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Pathology

Primary Squamous Cell Carcinoma of Stomach: A Rare Entity – Case Report

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Abstract **Case Report**

Primary squamous cell carcinoma is rare malignancy as far as stomach is concerned. Less than 100 cases were reported in the literature. Patient presented in advanced stages so, in most of these cases, the prognosis is generally poor. Because stomach is lined by glandular epithelium, most common carcinoma is adenocarcinoma in stomach and squamous carcinoma is not commonly seen. There are several theories regarding the development of this tumor but pathogenesis remains unclear. In this study we confirmed a case of primary gastric squamous cell carcinoma which is rare entity. We present case of 48 yr old female with ulcerative growth at fundus of stomach.

Keywords: stomach, Primary squamous cell carcinoma, Computed tomography (CT).

INTRODUCTION

The incidence of primary squamous cell carcinoma (SCC) of the stomach is less than 1% of all gastric malignancies [1] Röring, who described the first primary gastric squamous cell carcinoma case in 1895, hypothesized about basal cells in the gastric mucosa undergoing, transforming into squamous cells, and later turning into squamous cell carcinoma. Since then, not much has changed, although several theories have been proposed referred to this respect. There are several different histological types of gastric cancer (Table 1) [2].

Table 1: WHO classification of tumors of the digestive system

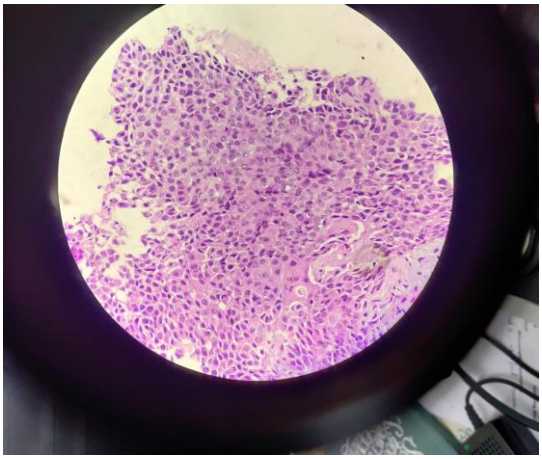
World Health Organization (2010): Classification of Tumours of the Digestive System	
-Papillary adenocarcinoma	-Carcinosarcoma
-Tubular adenocarcinoma	-Parietal cell carcinoma
-Mucinous adenocarcinoma	-Malignant rhabdoid tumor
-Signet-ring cell carcinoma	-Mucoepidermoid carcinoma
-And other poorly cohesive carcinoma	-Paneth cell carcinoma
-Mixed carcinoma	-Undifferentiated carcinoma
-Adenosquamous carcinoma	-Mixed adeno-neuroendocrine carcinoma
-Squamous cell carcinoma	-Endodermal sinus tumor
-Hepatoid adenocarcinoma	-Embryonal carcinoma
-Carcinoma with lymphoid stroma	-Pure gastric yolk sac tumor
-Choriocarcinoma	-Oncocytic adenocarcinoma

In compliance with the Japanese Society of Gastric Cancer, primary GSCC was defined as the squamous cell carcinoma (SCC) originating entirely from the stomach without any adenocarcinoma components [3].

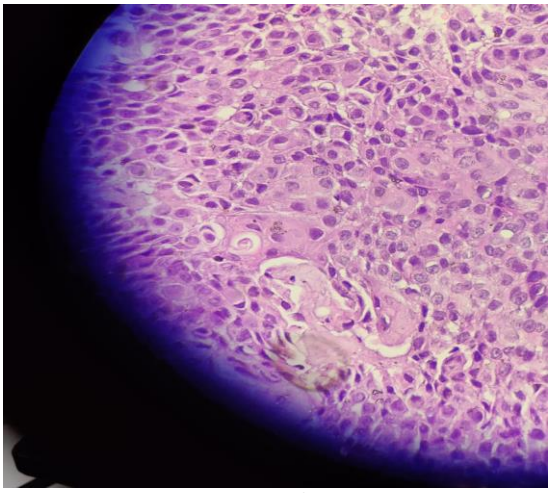
CASE PRESENTATION

- We report a case of 48 years old female without any previous medical history, who came for consultation with the complaint of difficulty in swallowing and drinking from last 3 months. She had history of loss of appetite along with weight loss of 4kgs. She had no history of pain, diabetes, hypertension, asthma or thyroid disease. She had no relevant family history.
- Endoscopy shows an excrescent neoplasm was seen in the fundus and lesser curvature of the stomach occupying half of the lumen, nodular, ulcerated, and friable, which extends toward the cardia following the incisura.
- Computed tomography (CT) revealed a large ulceroproliferative mass measuring 10.7x8.5x7.1 cm in the gastric fundus and body with infiltration of the adjacent fat and an adenopathic conglomeration at the level of the gastrohepatic ligament compressing the left lobe of the liver, at some points showing an absence of a plane of separation osteriorly it is abutting descending abdominal aorta.
- Histopathology - On Microscopic Examination

Fragmented biopsy show bits of gastric mucosa. The bits show malignant epithelial cells in small groups and sheets. The cells show moderate nuclear pleomorphism with hyperchromatic nucleus and variable amount of eosinophillic cytoplasm. Keratinization is appreciated at places. However, no areas of transition appreciated. Histopathological findings are suggestive of – moderately differentiated keratinised squamous cell carcinoma.



Histological and immunohistochemical (H&E) examination. H&E examination showed a moderately differentiated keratinized SCC (, ×40)



Intracellular bridges (, ×40 magnification) and the tumor nests composed of cells with ample eosinophilic cytoplasm with occasional keratinization (hematoxylin-eosin, original magnification ×40

DISCUSSION

Five theories were summarized by Straus *et al*., [4, 5]: (i) totipotential stem cells in the gastric mucosa [6]; (ii) nest of ectopic squamous epithelium in the gastric mucosa [5, 7]; (iii) squamous metaplasia of preexisting nonneoplastic glandular epithelium where metaplasia is induced by noxious agents as gastric acid in the mucosa surrounding peptic ulcers [8, 9, 10], corrosive acid ingestion [11], gastric tuberculosis [12], and so forth; (iv) squamous differentiation in a preexisting adenocarcinoma (v) Other authors proposed origin from endothelium of gastric vessels [13, 14]. However, it was deemed a very unlikely origin, due to the absence of specific vascular endothelium markers in squamous cells [15].

To exclude SCC from esophageal carcinoma and other primary sources Parks proposed three diagnostic criterias:

1. Tumor should not be located in the cardia.
2. The tumor must not extend into the esophagus.
3. There must be no evidence of SCC in any other part of the body [16].

Histopathological criteria for primary SCC of stomach were identified by Boswell and Helwig as follows:-

1. Keratinized cell masses with typical keratin pearls formation.
2. A mosaic pattern of cell arrangement with sharp borders.
3. The presence of intercellular bridges.
4. High concentrations of Sulphydryl or disulphide bonds which indicate the presence of keratin [10].

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