Choriocarcinomatous differentiation in rectal adenocarcinoma: A rare occurrence

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Dear Editor,

Choriocarcinomatous differentiation of tumor cells in rectal adenocarcinoma is an extremely rare phenomenon.[1,2] The histological features with immunohistochemical identification of beta-hCG expression confirms the diagnosis.[1] We report one such rare occurrence in a patient with adenocarcinoma of the rectum.

A 54-year-old female patient presented with pain in the abdomen with passage of blood and mucous in the stools since 8 months. She also complained of loss of weight and appetite since 6 months. On computed temography scan, a circumferential asymmetric thickening of the wall of rectum with maximum thickness of 17 mm was seen with narrowing of the lumen measuring 10 cm in craniocaudal extension. There were multiple homogeneous enhancing lymph nodes with the largest one measuring 11 × 9 mm. Radiological diagnosis of carcinoma rectum with pelvic lymphadenopathy was made. Peroperatively, there was a hard nodular growth present at the junction of the rectum and sigmoid colon measuring about 7 × 5 cm. On gross examination, an ulceroinfiltrative growth measuring 7 × 2 cm was identified 10 cm away from the anal verge. Cut section of the growth was yellowish with involvement up to the serosa [Figure 1]. On microscopic examination, sections from growth showed a biphasic tumor. Moderately differentiated adenocarcinoma constituted a minor component of the

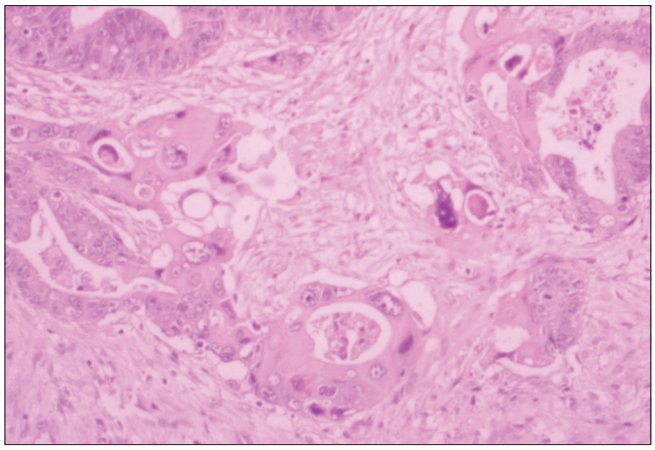

Figure 1: Histologically, most of the tumor is composed of choriocarcinoma along with a moderately differentiated adenocarcinoma (H and E, ×200)

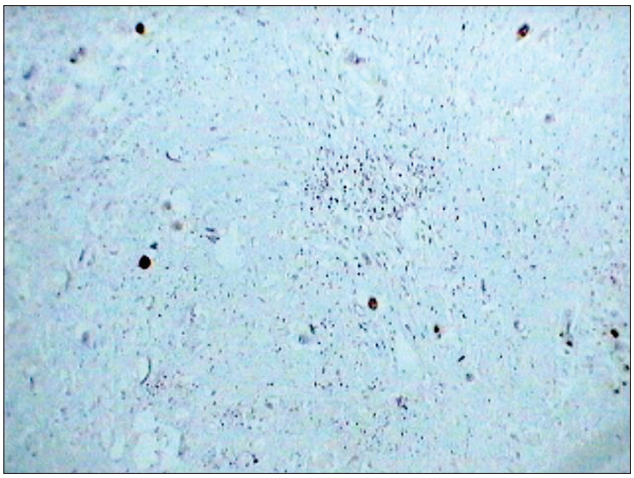

Figure 2: Human chorionic gonadotropin (hCG) is expressed in choriocarcinomatous component (immunostaining for anti-β-hCG antibody, ×400)

tumor. Predominant component of the tumor comprised highly pleomorphic, bizarre tumor giant cells having single to multiple vesicular nuclei with conspicuous eosinophilic nucleoli. The cytoplasm was abundant, vacuolated, and deeply eosinophilic [Figure 2]. Diagnosis of moderately differentiated adenocarcinoma with choriocarcinomatous differentiation was given. Immunohistochemically the tumor cells showing trophoblastic differentiation and were positive for Beta hCG Serum hCG checked postoperatively was elevated at 4,568 IU/L, but the serum carcinoembryonic antigen was normal.

Trophoblastic differentiation can occur focally in colorectal adenocarcinomas, as it does in stomach and gall bladder.[3] Such tumors are more common in the age range of 28--74 years, with a median age of 45 years. There is female predominance. Most of the lesions have been reported in the rectosigmoid area. The tumors range in size from 2 to 10 cm. Histologically, most are combinations of choriocarcinoma and adenocarcinoma. All of the cases reported were rapidly fatal, with a median survival of 4.5 months from the development of symptoms. All of the patients died within 12 months.

Verbeek *et al.*[4] used comparative genomic hybridization and fluorescence *in situ* hybridization to elucidate the genetic relationship of adenocarcinoma and choriocarcinoma in this neoplasm. They found genetic changes characteristic of colorectal adenocarcinomas, a loss of chromosomal regions 8p21-pter as well as 18q21-pter, and a gain of 5p and 20q, in both tumor parts. This provides evidence for the common origin of both components. A differential pattern of additional genetic changes suggests a clonal evolution from a common ancestor cell.

There are reports of adenocarcinoma of the colon which showed choriocarcinomatous differentiation in the metastastic deposits.[5] This and other similar cases of mixed tumors suggest that unexpected trophoblastic differentiation may result from aberrant differentiation of locally proliferating cells, rather than originating in ectopic germ cells or in foci of embryonic totipotent cells.

Choriocarcinomatous differentiation of adenocarcinoma of the colon or the rectum is very aggressive. Although radical resection was performed and aggressive chemotherapy with 5-flurouracil and Leucovorin was given in fifth postoperative week, the clinical outcome was very disappointing and the patient died on 50th day.

Even though rare, these tumors should be considered in the differential diagnosis of a colorectal carcinoma. Despite the rarity of the condition and the obscurity of the histogenesis, reports of similar cases and the occurrence of the tumors in the digestive tract suggest that the condition constitutes a clinical entity of a digestive tumor.

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