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Unusual tumor: Primary gastric choriocarcinoma

Nadir bir tümör: Primer gastrik koryokarsinoma

To the Editor,

Choriocarcinoma is a rapidly growing and widely metastatic epithelial neoplasm, derived from either trophoblastic or totipotential germ cells (1). Choriocarcinoma may also occur as a primary neoplasm of the ovary or testis. It has been rarely reported in non-gestational, extragonadal organs such as the lung, liver, breast, prostate, urinary bladder, nose, and gastrointestinal tract (2). Primary gastric choriocarcinoma (PGC) is extremely rare, and most such cases are not diagnosed correctly before operation (1). Most PGCs have been reported to possess an adenocarcinoma component of variable extent, and pure PGC is especially rare (3).

A 72-year-old male admitted to the hospital because of epigastric pain. His physical examinations were normal. Initial laboratory evaluation confirmed the anemia and hypoalbuminemia. The tumor markers were within normal limits. Computed tomography (CT) scan showed a 2.5 cm nodular lesion in the corpus of the stomach, which extended to the gastric serosa and had directly invaded the pancreas. There were multiple masses in the liver consistent with metastatic disease. In subtotal gastrectomy material, the tumor measured 4.3 cm, was irregularly shaped, and had ulcerative growth pattern and some bleeding areas. Microscopically, the tumor had two components. The first component was a well-differentiated adenocarcinoma, accounting for approximately 30% of the entire tumor. In hemorrhagic areas, the remaining 70% of the tumor was a pleomorphic carcinoma with several 'syncytiotrophoblast'-like cells with bizarre nuclei; the histological features of this component were very suggestive of choriocarcinoma. Immunohistochemically, 'syncytiotrophoblast'-like cells strongly stained with beta-human chorionic gonadotropin (HCG). However, the adenocarcinomatous component stained with CEA (Figure 1).

Germ cell-type tumors can occur in the stomach, the two most common forms being choriocarcinoma and yolk sac tumor. Either can present in a pure form, admixed with each other, or associated with conventional adenocarcinoma. The choriocarcinomas show immunohistochemical evidence of HCG production and can be associated with elevated serum levels of this marker.

The pathogenesis of development of choriocarcinomas in the stomach is not clear. Hartz and Ramirez (4) believed that this rare tumor developed from a gastric teratoma. Davidson described the first case of PGC in 1905, and while several theories, based mostly on clinical or histologic information, have been proposed to explain its pathogenesis, it remains to be elucidated. He postulated that this tumor arises from displaced gonadal anlage within the abdomen (2). If this is correct, non-trophoblastic gonadal tissue should be found in association with choriocarcinoma, such as PGC with yolk sac tumor, as reported by Garcia and Ghali (5). However, the most plausible explanation for the pathogenesis of gastric choriocarcinoma is that proposed by Krulewski (6) based on his observations that, in many cases, PGC coexists with adenocarcinoma and sometimes appears in a transitional form between adenocarcinoma and choriocarcinoma. The author proposed that the trophoblastic elements found in the PGC develop from the dedifferentiation of the adenocarcinoma tissue (6). In coexistent adenocarcinoma and choriocarcinoma, cytologic analyses may show morphologic transitional forms of cells, so that a sequence of transition from carcinoma to choriocarcinoma can be traced. This dedifferentiation theory is also

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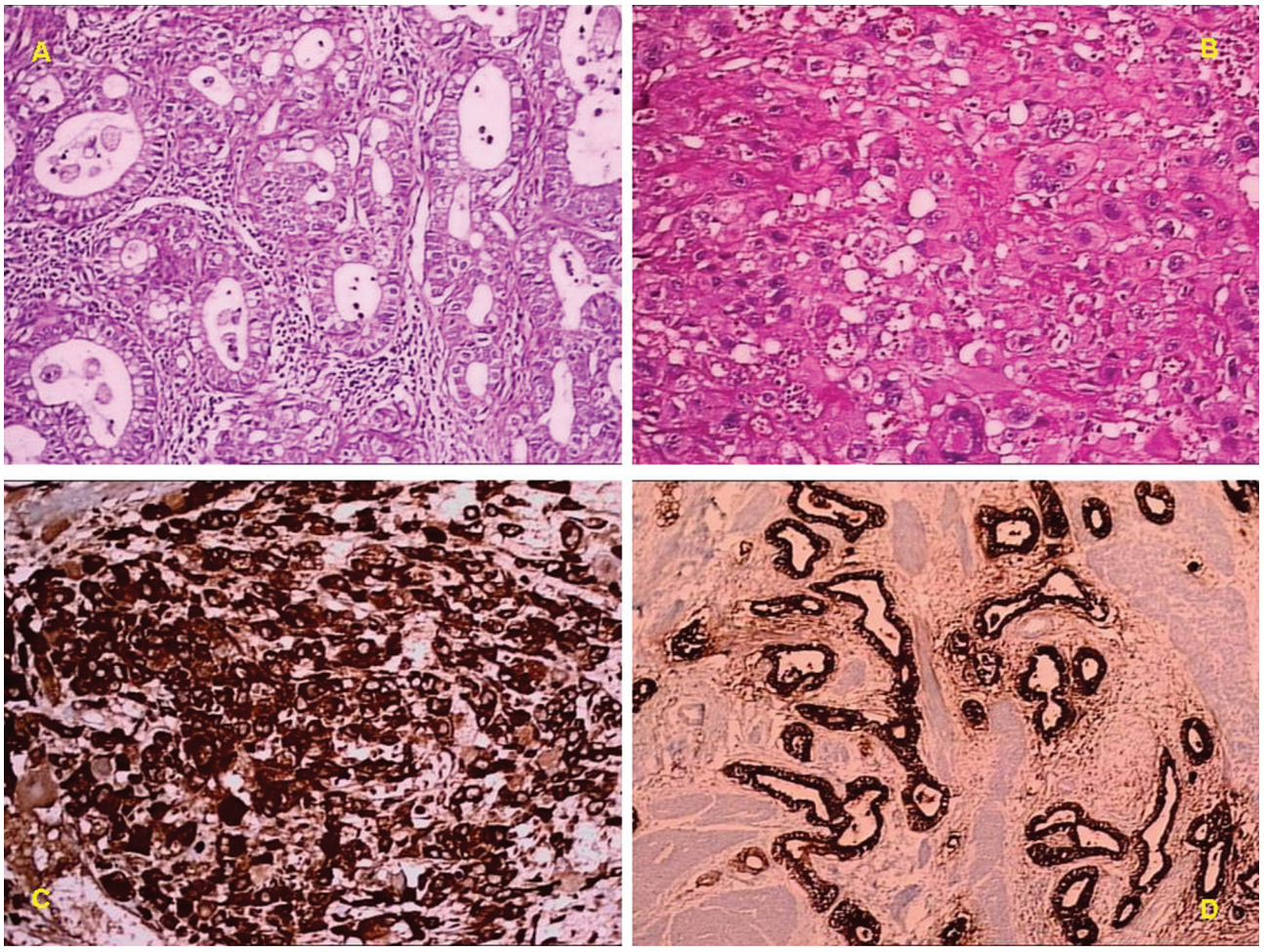

