Journal of Pathology and Toxicology Research
JPTR, 1(1):31-35
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Case Report: Open Access

Primary Squamous Cell Carcinoma of the Stomach: A Case Report and Literature Review

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Received March 19, 2020; Accepted April 14, 2020; Published June 28, 2020

ABSTRACT

Primary squamous cell carcinoma (SCC) of the stomach is rare. Its pathogenesis is also unclear and there are conflicting reports about it in the past. Only about 100 cases have been reported so far in the literature. The exact pathology of this uncommon carcinoma in stomach remains unknown. This is an additional case report of SCC in an elderly male arising in the gastric antrum. He underwent upper GI endoscopy for pain abdomen and evaluation of anemia. It revealed antral ulcer, biopsy showed squamous cell carcinoma (SCC) of the stomach without any adenocarcinoma component. His CT evaluation showed multiple hepatic focal lesions suggestive of metastasis.

Keywords: Squamous cell carcinoma, Stomach, Adenocarcinoma component, GI endoscopy

INTRODUCTION

Most of the gastric cancer cases include adenocarcinoma. Squamous cell carcinoma (SCC) of the stomach is an extremely rare entity, with an annual incidence rate of 0.04 to 0.07% [1]. SCC was first identified in 1895, and <100 cases have been reported worldwide. The pathogenesis of SCC remains unclear. Primary SCC of the stomach is often diagnosed at late stage and its prognosis is usually poor. Furthermore, no effective chemotherapy has been identified.

CASE REPORT

A 60-year-old Egyptian male with a two-month history of upper abdominal pain and Anemia was admitted to the local area hospital in Kuwait. Initially, the patient did not show any symptoms of nausea, vomiting, dysphagia or melena. The physical examination and routine laboratory tests upon admission showed anemia. The upper gastrointestinal endoscopy revealed a protruding mass located in the antrum. This mass was approximately 12 cm in diameter and displayed surface bleeding (as seen in **Figure 1**).

Biopsy showed SCC of stomach without any adenocarcinoma component. CT scan **(Figure 2)** done for metastatic workup which showed antral mass with perigastric nodes and multiple hepatic focal lesions which was in operable. Further pathological examination of the biopsy specimen revealed SCC characteristics, displaying a typical keratin pearl formation and intracellular bridges **(Figure 3).** Immunohistochemical staining was positive for cytokeratin as seen in **Figure 4**.

He presented to us and after discussion in GI MDT a short course of palliative radiation was given for local control of bleeding from antrum and we started him with palliative chemotherapy a combination consisting of docetaxel, cisplatin, 5FU was administered for four days after every 21 days. In total, the patient received three cycles of the chemotherapy regimen. A follow-up abdominal CT scan, three months later, revealed a partial response. We are continuing chemotherapy. The patient is still alive today after 5 months of his diagnosis.

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Citation: Mohanty AK, Jaroslavnemec, Albarrak J & Alnajjar A. (2020) Primary Squamous Cell Carcinoma of the Stomach: A Case Report and Literature Review. J Pathol Toxicol Res, 1(1): 31-35.

