www.jmscr.igmpublication.org
Index Copernicus Value: 79.54
ISSN (e)-2347-176x ISSN (p) 2455-0450
crossrefDOI: https://dx.doi.org/10.18535/jmscr/v7i3.116

IGM Publication
Journal Of Medical Science And Clinical Research
An Official Publication Of IGM Publication

Case Report

Uterine Leiomyosarcoma Metastatic to Anterior Abdominal Wall 10 Years after Hysterectomy

Authors
Mahendra S Navare[1], Ishita Katyal[2]*, Tanvi M Shah[3], Rajashri Kelkar[4]
Department of General Surgery, Grant Government Medical College & Sir JJ Group of Hospitals, Mumbai, Maharashtra India, Pin Code 400008
*Corresponding Author
Ishita Katyal
Room no 3, Doctor's Quarters first floor, St George Hospital, Mumbai 400008, India
Email: *ish_doctor@yahoo.co.in*, Tel: 9527676201

Abstract
*Uterine leiomyosarcoma is an uncommon tumour accounting for 1% of all uterine malignancies These are aggressive tumors with common sites of metastasis as peritoneal cavity, omentum, lung, pelvic lymph nodes, etc .Here we report a rare case of metastasis of uterine leiomyosarcoma to the anterior abdominal wall. A 36 year old patient with a history of supra-vaginal hysterectomy for uterine leiomyosarcoma 10 years back, presented with a lump in lower abdomen since 4 months. CECT pelvis suggested 7.7 *6.1 cm neoplastic mass in the anterior abdominal wall involving rectus abdominis and adjacent abdominal muscles. Tru-cut biopsy confirmed leiomyosarcoma. Repeat CECT after chemotherapy showed marginal reduction in the size. She underwent wide local excision of mass with a resulting defect of 20 x 15cm & abdominal wall reconstruction with a composite mesh & tensor fascia lata flap on 17/7/18.Final histopathology report confirmed the diagnosis. PET CT done on 21/9/18 revealed no residual disease.*
Keywords: leiomyosarcoma, metastasis to abdominal wall, soft tissue sarcoma.

Introduction

Uterine leiomyosarcoma is an uncommon tumour subtype that accounts for 1% of all uterine malignancies[1]. These are aggressive tumors with prognosis depending on the tumour stage & differentiation. The 5 year survival rates for well differentiated tumours are reported to be 63% for localized, 36% for regional metastatic & 14% for distant metastatic disease[2]. The common sites of metastasis are peritoneal cavity and omentum (59%), followed by the lung (52%), pelvic lymph nodes (41%), paraaortic lymph nodes (38%), and liver parenchyma (34%). Uncommon site of distant metastasis include the brain, heart, kidney; independent of pelvic and paraaortic nodal metastasis or intraperitoneal disease[3]. We report a rare of case of metastasis of uterine leiomyosarcoma to the anterior abdominal wall 10 years after the initial surgery which was managed successfully with induction chemotherapy followed by wide local excision & abdominal wall reconstruction with a composite mesh & tensor fascia lata flap. After a thorough literature review, we have found this to be the third reported case in literature.

Case Presentation

A 36 Age year old female patient came with a lump in lower abdomen progressively increasing in size since 4 months. She gave a history of supra-vaginal hysterectomy done for uterine leiomyosarcoma 10 years back. Patient did not receive any adjuvant treatment following hysterectomy. She had been asymptomatic since then until 4 months back. She was evaluated at a cancer centre for the same & received 3 cycles of Gemcitabine with doxorubicin based chemotherapy with partial response (marginal decrease in size of the mass).

When she came to our centre following chemotherapy her examination finding revealed an 8 x 7 cm hard mass in the lower abdomen about 3cm superior to & not involving the previous surgical scar (Pfanelstein's incision), 5cm inferior to the umbilicus & reaching the midline. The mass was fixed to the overlying skin & become fixed on head & leg raising tests suggesting it's origin from the anterior abdominal wall. She had an ECOG score 0.

