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CASE REPORT

Case Study on Metastatic Leiomyosarcoma of Uterus

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ABSTRACT

Leiomyosarcoma is a smooth muscle tissue cancer. It is a rare cancer. It accounts for 5–10% of soft tissue sarcoma and can recur in later stage of life. Leiomyosarcoma is highly unpredictable. This is a resistant type of cancer and for long time it can remain in the dormant state. Uterine leiomyosarcoma is a rare, 3 - 9% of all uterine cancers, and about 70% of uterine sarcomas. A uterine leiomyosarcoma diagnosis is confirmed by doing histological examination of mass removed by myomectomy or hysterectomy. There are many treatment options available for metastatic leiomyosarcoma of the uterus such as Surgical resection (hysterectomy) is standard treatment for patients with localized leiomyosarcoma, Adjuvant chemotherapy-for early-stage disease is controversial, Bilateral salpingo-oophorectomy -in peri and postmenopausal patients, Lymphadenectomy-if there is evidence of concerning lymph nodes, Radiotherapy is indicated for palliative care, Adjuvant chemotherapy for metastatic / recurrent tumors, Immunotherapy for high uterine leiomyosarcoma and Hormonal therapy may be an option.

KEYWORDS

• Smooth muscle tissue cancer • Leiomyosarcoma • Uterine lesions

INTRODUCTION

Leiomyosarcoma is a smooth muscle tissue cancer. It is a rare cancer. The smooth muscle tissue is present in many areas of the body including the digestive system, urinary system, blood vessels and uterus.[1] It accounts for 5–10% of soft tissue sarcoma and can recur in later stage of life. Leiomyosarcoma is highly unpredictable. This is a resistant type of cancer and for long time it can remain in the dormant state.[2] Leiomyosarcoma often starts in the uterus, belly or leg smooth

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muscle tissue. It often grows quickly and moves to other parts of the body.[1] The clinical symptoms depends on the location. Symptoms are often due to compression of surrounding organs. Uterine lesions are often diagnosed after a hysterectomy through pathological examination for a suspected leiomyoma.[3,4]

CASE REPORT

A 62-year-old female presented to the outpatient department with complaints of abdominal distension for the past 2 months. The distension had a gradual onset, was diffuse in nature, and not associated with pain or any aggravating or relieving factors. She also reported bilateral leg swelling for 2 months, which was of gradual onset, diffuse up to the thighs, pitting in nature, non-painful, and not accompanied by redness. Additionally, she experienced easy fatigability over the same period. The patient is a known case of:

- Diabetes mellitus and systemic hypertension for the past 6 years
- Hypothyroidism for 6 years
- Metastatic leiomyosarcoma diagnosed 6 months ago, with a history of receiving 2 cycles of chemotherapy

Obstetrical history: She underwent a hysterectomy one year ago.

The patient was admitted with the above symptoms.

Initial investigations revealed anemia (Hb:4.3 g/dL) and elevated white blood cell counts. She was referred with a diagnosis of anemia with signs of failure and was admitted for blood transfusion. Cultures of blood and urine were taken, and empiric broad-spectrum antibiotic therapy with IV piperacillin-tazobactam (4.5 g stat, followed by every 6 hours) was started.

She received 4 units of packed red blood cells (PRBC), leading to an improvement in hemoglobin levels from 4.3 g/dL to 7 g/dL. Cultures showed no microbial growth. The patient later developed abdominal pain, and blood counts remained elevated. Abdominal ultrasonography revealed moderate ascites, hepatosplenomegaly, moderate hepatic steatosis, and signs of disease recurrence with omental deposits.

To evaluate for spontaneous bacterial peritonitis, diagnostic ascitic fluid tapping under ultrasound guidance was performed, which showed elevated total and neutrophil counts. Based on these findings, antibiotics were escalated from piperacillin-tazobactam to meropenem.

She also reported breathlessness; arterial blood gas analysis showed hypoxia. Oxygen therapy at 4 L/min was initiated along with fluid restriction and intermittent bolus doses of furosemide (Lasix). After her hemoglobin stabilized to an acceptable level, she was advised to continue care under a regular oncology center and was discharged.

Book picture	Patient picture	Remarks
Epidemiology[2] • Rare, 3 - 9% of all uterine cancers • About 70% of uterine sarcomas • Peak incidence is > 50 years old; range of 30 - 70 years	• Patient is a 62-year-old female	Age is a factor
Sites[3-4] • Uterus corpus • Cervix, rare	• Had history of cervical fibroid.	Cervix was affected
Etiology[5] • Most patients do not have predisposing risk factors • Rare associations include: ➢ Prior pelvic radiation ➢ Tamoxifen use for > 5 years ➢ Very rare cases may arise from a pre-existing • Black women have a 2 fold higher risk compared with white women • Hereditary retinoblastoma and Li-Fraumeni syndrome are characterized by increased incidence of leiomyosarcoma	• Patient do not have predisposing risk factors	No etiology identified

Book picture	Patient picture	Remarks
Clinical features[6] • Nonspecific symptoms: ➢ Abnormal uterine bleeding, pelvic or abdominal pain • Rapidly growing uterine mass in a postmenopausal woman • Usually an incidental finding, identified in 0.13% of hysterectomies for benign indication and 0.39% of hysterectomies for uterine leiomyomas	• It was an incidental finding when treated for abnormal vaginal discharge	Incidental finding
Diagnosis[6] • Myomectomy, • Hysterectomy • Histological examination of the mass	• Hysterectomy	Hysterectomy done for the patient
Treatment[7-12] • Surgical resection (hysterectomy) is standard treatment for patients with localized leiomyosarcoma. • Adjuvant chemotherapy- for early-stage disease is controversial. • Bilateral salpingo-oophorectomy -in peri and postmenopausal patients • Lymphadenectomy-if there is evidence of concerning lymph nodes • Radiotherapy is indicated for palliative care. • Adjuvant chemotherapy for metastatic / recurrent tumors. • Immunotherapy for high uterine leiomyosarcoma . • Hormonal therapy may be an option.	• Surgical resection • Adjuvant chemotherapy (had 2 cycles)	Patient is continuing on chemotherapy.

