

Linitis Plastica, Our Experience with the Diagnosis

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:

Linitis plastica; Diffuse type of gastric cancer; Gastro-intestinal cancer; Bormann IV; Endoscopy

Citation:

Batyrbekova K, Linitis Plastica, Our Experience with the Diagnosis. Clin Onco. 2020; 3(5): 1-3.

1. Abstract

1.1. Introduction: Linitis plastica is a diffuse form of gastric cancer and accounts for about 10% of all cases of gastric malignancy and its exact general population distribution is unknown. There are no characteristic or specific symptoms, the symptoms are similar to those of other forms of stomach cancer and can manifest as a feeling of fullness after eating, nausea and vomiting, epigastric pain, weight loss, and progressive dysphagia [1]. Plastic linitis is characterized by malignant glandular proliferation of cricoid cells in the fibrous stroma, which ultimately leads to thickening and rigidity of the stomach wall.

1.2. Presentation: We present three cases of plastic linitis that were diagnosed in our clinic. One case we diagnosed in last stage after surgery treatment and two cases we diagnosed after GI examination with biopsy with snare.

1.3. Conclusion: Diagnosis of diffuse type of stomach cancer in the early stages is problematic, but the presence of thickened folds, wall rigidity, and lack of peristalsis should alert the doctor. And taking multiple biopsies and loop resection of the affected area increases the morphological value of the biopsy material and gives a chance to confirm the diagnosis of diffuse stomach cancer.

2. Introduction

Linitis plastica is a diffuse form of gastric cancer and accounts for about 10% of all cases of gastric malignancy and its exact general population distribution is unknown. Plastic linitis affects women

more often than men and is more common in the Asian population than in the European one. The age group of patients is lower than that of classic gastric carcinoma, and the disease often begins before the age of 40, sometimes in very young patients (from 20 to 25 years). There are no characteristic or specific symptoms, the symptoms are similar to those of other forms of stomach cancer and can manifest as a feeling of fullness after eating, nausea and vomiting, epigastric pain, weight loss, and progressive dysphagia [1]. Plastic linitis is characterized by malignant glandular proliferation of cricoid cells in the fibrous stroma, which ultimately leads to thickening and rigidity of the stomach wall. There are two types of plastic-type with 1-m the type of lesion begins with the proximal stomach (body) in the form of thickening of folds, the 2nd type of so-called "flat" starts with an of the antrum and is characterized by flattening of the folds and stiffness. Unlike other types of stomach cancer, plastic linitis often and quickly gives lymphatic and peritoneal dissemination. Gastric LP may be primary or secondary as a result of infiltrating lobular breast carcinoma. LP is usually a sporadic disease, but family cases have been documented in the literature [2].

In the 1st picture, single cricoid cells are located in the fibrous stroma.

3. Case Report

In this article, we report 3 cases of plastic linitis that we have diagnosed. The first patient, a 66-year-old woman, was referred for routine gastroscopy with complaints of dysphagia and difficulty

passing solid food. On gastroscopy from April 17 of 2018 the examination was performed transnasally with an pediatricgastro-scope, there was no rigidity of the esophageal-gastric junction and infiltration of the esophageal and gastric mucosa, there is duodeno-gastric reflux.

MRT of June 05, 2018: infiltrative cancer of the proximal part of the stomach, hypertrophic gastritis, perigastric lymphadenopathy is not excluded. X-ray examination of the esophagus and stomach from June 25 of 2018 on the large curvature of the middle third of the stomach body, a depressed contour of 2 x 7 sm in size, with a symptom of repeatability. Conclusion: Submucosal cancer of the stomach.

Photos 2 and 3 show the evolution of changes in the gastric mucosa in the first patient before the diagnosis of plastic linitis.

Repeated gastroscopy from June 19 of 2018 - the cardiac pulp is circularly infiltrated, we pass with effort for an endoscope with a diameter of 0.9sm, the stomach walls are rigid, the process circularly extends to the corner of the stomach, a polytope biopsy was taken. Morphology from June 20 of 2018-chronic atrophic gastritis. On June 29 of 2018, an exploratory laparotomy was performed to determine the resectability and operability of the tumor, as well as an intraoperative biopsy. Morphology from July 02 of 2018-adenocarcinoma. Control gastroscopy after starting chemotherapy on October 30 of 2018 endoscopic picture with positive dynamics, cardiac pulp is freely passable, the stomach walls are elastic, peristalsis appeared, the relief of the mucosa in the body is regular, apolytropic biopsy was taken. Morphology from October 30 of 2018-chronic atrophic gastritis with colonic metaplasia. Treatment - 6 courses of palliative chemotherapy oxaliplatin, 5-fluorouracil. Fatal outcome within 6 months.

The second patient, a 58-year-old woman, was referred for routine gastroscopy with complaints of dysphagia, lack of appetite, fast food saturation, and weight loss. During gastroscopy – diffuse thickening of the folds, total circular decrease in the lumen of the stomach, rigidity of the walls, lack of peristalsis, the mucosa is not elastic during biopsy, does not tighten. Loop resection and biopsy were performed from the bottom of the resected area. Morphology-moderately differentiated adenocarcinoma. The outcome is unknown.

On the 4th photo of the endoscopic picture of the second patient with a plastic defect. There is a thickening of the folds, a decrease in the lumen of the stomach.