All investigations were reviewed thoroughly. A contrast enhanced computed tomography scan (CECT) of pelvis was suggestive of a neoplastic mass in the anterior abdominal wall involving the full thickness of the lower part of rectus abdominis & some part of the adjacent external oblique, internal oblique & transversus abdominis, with suspicious invasion into the bladder wall. The mass measured 7.7 *6.1cm in greatest dimensions on the CECT. PET-CT was negative for any other focus of metastasis. A tru-cut biopsy of the mass had confirmed it to be a leiomyosarcoma & the patient had received chemotherapy for the same. Repeat CECT was done which showed marginal reduction in the size of the mass. There was suspicion of loss of fat planes with the bladder but no obvious invasion into the bladder musculature.

Patient was posted for wide local excision of the mass on 17/7/18.On exploration, fat planes with the bladder were found to be well maintained & a wide local excision of the mass involving full thickness of the abdominal wall including the peritoneum & the overlying skin was done with 3cm margins all around. The resulting defect measured 20 x 15cm.

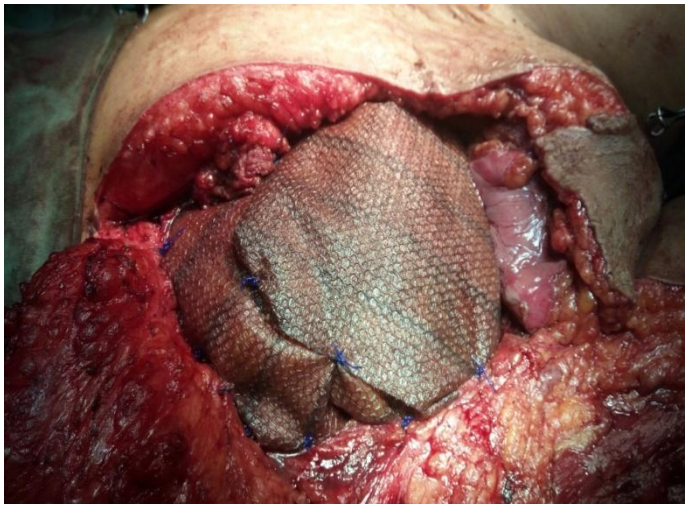
The defect was covered with composite meshes ensuring an adequate 5cm overlap on all sides & sutured to the margins of the rectus sheath at superior aspect & to the external oblique aponeurosis laterally. Inferiorly the mesh was placed freely (without sutures) on the peritoneum overlying the bladder.

The mesh was covered with a tensor fascia lata pedicled flap mobilised without tension from the ipsilateral thigh.

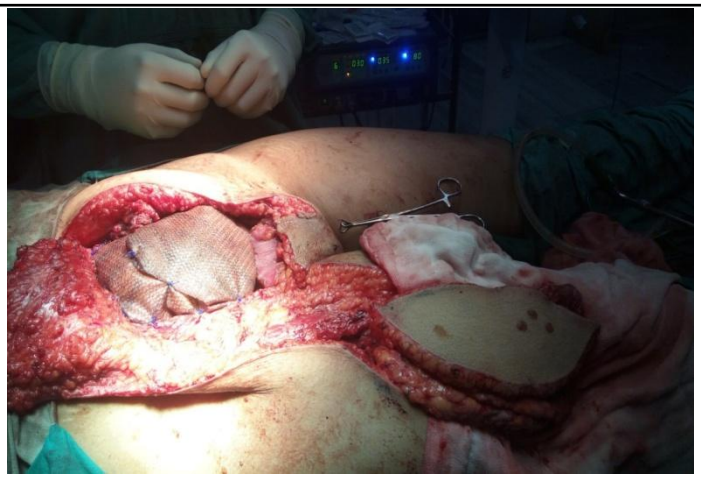
The patient had an uneventful post-operative recovery & the flaps healed well. The final histopathology report confirmed the diagnosis of a metastatic uterine leiomyosarcoma with negative margins. On immunohistochemistry tumour cells were negative for desmin while SMA showed equivocal staining suggesting deposits of metastatic sarcoma

