Gastric leiomyosarcoma: A common tumor in an uncommon location

Muhammad B Malik, Kanish Mirchia, Prateek Harne

CASE REPORT

A previously healthy 51-year-old female presented with gradually worsening, 10/10 non-radiating epigastric abdominal pain associated with nausea, bilious vomiting, and weight loss. Computed tomography (CT) of the abdomen with intravenous contrast showed a large 10.7 × 9.5 cm exophytic mass in the antrum/body of the stomach (Figure 1A). An upper endoscopic evaluation revealed a large fungating, infiltrative, and ulcerated mass in the gastric body (Figure 1B). Histopathology of the biopsied mass was notable for spindle cells with a fascicular pattern, moderate nuclear atypia, abundant eosinophilic cytoplasm, and numerous mitotic figures. Immunohistochemistry analysis revealed that the tumor was diffusely positive for smooth muscle actin (SMA) (Figure 2A), desmin (Figure 2B), and calponin (Figure 2C). Ki-67 stain (Figure 2D) showed a high labeling index of 60% indicating a high-grade leiomyosarcoma. There was a complete lack of reactivity with DOG-1 and CD-117 (c-KIT) which excluded the diagnosis of a gastrointestinal stromal tumor (GIST). No evidence of metastatic disease and no lymph node involvement were noted in the head, abdomen, or thorax on the respective CT scans which were done for staging. Due to the large size of the tumor, the patient was started on a neoadjuvant chemotherapy regimen consisting of doxorubicin, ifosfamide, and mesna to reduce tumor burden with a future plan for surgical excision.

DISCUSSION

Leiomyosarcoma of the stomach is an extremely rare malignancy that accounts for fewer than 1% of gastric tumors [1]. Gastrointestinal stromal tumors were misdiagnosed as leiomyomas and leiomyosarcomas up until the early 2000s. An exophytic gastric tumor has broad differentials and diagnosis can be difficult to determine with radiology or histopathology alone [2].
Since the advent of KIT immunohistochemistry, primary gastric leiomyosarcoma can be distinguished from GIST due to the presence of CD117 (c-KIT) and DOG-1 in GIST cases and the presence of desmin, SMA, calponin in leiomyosarcomas [3].

CONCLUSION

Differentiation between GIST and leiomyosarcoma is of great clinical importance as the therapeutic approach is vastly different. Gastrointestinal stromal tumor usually responds to KIT-directed immunotherapy and is intrinsically resistant to many chemotherapeutic drugs.

Keywords: Gastric leiomyosarcoma, Gastroenterology, Oncology, Tumor

How to cite this article


REFERENCES


Acknowledgments

Harvir Singh Gambhir, MD, attending mentor.

Author Contributions

Muhammad B Malik – Conception of the work, Design of the work, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Kanish Mirchia – Interpretation of data, Drafting the work, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Prateek Harne – Design of the work, Interpretation of data, Drafting the work, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Guarantor of Submission

The corresponding author is the guarantor of submission.

Source of Support

None.

Consent Statement

Written informed consent was obtained from the patient for publication of this article.

Conflict of Interest

I hereby certify that, to the best of my knowledge: (1) the work that is reported on in said manuscript has not received financial support from any pharmaceutical company or other commercial interest except as described below, and (2) neither I nor any first-degree relative has any special financial interest in the subject matter discussed in said manuscript. (I understand that an example of one type of such special financial interest would be ownership, by me or a first-degree relative, of a company that sells a product relating to the subject matter of the manuscript.)

Data Availability

All relevant data are within the paper and its Supporting Information files.

Copyright

© 2020 Muhammad B Malik et al. This article is distributed under the terms of Creative Commons Attribution License which permits unrestricted use, distribution and reproduction in any medium provided the original author(s) and original publisher are properly credited. Please see the copyright policy on the journal website for more information.