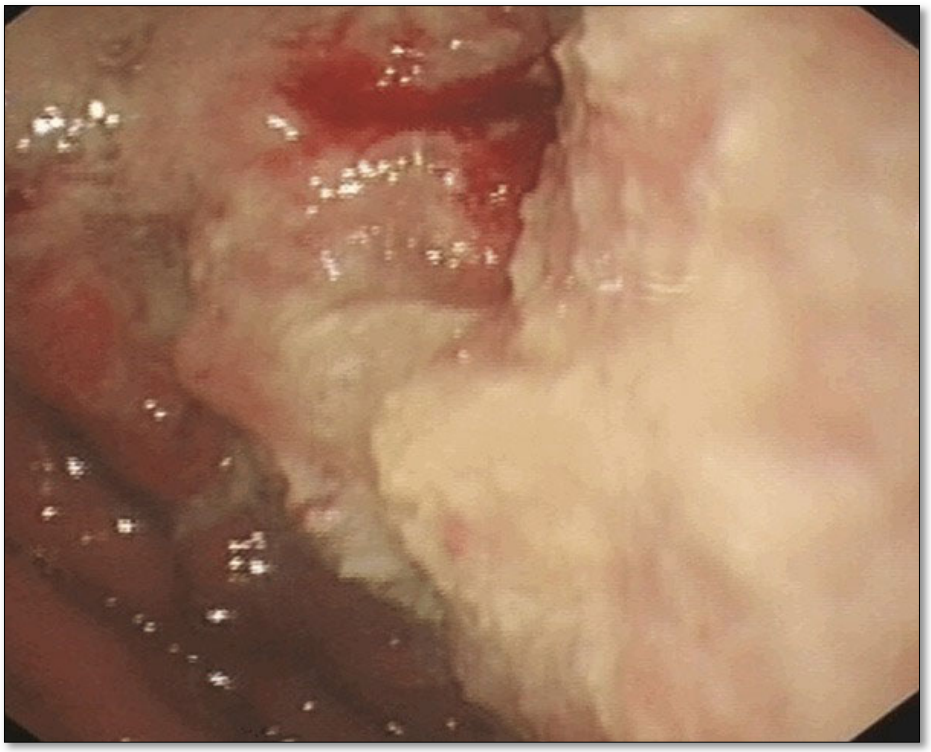

Figure 1. Endoscopic image of the large tumor predominantly located in the antrum.

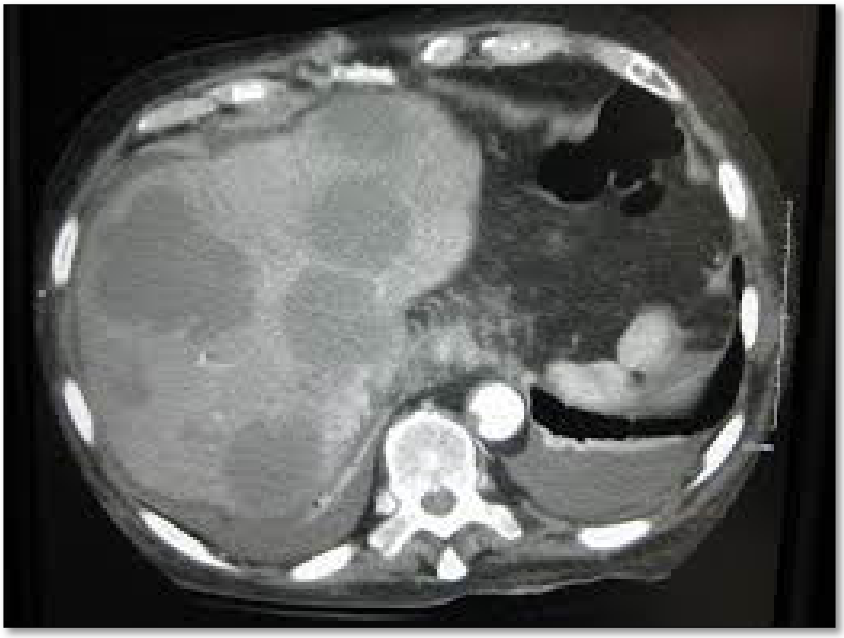

Figure 2. CT scan showing stomach mass with multiple hepatic metastases.

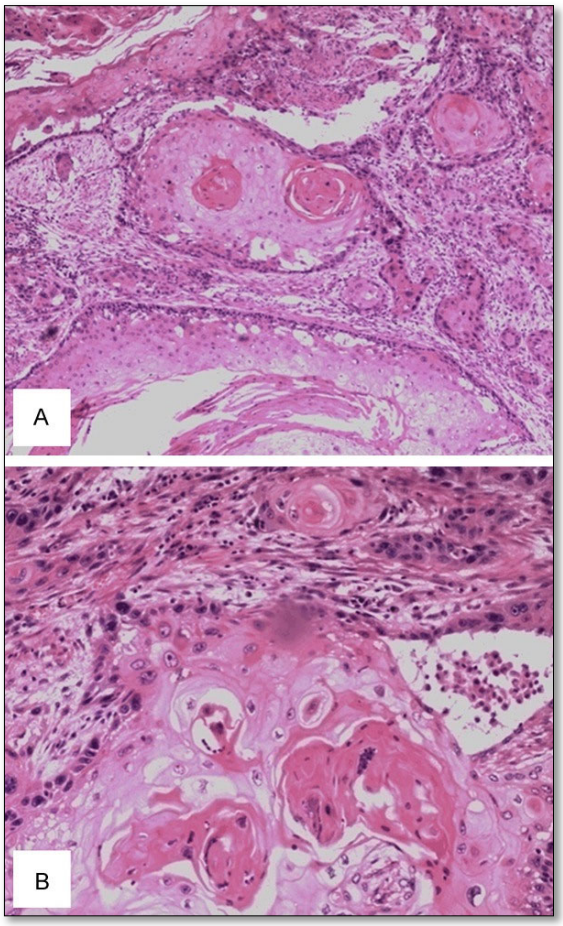

Figure 3. A) HE staining of the tumor showing tumor nests (40×, magnification). B) HE staining showing the typical keratin pearl formation and intracellular bridges, characteristic of SCC, at a higher (magnification of 100×).

