cheow PC, Ooi LLPJ, et al. Retroperitoneal liposarcomas: the experience of a tertiary Asian center. World J Surg Oncol. 2011;9:12.
7. Goh BKP, Tan YM, Chung YFA, Chow PKH, Cheow PC, Ooi LLPJ, et al. Retroperitoneal schwannoma. Am J Surg. 2006;192(1):14–8.
8. Fletcher CDM, Bridge JA, Hogendoorn PCW, Mertens F (Eds). WHO Classification of Tumours of Soft Tissue and Bone. 4th ed. IARC Press; 2013.
9. Hines OJ, Nelson H. Management of adrenal masses and incidentalomas. Curr Treat Options Oncol. 2002;3(4):331–8.
10. Coiffier B, Thieblemont C, Van Den Neste E, Lepeu G, Plantier I, Castaigne S, et al. Long-term outcome of patients in the LNH-98.5 trial... Blood. 2010;116(12):2040–5.
11. Sbaraglia M, Bellan E, Dei Tos AP. The 2020 WHO classification of soft tissue tumours: news and perspectives. Pathologica. 2021;113(2):70–84.
12. Pawlik TM, Pisters PW, Mikula L, Feig BW, Hunt KK, Cormier JN, et al. Soft tissue sarcoma of the retroperitoneum: prognosis and treatment of primary and recurrent disease. J Am Coll Surg. 2006;202(4):593–602.

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