PET CT done on 21/9/18 revealed seroma with peripheral low FDG uptake noted in anterior abdominal wall extending to the right inguinal region-post op changes. No other metabolically active disease noted suggesting residual disease

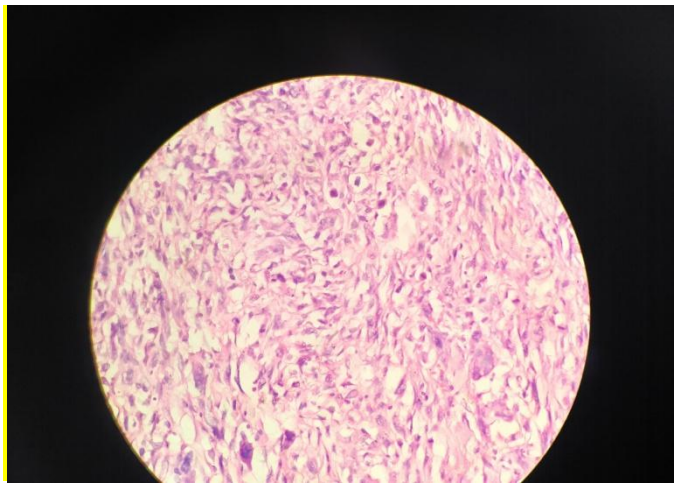
The patient was reviewed by oncologist and advised observation and follow up after a month.



Intra operative picture showing defect covered with composite mesh



The mesh was covered with a tensor fascia lata pedicled flap mobilised without tension from the ipsilateral thigh.



Histopathology slide:Tumour cells are arranged in bundles and fascicles. The individual tumour cells are spindle shaped with moderate amount of eosiniophilic cytoplasm, pleomorphic round to elongated nuclei with prominent nucleoli. Mitotic activity 8/10 hpf.

Discussion

Uterine sarcoma is a rare tumour which constitutes about 1-3% of all uterine tumours. The most common histologic variants of uterine sarcoma are: mixed mesodermal sarcoma (MMS), leiomyosarcoma (LMS) and endometrial stromal sarcoma (ESS) with the average incidence of 50%, 30% and 15% respectively[4]. Leiomyosarcoma is an aggressive tumour with an early widespread dissemination. Surgery, mainly total abdominal hysterectomy and bilateral salpingo-oophorectomy (TAH, BSO), constitutes the main therapeutic modality employed in this tumour[4]. The tumour spreads most commonly by haematogenous route to the lung, thyroid, liver, brain and bone[5] while spread to skeletal muscle is very rare.

After a thorough literature review we could find not more than 6 cases of skeletal muscle metastasis of uterine leiomyosarcoma have been reported (thigh[6], cheek[7], right temporal region[8] and two case of metastatic uterine leiomyosarcoma to the rectus abdominalis muscle. To the best of our knowledge this is the third case of metastatic uterine leiomyosarcoma to the rectus abdominalis muscle. This is also the largest metastasis to be completely excised, which required a reconstruction of the abdominal wall using a tensor fascia lata flap.

Gungar et al.[9] reported a case of a 39-year-old multigravid woman who underwent total abdominal hysterectomy, bilateral salphingo-oopherectomy and bilateral pelvic & paraaortic lymph node dissection and appendectomy in December, 2005 for uterine leiomyosarcoma. The patient complaint of a suprapubic mass of about 6cm and pelvic pain in March 2006. Operative findings of a second surgery revealed a myomatous mass measuring 4x5x6 cm located in the rectus abdominalis muscle that could not be totally excised from the rectus abdominalis muscle. Histopathological examination revealed leiomyosarcoma. Abdominal magnetic resonance imaging (MRI) done 1 month later suggested a 3.5x2.5x2 cm mass in the left rectus abdominis muscle, and chest X-ray showed 90x35 mm of opacity. She was given 25 cures in total of 50 gr external abdominal radiotherapy and 6 cures of chemotherapy of Adriamycin 100 mg, Haloxan 3 gr and mesna 3 gr after which she was lost to follow-up. Hence there is no information about the fate of the mass.