DISCUSSION

Uterine leiomyosarcoma is a rare, 3 - 9% of all uterine cancers, and about 70% of uterine sarcomas. The peak incidence is > 50 years old; range of 30 - 70 years.[2] This patient is also 62 years old.

Uterine leiomyosarcoma has nonspecific symptoms such as abnormal uterine bleeding, pelvic or abdominal pain, rapidly growing uterine mass in a postmenopausal woman, or usually an incidental finding, identified in 0.13% of hysterectomies for benign indication and 0.39% of hysterectomies for uterine leiomyomas.[6] For this patient it was incidental finding when treated for abnormal vaginal discharge.

A uterine leiomyosarcoma diagnosis is confirmed by doing histological examination of mass removed by myomectomy or hysterectomy.[6] This patient had hysterectomy and the histological examination confirmed the diagnosis.

There are many treatment options available for metastatic leiomyosarcoma of the uterus such as Surgical resection (hysterectomy) is standard treatment for patients with localized leiomyosarcoma, Adjuvant chemotherapy- for early-stage disease is controversial, Bilateral salpingo-oophorectomy -in peri and postmenopausal patients, Lymphadenectomy-if there is evidence of concerning lymph nodes, Radiotherapy is indicated for palliative care, Adjuvant chemotherapy for metastatic / recurrent tumors, Immunotherapy for high uterine leiomyosarcoma and Hormonal therapy may be an option.[7-12] This patient had undergone surgical resection of uterus and adjuvant chemotherapy (had 2 cycles).

CONCLUSION

A uterine leiomyosarcoma is a rare cancer that develops from the smooth muscle lining the walls of the uterus (myometrium). Leiomyosarcoma is classified as a soft tissue sarcoma. Sarcomas are cancer tumors that arise from the connective tissue. The exact cause of leiomyosarcoma, including uterine leiomyosarcoma, is unknown.

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REFERENCES

1. Leiomyosarcoma (2024) Mayo Clinic. Available at: https://www.mayoclinic.org/diseases-conditions/leiomyosarcoma/symptoms-causes/syc-20577215 (Accessed: 17 July 2025).
2. Zorawar Singh and (LMS), A. (2017) Leiomyosarcoma: A rare soft tissue cancer arising from multiple organs, Journal of Cancer Research and Practice. Available at: https://www.sciencedirect.com/science/article/pii/S2311300617300344 (Accessed: 17 July 2025).
3. George S., Serrano C., Hensley M.L., Ray-Coquard I. Soft Tissue and Uterine Leiomyosarcoma. J Clin Oncol. 2018 Jan 10; 36(2): 144-150.
4. Roberts M.E., Aynardi J.T., Chu C.S. Uterine leiomyosarcoma: A review of the literature and update on management options. Gynecol Oncol. 2018 Dec; 151(3): 562-572.
5. George S., Serrano C., Hensley M.L., Ray-Coquard I. Soft Tissue and Uterine Leiomyosarcoma. J Clin Oncol. 2018 Jan 10; 36(2): 144-150.
6. Leiomyosarcoma.Pennmedicine.org. Available at: https://www.pennmedicine.org/conditions/leiomyosarcoma (Accessed: 17 July 2025).
7. Bonvalot S., Miceli R., Berselli M., Causeret S., Colombo C., Mariani L., Bouzaiene H., Le Péchoux C., Casali P.G., Le Cesne A., Fiore M., Gronchi A. Aggressive surgery in retroperitoneal soft tissue sarcoma carried out at high-volume centers is safe and is associated with improved local control. Ann Surg Oncol. 2010 Jun; 17(6): 1507-14.
8. Seagle B.L., Sobecki-Rausch J., Strohl A.E., Shilpi A., Grace A., Shahabi S. Prognosis and treatment of uterine leiomyosarcoma: A National Cancer Database study. Gynecol Oncol. 2017 Apr; 145(1): 61-70.
9. von Mehren M., Kane J.M., Agulnik M., Bui M.M., Carr-Ascher J., Choy E, *et al.,* Soft Tissue Sarcoma, Version 2.2022, NCCN Clinical Practice Guidelines in Oncology. J Natl Compr Canc Netw. 2022 Jul; 20(7): 815-833.
10. Gronchi A., De Paoli A., Dani C., Merlo D.F., Quagliuolo V., Grignani G., *et al.,* Preoperative chemo-radiation therapy for localised retroperitoneal sarcoma: A phase I-II study from the Italian Sarcoma Group. Eur J Cancer. 2014 Mar; 50(4): 784-92.
11. Kraybill W.G., Harris J., Spiro I.J., Ettinger D.S., DeLaney T.F., Blum R.H., Lucas D.R., Harmon D.C., Letson G.D., Eisenberg B. Long-term results of a phase 2 study of neoadjuvant chemotherapy and radiotherapy in the management of high-risk, high-grade, soft tissue sarcomas of the extremities and body wall: Radiation Therapy Oncology Group Trial 9514. Cancer. 2010 Oct 01; 116(19): 4613-21.
12. Loong H.H., Wong K.H., Tse T. Controversies and consensus of neoadjuvant chemotherapy in soft-tissue sarcomas. ESMO Open. 2018; 3 (Suppl 1): e000293.