The third patient, a 30-year-old woman, was sent to our clinic for expert diagnosis with a preliminary diagnosis of stomach cancer. Primary gastroscopy was performed in a regional clinic a month earlier, gastroscopy revealed thickening and hypertrophy of the folds, a biopsy was taken, the morphology gave hypertrophic gastritis. A second gastroscopy was performed a month after the initial

one in our clinic. On gastroscopy, there is a diffuse thickening of the folds, narrowing and deformation of the folds in all parts of the stomach (by type-intestinal tube), the surface and vascular pattern is irregular, the walls are rigid, and there is no peristalsis. The biopsy was taken from polytope + loop resection of the protruding area and from the bottom of the resected area. And only in 2 biopsies, including from the bottom of the resected area, ring-shaped cells were found. For consultation and second opinion, the glass products were sent to another laboratory, where cricoid cell cancer was confirmed. The patient is currently undergoing the 1st course of chemotherapy.

In 5th image, an endoscopic picture of the gastric mucosa in white light after taking a loop biopsy.

Thus, in the primary endoscopic diagnosis of gastric cancer with a suspected infiltrative form of gastric cancer (plastic linitis), it is necessary to perform a loop resection of the fold of the gastric mucosa and additionally take a biopsy material from the bottom of the resected area, which will increase the diagnostic value of the biopsy material. (Figure 1-5).

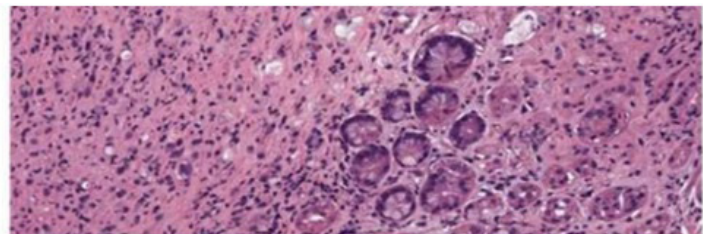


Figure 1: Microscopic picture of linitis plastica.



Figure 2: Second gastroscopy of first patient.

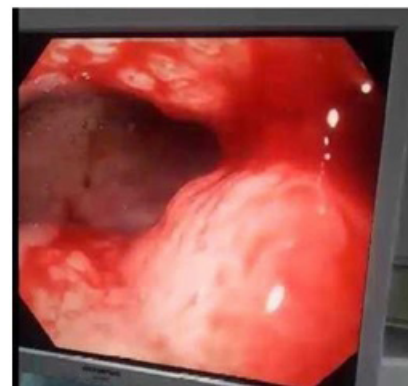


Figure 3: Third gastroscopy of first patient.



Figure 4: Image of second patient.



Figure 5: Image of third patient after biopsy with snare.

4. Conclusion

Diagnosis of diffuse cancer is often problematic, since there is an endoscopically inactive phase and an endoscopically active phase. In the endoscopically inactive phase, there are complaints of dysphagia, but there are no visually visible changes in the endoscopic picture, such as thickening or flattening of the folds, wall rigidity. In the endoscopically active phase, there is already a thinning of the folds, rigidity of the walls, the absence or weakening of peristalsis, but multiple surface biopsies are often negative and by this time there is peritoneal and lymphogenic dissemination [3]. Therefore, a deep step-by-step biopsy with morphological verification of cricoid cells in the fibrous stroma of the stomach wall is required. Stomach x-ray with contrast is one of the final acts of diagnosis and gives a characteristic picture of narrowing of the lumen, reducing the size of the stomach, thickening of the folds, and lack of peristalsis. Endosonography reveals blurring and thickening of the first three layers and a significant thickening of the 4th echolayer of the stomach wall up to 10-20 mm. Computed tomography and endosonography can be useful for diagnosing and evaluating local distribution.

The differential diagnosis should include malignant diseases (adenocarcinoma and lymphoma) and some benign diseases with thickening of the gastric wall (Menetrier's disease, lymphoid hyperplasia and amyloidosis; see these terms).

Surgical treatment is possible only in 20-25 % of cases of this disease, since there is early peritoneal dissemination and distant metastases. The operation is indicated only for localized lesions; total gastric resection is performed.

In most cases of plastic linitis, chemotherapy is the only alternative to treatment, but its effectiveness in this form of cancer is very low. Even with complete surgical excision of the tumor, adjuvant chemotherapy does not give such a positive effect as in classic gastric adenocarcinoma [4]. And so the average survival without gastrectomy is 6 months and with gastrectomy 14 months on average. Due to early peritoneal dissemination, lymphatic invasion and metastasis to neighboring organs, the prognosis for this disease is unfavorable. The 5-year survival rate is only 10-20% in Europe and Japan [5].

References

1. Agnes A, Jeannelyn S. Estrella and Brian Badgwell. The significance of a nineteenth century definition in the era of genomics: linitis plastica. *World Journal of Surgical Oncology*. 2017; 15: 123.
2. Karila-Cohen P, Petit T, Aparicio T, Teissier J, Merran S. Linitis plastica. *J Radiol*. 2005; 86: 37-40.
3. Komorowski RA, Caya JG, Geenen JE. The morphological spectrum of large gastric folds: Utility of snare biopsy. *GastrointestEndosc*. 1986; 32: 190-2.
4. Yonemura Y, de Aretxabala X, Fujimura T, Fushida S, Katayama K, Bandou E, et al. Intraoperative chemo hyperthermic peritoneal perfusion as an adjuvant to gastric cancer: Final results of a randomised controlled study. *Hepatogastroenterology*. 2001; 48: 1776-82.
5. Schauer M, Peiper M, Theisen J, Knoefel W. Prognostic factors in patients with diffuse type gastric cancer (Linitis Plastica) after oper-