

Leiomyosarcoma of Stomach

Batyrbekova K*, Galiakbarova A and Ualikhanov A

Department of expert endoscopy, National Research Oncology Center, Nur-Sultan, Kazakhstan

*Corresponding author:

Kanat Batyrbekov,
Department of expert endoscopy, National Research
Oncology Center, Kerey, Zhanibek khandar St 3,
Nur-Sultan 010000, Kazakhstan,
Tel: +7-707-474-4980,
E-mail: dr.kanat77@gmail.com,
kense@cancercenter.kz

Received: 20 Jan 2021
Accepted: 03 Feb 2021
Published: 07 Feb 2021

Copyright:

©2020 Batyrbekova K et al. This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and build upon your work non-commercially.

Keywords:

Leiomyosarcoma; Rare type of cancer; Gastrointestinal cancer; Sarcoma; Endoscopy

Citation:

Batyrbekova K, Leiomyosarcoma of Stomach. Clin Onco. 2020; 3(5): 1-3.

1. Abstract

Leiomyosarcoma is a malignant tumor that forms from smooth muscle tissue. The average age of the disease is 40 to 60 years. The tumor is characterized by rapid progressive growth with a high degree of malignancy, while it often recurs and at the early stages it metastasizes to other organs. Of the sarcomas in the stomach, the most common is leiomyosarcoma, which accounts for 1-3% of all stomach tumors. The tumor rarely grows into neighboring organs and tissues; it does not metastasize to the lymph nodes, but it does metastasize to the liver and lungs. Most of the cases

described as leiomyosarcomas were actually gastrointestinal stromal tumors and therefore only 13 cases of true gastric leiomyosarcomas have been published in the English-language literature since the 2000s. In this article, we presented our first event on the diagnosis of gastric leiomyosarcoma.

2. Introduction

Due to a small percentage of these tumors, there is still no standard treatment protocol for these patients, but standard gastric resection is used.

The main method in the chain of diagnostic measures is morphological (histological and immunohistochemical) examination of the material after a tumor biopsy [1]. All leiomyosarcomas can be divided into the following morphological variants: spindle cell (traditional), pleomorphic, epithelioid, myxoid, and inflammatory [2]. Histological examination of the tumor, currently, in the vast majority of cases, does not allow the pathologist establish an ac-

curate morphological diagnosis. Currently, immunohistochemical treatment is widely used all over the world. 5 research using mono- and polyclonal antibodies [3].

With the advent of immunohistochemistry and its increasing availability for the diagnosis of stromal tumors, the frequency of leiomyosarcomas has significantly decreased. Currently, gastric leiomyosarcoma is an exceptionally rare tumor. We report the first case in the kazakh endoscopy society and kazakh oncology of gastric leiomyosarcoma revealed with metastatic disease of brain and lung.

3. Case Report

Patient S. 68 years old, was admitted to the paid department for further examination with a diagnosis: MTS of both lungs without a primary lesion. Volume formation of the left parietal-occipital region. Convexital meningioma? Chronic calculous cholecystitis. Bronchial asthma, persistent course, moderate severity. Bronchiectasis. Arterial hypertension 3 St, risk 3.

It is aimed at endoscopic check-up to identify the primary focus (bronchoscopy, gastroscopy, colonoscopy).

During gastroscopy – at the level of the middle part of the stomach body in the area of large curvature, an oval-shaped formation was revealed, raised with a depression and ulcerative deformity in the center, at the bottom of the detritus is white, measuring 1.8 X1,2x0.5 cm, on the surface and along the edges of the vascular pattern is uneven, bizarre, there are avascular areas, the surface pattern is structureless, during biopsy the tissue is stony consis-

tency, during biopsy it bleeds moderately, a biopsy was taken for morpho-analysis.

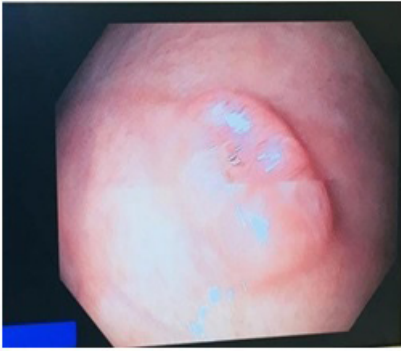


Figure 1: Image of gastric leiomyosarcoma in white light.



Figure 2: Image of gastric leiomyosarcoma in NBI.

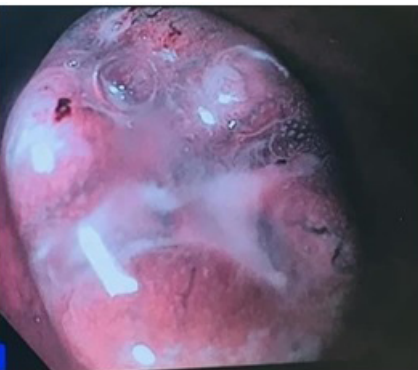


Figure 3: Image of gastric leiomyosarcoma in NBI and Dual Focus.

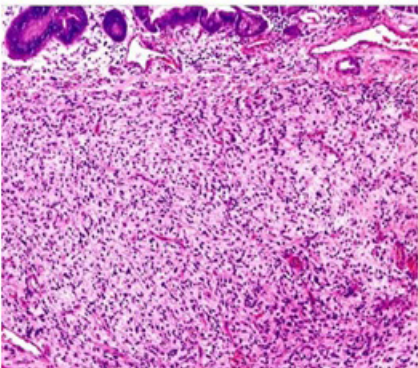


Figure 4: The microscopic picture.