Figure 1. A. Adenocarcinomatous component in the tumor, **B.** 'Syncytiotrophoblast'-like cells in the choriocarcinomatous areas, **C.** beta HCG positivity in the choriocarcinomatous component, and **D.** CEA positivity in the adenocarcinomatous component.

supported by the epidemiologic nature of this tumor. In addition, the mean age, male-to-female ratio, and geographic frequency distribution of this tumor all parallel the data associated with primary adenocarcinoma of the stomach (7).

Although many investigators accepted the dedifferentiation theory, many puzzling questions remain, such as the role of HCG-producing cells normally present in the gastric mucosa (3). Possibly, normal gastric cells with the ability to produce HCG directly may develop into a gastric choriocarcinoma in certain cases (3). In a report by Yakeishi et al. (7), immunohistochemical studies showed HCG-positive cells in the normal gastric mucosa, carcinomas and choriocarcinomas at variable percentages and intensities. Because somatic cells retain the entire genome for an organism, with differentiation depending on repression or expression of various groups of genes, it is conceivable that, under the profound changes that occur during carcinogenesis, the gastric mucosal cells directly develop the morphologic and functional characteristic of a choriocarcinoma (3,7). However, adenocarcinomas can easily spread through the lymphatic system to regional lymph nodes, whereas choriocarcinomas can hematogenously metastasize to the lung and liver (7).

Primary gastric choriocarcinoma (PGC) is a highly aggressive tumor that is often associated with liver metastasis. Curative resection, appropriate chemotherapy and the absence of synchronous liver metastasis are favorable prognostic factors for patients with PGC. The report of this case of PGC is important to add data to the literature regarding this rare condition, to better understand its histopathogenesis, to help others in its diagnosis and management, and eventually to improve patient treatment and prognosis.

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Endoscopic removal of an ingested toothpick from the prepyloric antrum in an adult woman

Erişkin bir kadında prepilorik antruma saplanmış kürdanın endoskopik olarak çıkarılması

To the Editor,

Accidental ingestion of foreign bodies in adults is usually attributed to underlying psychiatric disorders or mental retardation (1). Sharp and long objects present a higher risk for gastrointestinal tract perforation. Thus, obtaining a diagnosis before any complication in the case of toothpick ingestion becomes important (2). Here, we report a conscious adult woman in whom an ingested toothpick had migrated to the prepyloric antrum.

A 48-year-old female was admitted to our clinic with epigastric pain for the past three days. Physical examination and routine laboratory investigation were unremarkable. She denied any alcohol consumption or use of any other legal or illegal medications. She was a non-smoker. Upper gastrointestinal endoscopy revealed an impacted, rigid, white, 3-4 mm, undetermined object in the prepyloric antrum (Figure 1). The object, which was removed with biopsy forceps, was a broken toothpick that had migrated through the gastric mucosa (Figures 2, 3). Subsequently, the patient recalled the possibility of ingestion of a toothpick three days before while eating Turkish kebab. One week after the successful procedure, the patient remained symptom-free.

The ingestion of foreign bodies, especially sharp ones, and localization of the objects in the esophagus or intestine usually result in some complications (2-4). Perforation of the gastrointestinal system tract anywhere from the esophagus to the terminal ileum resulting in peritonitis or abscess is the main fatal complication. Despite declining our recommendation of assessment by computed tomography (CT) even after the successful removal of the toothpick to check for the presence of abscess formation, our patient did not face any complication during the endoscopic examination or the follow-up period as an outpatient (5). It is neces-

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