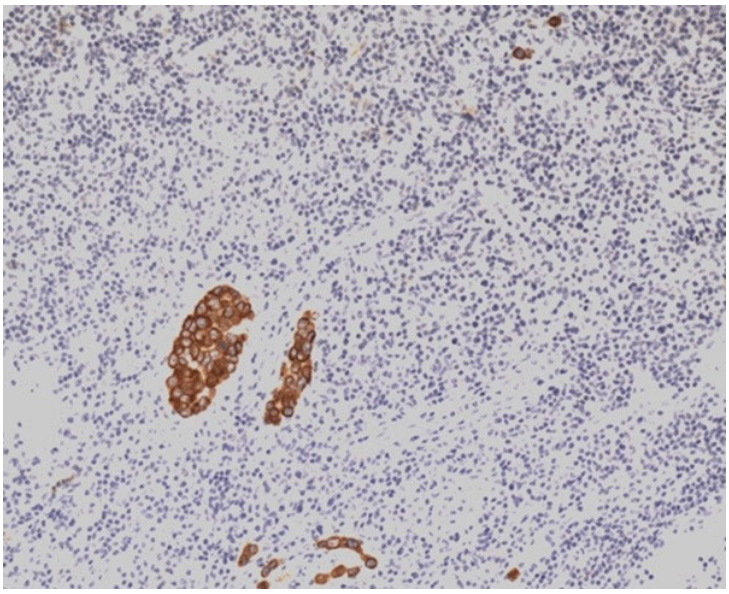

Figure 4. Immuno histo chemical staining of cytokeratin (magnification, 40×).

DISCUSSION

Gastric cancer is a major health problem worldwide. **Adenocarcinoma** is the most common type of gastric cancer, accounting for more than 90% of gastric malignancy. Remnants are lymphomas, gastrointestinal stromal tumors, carcinoid tumors, metastatic diseases, and primary SCC. Rörig first reported primary SCC of the stomach in 1895 [2], but to date, fewer than 100 cases have been reported in the English language literature. Primary gastric SCC is extremely rare, with an estimated incidence of 0.04-0.07%.1 Men have a higher likelihood of developing primary gastric SCC compared with women, with a male-to-female ratio of 3.5:1. The peak incidence of primary gastric SCC is in the sixth decade of life. The most common tumor location is the proximal third of the stomach. Diagnosed tumors have a mean diameter of 7 cm [3,4].

In contrast to gastric adenocarcinoma arising from the glandular epithelium of the gastric mucosa, the pathogenesis of gastric SCC is not clearly understood. Several theories have been proposed regarding the pathogenesis of gastric SCC, including (1) ectopic squamous cells in the gastric mucosa, (2) squamous metaplasia of the gastric mucosa before malignant transformation, (3) tot potential stem cell in the gastric mucosa, (4) squamous differentiation in a preexisting adenocarcinoma, and (5) gastric vascular endothelial cells [5].

Because squamous epithelium lines the esophagus rather than the stomach, SCC involving both the gastric cardia and distal esophagus exhibits high possibility of an esophageal origin. Parks in 1967 suggested 3 diagnostic criteria for primary SCC of the stomach [6]: (1) The tumor must not extend into the esophagus; (2) the tumor must not be located in the cardia; and (3) there must be no evidence of SCC in any other organ. A debatable point is that, according to Parks' criteria, a true primary gastric SCC might be excluded if the tumor is located in the cardia. To obtain a precise diagnosis in primary gastric SCC, obtaining and integrating all clinical clues, including pathology, laboratory data, and image studies, is imperative. However, a tumor's location in the gastric cardia should not be designated as an exclusion condition. Instead of adhering to Parks' criteria, we could adopt the Japanese Gastric Cancer Association criteria: (1) all tumor cells are SCC cells, without Aden carcinomatous components in any section, and (2) distinct evidence that SCC arises directly from the gastric mucosa [7].

