Mixt Signet-ring Cell Mucinous Carcinoma in the Large Bowel

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ABSTRACT

Carcinomas of the large bowel are the third most commonly seen cancer in both males and females and are the second reason of deaths resulting from cancer. The most frequently seen microscopic type of large bowel cancer is adenocarcinoma. Signet-ring cell carcinoma is a rarely seen microscopic subtype of large bowel carcinomas and may be accompanied by other microscopic types. The diagnosis of signet-ring cell carcinomas is made while the count of signet ring cells is over 50% of the tumor cells. The presence and ratio of signet-ring cells should be noted because the prognosis of signet-ring cell carcinoma is very bad. In our case, it is viewed mixt mucinous signet-ring cell carcinoma including mucinous components in the large bowel. This report is presented because it is rarely seen and because the prognosis is very bad and is necessary be specified in the report. *(JAREM 2016; 6: 117-8)*

Keywords: Signet ring cell carcinoma, mucinous carcinoma, large bowel

INTRODUCTION

Carcinomas of the large bowel are the third most commonly observed type of cancer among both males and females, and they are the second most common reason of cancer-related deaths (1). The most frequent microscopic type of large bowel cancers is adenocarcinoma. While cancer of the large bowel mostly develops in the 6th and 7th decades, signet ring cell carcinoma is generally observed in young patients below the age of 40 years (2). Signet ring cell carcinoma, which is reported to be rarely observed at the rate of 0.01% to 2.6% in various studies, has a very bad prognosis (3). Because of the presence of intracellular mucin, the cell nucleus is seen in the shape of a signet ring in the periphery. Because this carcinoma is a microscopic type one with poor prognosis, its presence must be specified (4). In some rare cases in which it includes extracellular mucin, it can occur as mixed mucinous signet ring cell carcinoma (1).

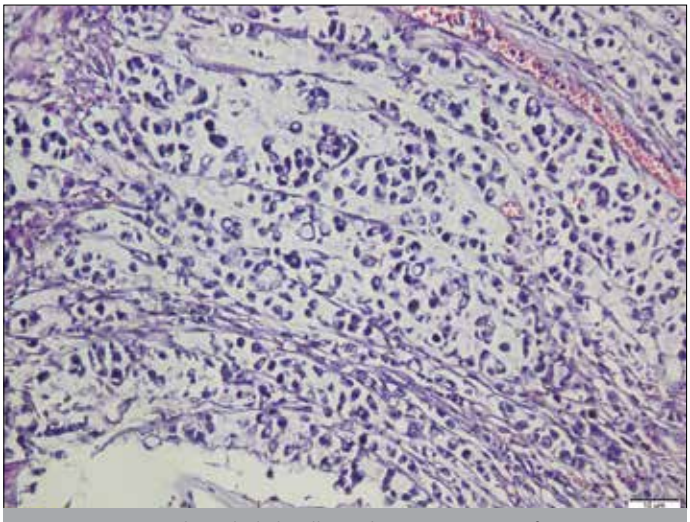

Figure 1. Atypical epithelial cells in the appearance of a signet ring, including intracellular mucin, and the existence of apparent extracellular mucin (HE ×200)

CASE PRESENTATION

Blood analyses of a 40-year male patient who applied to our hospital with the complaints of fatigue, abdominal pain, and weight loss revealed low hemoglobin and hematocrit values. In the colonoscopic examination, a tumoral lesion in the distal transverse colon, which diffusely thickened the lumen of the large bowel and narrowed the lumen, was found. A biopsy of the lesion was performed and sent to the pathological laboratory. When the pathological report revealed signet ring cell carcinoma, extended right hemicolectomy was performed.

In the surgical material, an 8×4 cm diffuse tumoral lesion was observed at 1.5 cm depth, narrowing the lumen as a ring in the distal transverse colon. When the material was examined, signet ring-shaped malignant pleomorphic tumoral infiltration with a large hyperchromatic nucleus with peripheral localization, including intracellular mucin and apparent extracellular mucin in some areas and consisting of atypical cells, was observed (Figure 1, 2). Signet ring cell carcinoma metastasis was found in eight lymphatic glands. Immunohistochemical examination revealed staining with CK 20 but not staining with CK 7 in tumor cells. The case was reported as signet ring cell carcinoma (signet ring cell mucinous mixed type). After informing the patient that his diagnosis was rare and his condition would be published scientifically, written and verbal informed consent was obtained from the patient.

DISCUSSION

Signet ring cell carcinoma of the large bowel is a condition that can accompany other microscopic types at certain rates, and its

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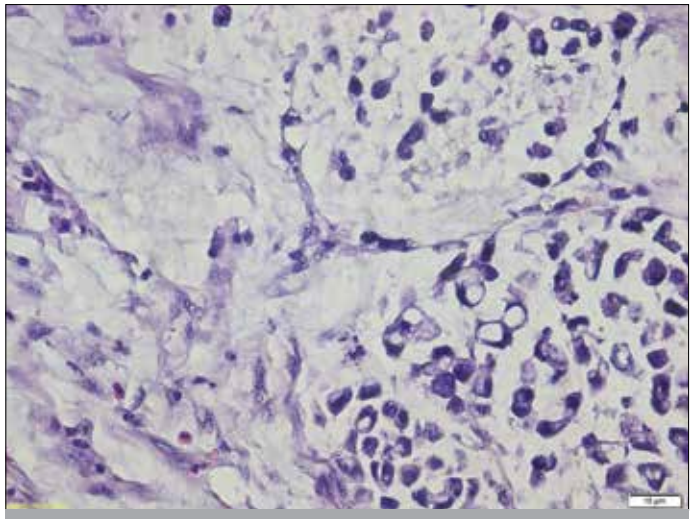

Figure 2. Signet ring cell carcinoma cells in extracellular mucin accumulation (HE ×400)

presence and degree must be reported because its prognosis is very poor (4). If more than 50% of tumor cells have this characteristic, the diagnosis of signet ring cell carcinoma must be established (5). While colon adenocarcinomas are observed at an advanced age, signet ring cell carcinomas generally occur in young adults (2). Signet ring cell carcinoma of the colon was found in a 17-year-old patient in the study of Marone et al. (6), a 19-year-old patient in the study of Pamukçu et al. (7), and a 10-year-old patient in the study of Singh et al. (8).

In signet ring cell carcinomas, the whole or a large part of mucin is intracellular, in contrast to the extracellular mucinous pattern in mucinous carcinomas. Intracellular clustering of mucin causes the displacement of the nucleus and a typical signet ring appearance of cells. Because signet ring cell carcinoma is rarely observed in the colon, metastasis from the stomach and breast must be ruled out before diagnosis. In tumor cells, CK 20 positivity–CK 7 negativity is indicative of primary tumor of the colon and CK 7 positivity–CK 20 negativity is indicative of metastasis (1).

CONCLUSION

In our study, a case with signet ring cell carcinoma including apparent extracellular mucin regions was presented because it was a rare microscopic type with a very poor prognosis.

Informed Consent: Written and verbal informed consent was obtained from patient who participated in this case.

Peer-review: Externally peer-reviewed.

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