The 1st photo shows the formation of the stomach in white light, flat raised shape with depression in the center. In the 2nd photo, the same formation in narrow-spectral mode, an irregular vascular

pattern of the surface mucosa is visible. In the 3rd photo, the formation of the stomach in narrow-spectral mode with magnification (Dual Focus) - you can see vascular-free areas and vessels of a bizarre shape.

The 4th photo shows the morphological picture of the biopsy material-fragments of the gastric mucosa with the presence of tumor growth, represented by spindle-shaped cells that form short bundles. Cell nuclei are polymorphic, and mitoses are isolated.

Immunoperoxidase method was used to study with antibodies to S100-positive cytoplasmic expression; Caldesmon, Desmin-positive cytoplasmic expression of tumor cells; CD117-no expression; Ki67-30%. Conclusion of the immunohistochemical study-morphological picture and immunophenotype, most appropriate for gastric leiomyosarcoma, Grade II.

4. Conclusion

Until the end of the 20th century, most gastrointestinal stromal tumors were mistaken for leiomyomas and leiomyosarcomas, but advances in immunohistochemistry and increased its reliability have reduced the frequency of diagnosis of gastric leiomyosarcomas to 1% of all gastric malignancies [4]. Only 10-15% of mesenchymal gastric tumors can morphologically be true leiomyosarcomas. The clinical picture and age group of patients with gastric leiomyosarcoma are similar to malignant stromal tumors of the gastrointestinal tract and the average age of patients is 50-60 years with a slight predominance of men. In these sarcomas, there are no typical stomach symptoms such as heartburn, hunger pains, etc., nor are there any systemic symptoms such as general weakness, night sweats, etc. Most of these tumors are clinically asymptomatic for a long time, until they grow large and begin to ulcerate and bleed. Thus, the primary diagnosis is rarely made before surgery based on physical and clinical data and is therefore a godsend for emergency gastroscopy.

Almost all known types of medical imaging are used to diagnose gastric leiomyosarcoma. For example, for large formations, computed tomography of the thoracic and abdominal organs is performed to assess the primary spread of the tumor and the stage of metastasis. For small formations of the gastrointestinal tract less than 2 cm, endosonography is used. In patients with unresectable and metastatic tumors, an endoscopic or percutaneous biopsy is performed for final diagnosis before starting treatment. Percutaneous biopsy or laparoscopic biopsy is not appropriate for resectable formation due to the risk of tumor rupture or dissemination of the process into the abdominal cavity, unless this can lead to a change in treatment.

Since the histological spectrum of stromal tumors of the gastrointestinal tract was much wider than previously thought, it was therefore mandatory to conduct a macroscopic study of the tumor site with adequate sampling for morphological verification and

immunohistochemical phenotyping. The surgeon determines the operability and resectability of the formation, as well as the general preoperative status of the patient. Since there is no lymphogenic metastasis in leiomyosarcomas, lymphodissection is not shown here, and metastasis is mainly hematogenic, and as a result, the five-year survival rate after surgical resection is 37-54% [5].

In the treatment of such patients, more attention is paid to gastric resection than to chemotherapy and radiation therapy in advanced cases. The prognosis is still unfavorable for patients with such a tumor.

The final diagnosis of leiomyosarcoma, which occurs between the muscle layers of propria and muscularis mucosa, is established on the basis of data from a histological study. And when a superficial biopsy material is taken from the stomach formation, it can give a negative morphological picture and therefore a deep biopsy is required. In the diagnosis of gastric leiomyosarcoma, endoscopic ultrasound showed high sensitivity, up to 97% [6]. This technology of taking biopsy material under ultrasound navigation was not available in our facility, so during gastroscopy, we used a step-by-step biopsy, which allows us to take deep biopsies. Thus, gastric leiomyosarcoma is a very rare tumor, and the diagnosis is made on the basis of histological examination with immunohistochemical confirmation.

References

1. Abdulazeez S, Malee F, David H, et al. Establishment and molecular characterisation of seven novel soft-tissue sarcoma cell lines. *British Journal of Cancer*. 2016; 115: 1058-68.
2. Coffin CM, Hornick JL, Fletcher CDM. Inflammatory myofibroblastic tumor: comparison of clinicopathologic, histologic, and immunohistochemical features including ALK expression in atypical and aggressive cases. *The American Journal of Surgical Pathology*. 2007; 31: 509-20.
3. Jo VY, Fletcher CDM. WHO classification of soft tissue tumours: an update based on the 2013 (4th) edition. *The journal of the Royal College of Pathologists of Australasia*. 2014; 46: 95-104.
4. Mehta V, Rajawat M, Rastogi S, Phulware RH, Mezencev R. Leiomyosarcoma of the stomach with metastasis to the liver: a case report with review of the literature. *Future Science*. 2018; 4(2).
5. Leeman MF, Skouras C, Paterson Brown S. The management of perforated gastric ulcers. *Int J Surg*. 2013; 11(4): 322-4.
6. Guo-Qiang Xu, Bing-Ling Zhang, You-Ming Li, et al. Diagnostic value of endoscopic ultrasonography for gastrointestinal leiomyoma. *World J Gastroenterol*. 2003; 9(9): 2088-91.