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(CASE REPORT)

Primary squamous cell carcinoma of the sigmoid colon revealed by acute intestinal obstruction: A case report and literature review

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Abstract

Primary squamous cell carcinoma (SCC) of the colon is an exceptional tumor. Fewer than 150 cases have been reported in the literature up to 2014. Besides its rarity, it is often associated with other digestive neoplasms. We report the case of a 54-year-old patient with primary SCC of the colon. This case allows us to discuss the anatomo-clinical and therapeutic characteristics, as well as the etiopathogenic hypotheses of this uncommon entity.

Keywords: Colon; Squamous Cell Carcinoma; Prognosis

1. Introduction

Colonic localization of primary squamous cell carcinoma (SCC) is extremely rare. The histogenesis and evolutionary potential of such a tumor remain unresolved [1–3].

The purpose of this work is to highlight that, despite its exceptional topographical occurrence, this diagnosis should not be overlooked. Therapeutic choices and comprehensive management can only be considered within a multidisciplinary framework. We also aim to report this case and explore similar cases to compare them with existing literature.

2. Case Report

A 64-year-old male, with no notable medical history, initially presented with abdominal pain associated with constipation and unquantified weight loss. The patient was admitted to the emergency department for acute intestinal obstruction. Rectal examination revealed an empty rectal ampulla without signs of bleeding.

Abdominal CT scans in axial and coronal sections revealed irregular, stenosing wall thickening of the sigmoid colon, enhanced by contrast medium, indicating a tumor causing colonic obstruction upstream, without evidence of locoregional extension or hepatic metastases.

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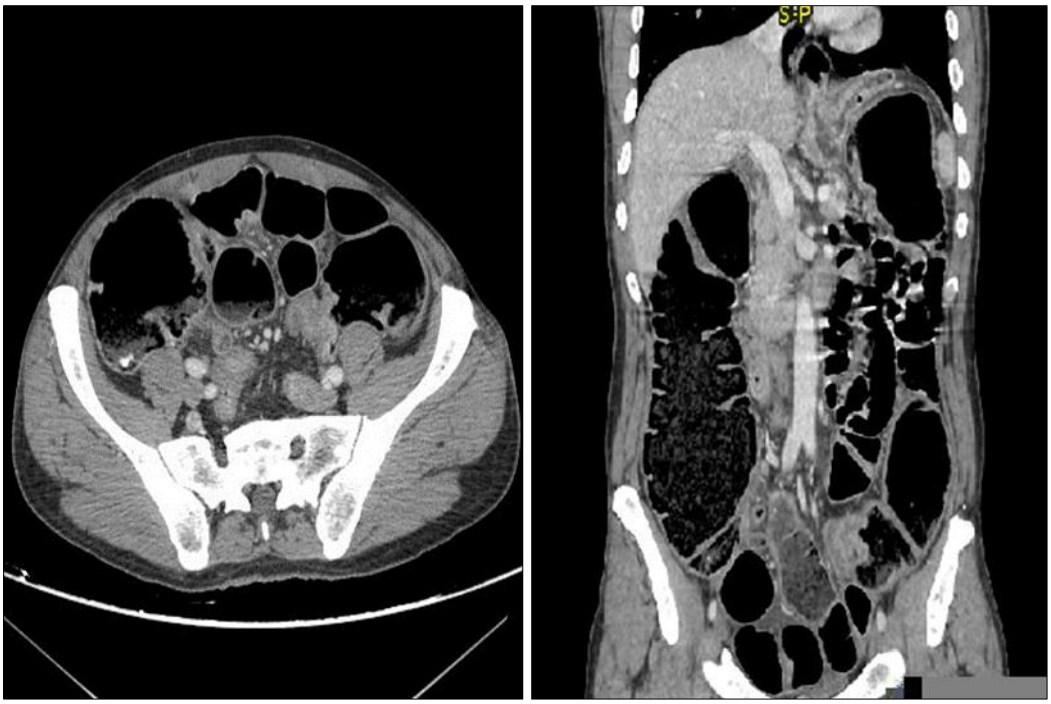

Figure 1 Axial and coronal scans revealed an irregular, stenosing thickening of the sigmoid wall, enhanced after contrast injection, of tumoral origin, causing an upstream colonic obstruction without signs of locoregional extension or hepatic metastases

The patient underwent elective colostomy for decompression to allow for bowel preparation and histopathological diagnosis.

