Transvaginal Resection of a Gastrointestinal Stromal Tumor (GIST) of the Rectum

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Introduction

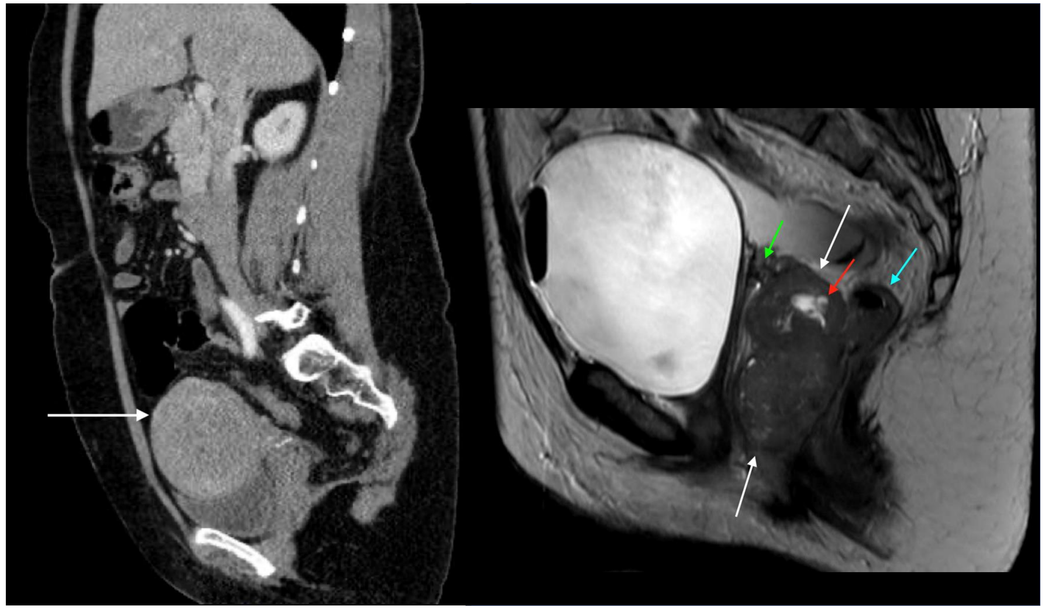
- Gastrointestinal stromal tumors (GIST) are connective tissue tumors commonly seen in the stomach, but can also occur in the small intestine, esophagus, colon, rectum, and mesentery.
- They have a spindle-cell histology, similar to that of leiomyomas, and often present with vague symptoms.
- Rectal GISTs are treated with imatinib and surgical resection via low anterior resection or abdominoperineal resection.

Patient Presentation and Workup

- A 49-year-old woman was found to have uterine fibroids during an evaluation for abnormal uterine bleeding. A large rectal mass was also palpated during the bimanual exam, and she was referred to general surgery clinic.
- A rectal exam under anesthesia demonstrated a nonobstructive anterior mass approximately 4-5 centimeters from the anal verge. The rectal mucosa did not show any obvious lesions, and biopsy revealed benign colonic mucosa without malignancy.
- She proceeded with her hysterectomy. The mass was palpated in the rectovaginal septum and was not continuous with the uterus or cervix.
- General Surgery was consulted intra-operatively, and the decision was made to complete the hysterectomy and proceed with diagnostic workup afterward.
- A pelvic MRI showed a well-circumscribed hypoenhancing mass originating from the posterior vaginal wall; it was favored to be benign or low-grade given its characteristics.

Operative and Postoperative Course

- The patient returned for excision of the mass. A transvaginal approach was used.
- Several solid multi-lobulated masses were enucleated from the rectovaginal septal space.
- A specimen was sent to pathology as a frozen section intra-operatively; the tissue architecture was reported as consistent with uterine leiomyoma.
- Meanwhile, a 1-mm lesion was taken as a posterior and inferior margin. It involved the rectum, and a rectorrhaphy was performed.
- She was discharged on postoperative day 1.



Round enhancing masses in the anterior uterine wall and posterior uterine fundus, consistent with uterine leiomyomas. No rectal mass was definitively visualized.

Hypointense exophytic mass in the rectovaginal pouch (white arrows) with partial cystic degeneration (red arrows). Vaginal mucosa (green arrow) is seen anteriorly with rectum (blue arrow) posteriorly.

Pathology and Follow Up

- The final pathology report identified the masses as a 10-cm GIST.
- The most posterior margin best demonstrated the GIST arising from the muscularis propria of the rectum. This was high grade, with high mitotic rate >15 per $5mm^2$ and multiple positive margins.
- The patient was referred to Medical Oncology and was started on Gleevec therapy.
- Her case has been discussed at tumor board; adjuvant radiation was not advised due to lack of clear-cut data. She was presented with the option of surgical resection, which would involve a permanent ostomy; she declined.
- Repeat imaging has shown no obvious distant metastases or residual rectovaginal region mass.

Discussion

- The simultaneous presence of uterine leiomyoma and rectal GIST – both of which can have similar gross and microscopic appearances – draws attention to this case.
- Recognizing that patients can have two simultaneous medical problems is critical in preventing a missed diagnosis and delay in care.
- Despite preoperative MRI and prior EUA, the rectal origin of the mass was unexpected in our patient.
- Surgical exploration with pathologic diagnosis remains the gold standard for obtaining an accurate and timely diagnosis. A safe and adaptive surgical approach is required in all cases, especially those in areas with high-risk complications such as the rectum.