Kose et al[10] reported A case 57-year-old multigravid patient who presented with a palpable mass in her abdomen with a diameter of approximately 3.5 cm The patient had a history of hysterectomy seven years ago with a postoperative

histopathological report of leiomyosarcoma. Abdominal computerized tomography revealed a soft tissue mass with a diameter of 3.5 cm at the inferior site of the middle of both rectus abdominis muscles

The mass was completely excised. The case was diagnosed as leiomyosarcoma according to histopathology and immunohistochemistry findings.

Yoon BS et al[11] reported a case of recurrent uterine leiomyosarcoma invading the abdominal wall. This was a case of local recurrence. The patient underwent a cytoreductive surgery, including resection of rectus abdominis muscle followed by reconstruction of defect using a synthetic mesh followed by radiotherapy & chemotherapy.

Conclusion

In conclusion, our case is third of the rare reported cases of uterine leiomyosarcoma metastatic to the anterior abdominal wall. This is also the largest metastatic mass of the three reported. We have reported the successful management of this lesion with multimodality treatment involving induction chemotherapy followed by complete surgical excision with negative margins. We have also reported the successful reconstruction of the defect using composite meshes & pedicled tensor fascia lata flap.

No grants.

References

1. Gynecol Oncol. 2017 Apr;145(1):208-216. doi: 10.1016/j.ygyno.2017.02.019. Epub 2017 Feb 13. Uterine leiomyosarcoma: Epidemiology, contemporary treatment strategies and the impact of uterine morcellation. Ricci S1, Stone RL2, Fader AN3.
2. Survival Rates for Uterine Sarcoma, by Stage- American Cancer Society https://www.cancer.org/cancer/uterine-sarcoma/detection-diagnosis-staging/survival-rates.html Nov 13, 2017
3. Cancer. 1989 Mar 1;63(5):935-8. Patterns of metastasis in uterine sarcoma. An autopsy study. Rose PG1, Piver MS, Tsukada Y, Lau T. [pubmed]
4. Salazar OM, Dunne ME. The role of radiation therapy in the management of uterine sarcomas. Int J Radiat Oncol Biol Phys 1980; 6: 899-902
5. Güngör T, Akbay S, Aksüt H, Yılmaz B. Rectus abdominalis muscle metastasis from uterine leiomyosarcoma: An unusual case and review of the literature. *Journal of the Turkish German Gynaecological Association*. 2014;15(2):122-124. doi:10.5152/jtgga.2014.53533.
6. O'Brien JM, Brennan DD, Taylor DH, Holloway DP, Hurson B, O'Keane JC, Eustace SJ. Skeletal muscle metastasis from uterine leiomyosarcoma. Skeletal Radiol 2004; 33: 655-9.
7. Nusrath MA, Kendall CH, Avery CM. Metastatic uterine leiomyosarcoma masquerading as a primary lesion of the masseter muscle. Int J Oral Maxillofac Surg 2006; 35: 466-8.
8. Aslan E, Kuzeyli K, Cakir E, Reis A. Temporalis muscle metastasis of the uterine leiomyosarcoma: A case report. Turk Neurosurg 2008; 18: 215-8.
9. Courtney MW, Levine EA. Uterine leiomyosarcoma metastatic to soft tissue of the flank following a ten-year disease-free interval. South Med J 2009; 102: 325-6.
10. Recurrent uterine leiomyosarcoma: an atypical location. Köse M, Çelik F, Köse SK, Arıöz DT, Yılmazer M, Tokyol Ç. J Exp Ther Oncol. 2016 Nov;11(4):315-318
11. Eur J Gynaecol Oncol. 2014;35(4):449-51. Rectus abdominis muscle resection and fascial reconstruction for the treatment of uterine leiomyosarcoma invading the abdominal wall: a case report. Yoon BS, Seong SJ, Song T, Kim ML, Kim MK.