Histopathological analysis of the biopsy revealed a poorly differentiated carcinomatous process. A left colectomy was performed for oncological purposes with colorectal anastomosis following staging and a multidisciplinary team discussion.

Macroscopically, the surgical specimen showed a 3.4 × 4.6 cm exophytic colonic tumor with a whitish-gray appearance on cross-section. Extensive tumor sampling revealed a carcinomatous proliferation consisting of nests and cords, without glandular structures.

The tumor cells were large, with intercellular bridges and keratinization, eosinophilic cytoplasm, and nuclei showing moderate to marked atypia with mitotic figures and several keratin pearls. Vascular emboli were present, but perineural invasion was absent. Lateral and circumferential margins were clear. Lymph node dissection revealed metastasis with one capsular breach (2/28 nodes positive). The tumor was classified as pT3N1bM0.

Immunohistochemical analysis concluded that the tumor was a well-differentiated, infiltrating, keratinizing SCC of the colon.

Clinical examination of skin and mucosal surfaces, along with a comprehensive staging workup (thoracoabdominal-pelvic CT scan and brain MRI), showed no secondary localization, confirming the primary nature of the colonic SCC.

The patient underwent adjuvant therapy, with favorable postoperative evolution. The patient remains under follow-up in medical oncology six months post-treatment.

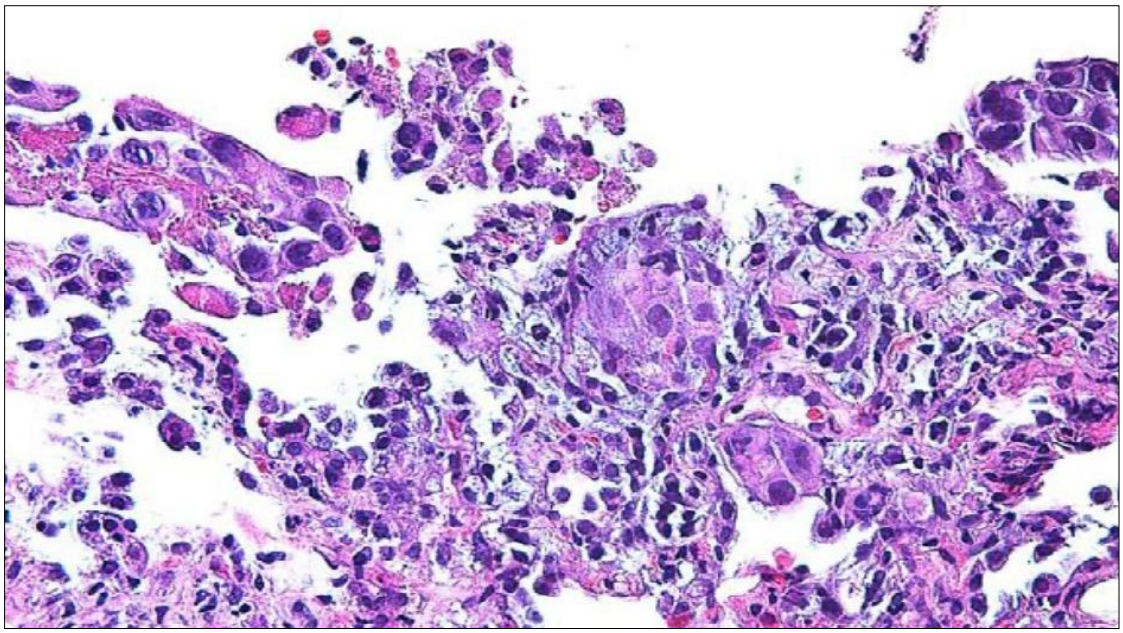

Figure 2 Histological section showing a poorly differentiated carcinomatous proliferation (H&E x200)