Immunohistochemistry are typically adopted to confirm the diagnosis of SCC, particularly strong staining for CK5/6, p40, and p63 [8-11]. However, immunohistochemistry is not applicable in discriminating primary SCCs from different tumor sites, although it may suggest the most likely site in most cases with adenocarcinoma of unknown primary origin [10].

Metastatic SCC of the stomach mainly develops via the lymphatic route rather than the bloodstream route. The most prevalent primary sites are the lung, liver, bone [12]. PET scan is currently one of the most rigorous methods and provides useful information for detecting suspicious metastasis. In our case CT scan confirmed metastatic disease in liver so we did not go for PETCT. The prognosis of gastric SCC is contradictory. Some reports have indicated that primary gastric SCC has a more favorable prognosis compared with gastric adenocarcinoma [2,13], whereas others have suggested the opposite [3-5]. The overall survival of patients with gastric SCC is from 7 months to 8 years [14-16]. In our case the patient is doing well with palliative chemotherapy. Now he is surviving after 5 months of his diagnosis.

REFERENCES

1. Takita J, Kato H, Miyazaki T, Nakajima M, Fukai Y, et al. (2005) Primary squamous cell carcinoma of the stomach: A case report with immune histochemical and molecular biologic studies. Hepatogastroenterology 52: 969-974.
2. Altshuler JH, Shaka JA (1966) Squamous cell carcinoma of the stomach. Review of the literature and report of a case. Cancer 19: 831-838.
3. Wakabayashi H, Matsutani T, Fujita I, Kanazawa Y, Nomura T, et al. (2014) A rare case of primary squamous cell carcinoma of the stomach and a review of the 56 cases reported in Japan. J Gastric Cancer 14: 58-62.
4. Hwang SH, Lee JH, Kim K, Shin DH, Kim JY, et al. (2014) Primary squamous cell carcinoma of the stomach: A case report. Oncol Lett 8: 2122-2124.
5. Callacondo D, Ganoza-Salas A, Anicama-Lima W, Quispe-Mauricio A, Longacre TA (2009) Primary squamous cell carcinoma of the stomach with paraneoplastic leukocytosis: a case report and review of literature. Hum Pathol 40: 1494-1498.
6. Parks RE (1967) Squamous neoplasms of the stomach. Am J Roentgenol Radium Ther Nucl Med 101: 447-449.
7. Japanese Gastric Cancer A (1999) Japanese classification of gastric carcinoma (13thedn.) Kanchara, Tokyo.
8. Akbulut S, Finci R, Ozyilkan E (2003) Primary squamous cell carcinoma of the stomach: A case report. Acta Gastroenterol Belg 66: 189-190.
9. Wang G, Chen P, Shi L, Zhao W (2014) Squamous cell carcinoma arising from an unknown primary site metastasizing to the stomach: A case report. Oncol Lett 7: 1063-1066.
10. Hu JB, Zhu YH, Jin M, Sun XN (2013) Gastric and duodenal squamous cell carcinoma: metastatic or primary? World J SurgOncol 11: 204.

11. Kanthan R, Senger JL, Diudea D, Kanthan S (2011) A review of duodenal metastases from squamous cell carcinoma of the cervix presenting as an upper gastrointestinal bleed. World J Surg Oncol 9: 113.

12. Sarangapani A, Kini R, Chitra S, Pugazhendhi T, Jeevan Kumar S (2011) Intramural metastatic squamous cell carcinoma of stomach. Indian J Surg 73: 307-308.

13. Bonnheim DC, Sarac OK, Fett W (1985) Primary squamous cell carcinoma of the stomach. Am J Gastroenterol 80: 91-94.

14. Callacondo D, Ganoza-Salas A, Anicama-Lima W, Quispe-Mauricio A, Longacre TA (2009) Primary squamous cell carcinoma of the stomach with paraneoplastic leukocytosis: A case report and review of literature. Hum Pathol 40: 1494-1498.

15. Schmidt C, Schmid A, Lüttges JE, Kremer B, Henne-Bruns D (2001) Primary squamous cell carcinoma of the stomach. Report of a case and review of literature. Hepatogastroenterology 48: 1033-1036.

16. Wang G, Chen P, Shi L, Zhao W (2014) Squamous cell carcinoma arising from an unknown primary site metastasizing to the stomach: A case report. Oncol Lett 7: 1063-1066.