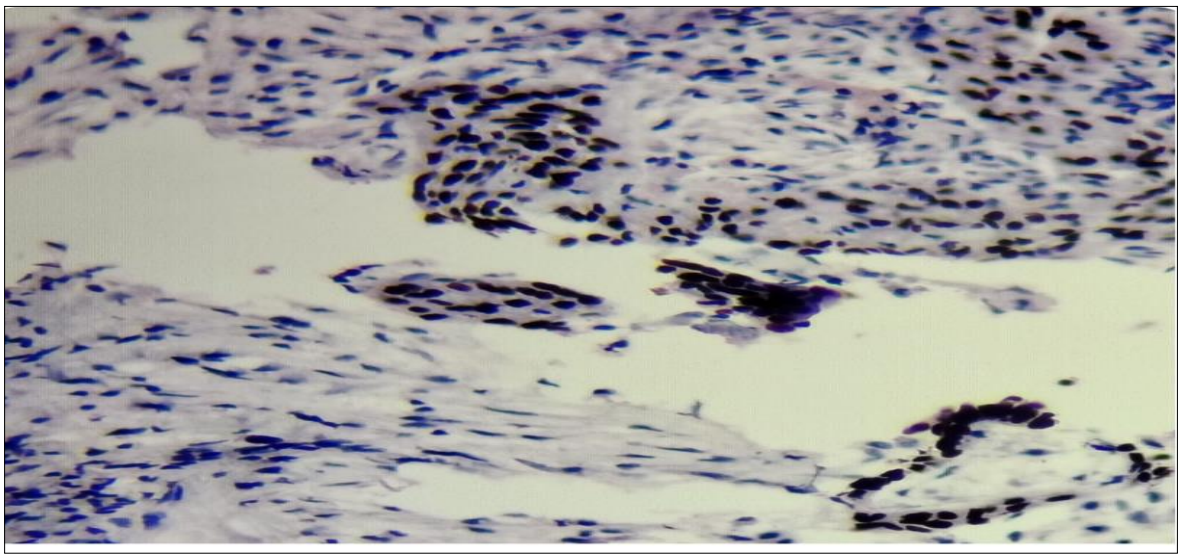

Figure 3 Strong expression of tumor cells with the P40 antibody (IHC x200)

3. Discussion

Primary SCC of the colon is extremely rare, accounting for less than 0.5% of all colorectal tumors, with an estimated incidence of 0.1% [1, 2]. The etiopathogenesis of colonic SCC remains unclear. It may arise from a multipotent stem cell or develop from squamous metaplasia secondary to chronic irritation [2–4]. Supporting this hypothesis is the frequent association of colonic SCC with chronic inflammatory conditions, particularly ulcerative colitis, where the relative incidence is 1.7% compared to 0.25‰0.5‰ in the general population [5]. Other potential causes include parasitic colitis, such as amebiasis or schistosomiasis, and chronic colocutaneous fistulas, which may lead to squamous metaplasia [5, 6].

Colonic SCC typically occurs around the fifth decade of life with a male predominance (sex ratio: 2) [6, 7]. It preferentially affects the cecum and right colon [7], as in our case, and less frequently the left colon. Clinically, symptoms are similar

to those of adenocarcinomas [2, 4], with a diagnostic delay ranging from six weeks to 12 months [6]. In some cases, metastases—often hepatic or pulmonary—are the first manifestation [7, 8].

The diagnostic criteria for colonic SCC are stringent. The tumor must be located at least 7 cm above the anoperineal line to exclude SCC of the anal canal and lower rectum. Histologically, adenosquamous carcinoma—a rare entity combining glandular and squamous components—must also be ruled out. This requires extensive tumor sampling. Before concluding the primary nature of the tumor, a search for SCC in other organs must exclude metastatic origins [1, 2, 8, 9].

In 10% of cases, colonic SCC is associated with another digestive tumor, often a synchronous adenocarcinoma [9, 10]. Associations with extradigestive cancers, including ovarian, endometrial, prostatic, and breast carcinomas, have also been reported [10, 11].

Adjuvant treatment results are inconsistent. The efficacy of radiotherapy, alone or combined with chemotherapy, remains unestablished due to the tumor's rarity [1, 2, 10]. Colonic SCC has a worse prognosis compared to glandular carcinoma. Mortality occurs within the first year in 52% of cases [10]. Factors associated with poor outcomes include left-sided tumor location, ulcerated lesions, nodal metastases, poor differentiation, and TNM stage IV [1, 10].

4. Conclusion

Primary colonic SCC is an exceptional tumor with unclear etiopathogenesis. Its carcinogenesis remains poorly understood, and its prognosis is less favorable than that of typical adenocarcinomas.

Compliance with ethical standards

Disclosure of conflict of interest

The authors declare no conflicts of interest.

Statement of Informed Consent

Consent was obtained from most of the authors in this study, and no objections were noted

Author Contributions

All authors contributed to the article's preparation. All authors read and approved the final manuscript.

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