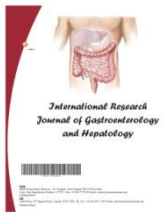

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Medullary Carcinoma of the Colon : A Case Study

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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Case Study

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ABSTRACT

Medullary adenocarcinoma (MC) is a variant of colonic cancer,and it has morphological similarity to poorly differentiated adenocarcinomas.

MC has been categorized as a rare variant of colorectal adenocarcinoma with leaves of malignant cells with vesicular nuclei, prominent nucleoli, and abundant eosinophilic cytoplasm. MC is a Colorectal Carcinom subtype that is most commonly seen in older females and is mostly localized in the right colon. However, there are rare cases in which it is localized in the left colon or in the rectum. he mean age of MC patients 69.3± 12.5 The tumors tended to present with a larger size.

The differential diagnosis of MC includes poorly differentiated colorectal adenocarcinoma, neuroendocrine carcinoma and "lymphoepithelioma-like carcinoma. The distinction between medullary carcinoma of the colon and the other malignancies is made via microscopy and special staining for markers.

MC appears to be a distinctive clinicopathologic entity, with good prognosis and must be differentiated from other more aggressive, non-glandular tumors of the colon.

Due to the rarity of the tumor, optimal treatment strategies including specific chemotherapy regimens have not been determined.

Though rare, MC deserve special interest due to the broad spectrum of differential diagnosis; their clinical course; their favorable prognosis.

We report the case of a patient operated on for medullary carcinoma of the right colon.

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Keywords: Medullary adenocarcinoma; colon; prognostic; surgery.

1. INTRODUCTION

Medullary adenocarcinoma (MC) of the large intestine, also known as large cell carcinoma, is a type of colon cancer that was only recently recognized as a distinct entity [1].

It's a new histological subtype that consists primarily of solid tumors with minimal to no glandular differentiation [2]. MC resembles poorly differentiated adenocarcinomas morphologically, but it has a better prognosis because recurrence and metastasis are uncommon [3,4]. It's an uncommon form of colonic adenocarcinoma that offers a diagnostic problem for pathologists. It accounts for less than 0.1 % of all colonic adenocarcinomas [5].

According to the research, MC is frequently seen in the proximal portions of the colon and has a female predominance. Due to an increase in the frequency of colon cancer and improved histological research methods, the incidence of MC has grown in recent years [6].

2. CASE PRESENTATION

Our case is a woman was 60 years old, with no previous pathological history, presented on June 1, 2020 with a subocclusive syndrome consisting of cessation of matter without cessation of gas associated with vomiting evolving for 5 days, without externalized digestive hemorrhages.At the examination in admission, the patient was conscious,stable on the haemodynamic and respiratory level, with normo-coloured conjunctiva, the abdominal examination showed a collapsed abdomen with a slight generalized abdominal sensitivity. The abdominal CT scan showed an ileocolic invagination with circumferential thickening of the transverse colon and the ascending colon (Fig . 1). the surgical exploration objectified the presence of a tumour of the right colon extended from the cecum to the right colonic angle without peritoneal effusion nor hepatic metastasis nor peritoneal carcinosis nodule, the operation consisted of an ileo-haemicolectomy with terminal ileo-colic anastomosis (Fig. 2). The postoperative follow-up unremarkable, the patient leaved hospital 5 days after. The anatomical and pathological examination showed a morphological aspect of a low differentiated and invasive carcinoma with lymphoid stroma of the coecum measuring 6.5 x4X2.5 cm, invading the entire wall up to the subserosa, no vascular emboli or nerve invasion. the proximal and distal resection limits are intact, absence of lymph node metastasis 0N/61N (classed T3 N0 M0), and immunohistochemical aspect of a CK7+,CK20- phenotype compatible with invasive medullary carcinoma of the colon, and the proximal and distal resection limits on the specimen are healthy, (Fig. 3 and 4). The patient did not receive postoperative chemotherapy.

Two years after the operation, the clinical, radiological and biological examinations and controls didn’t show any recurrence.

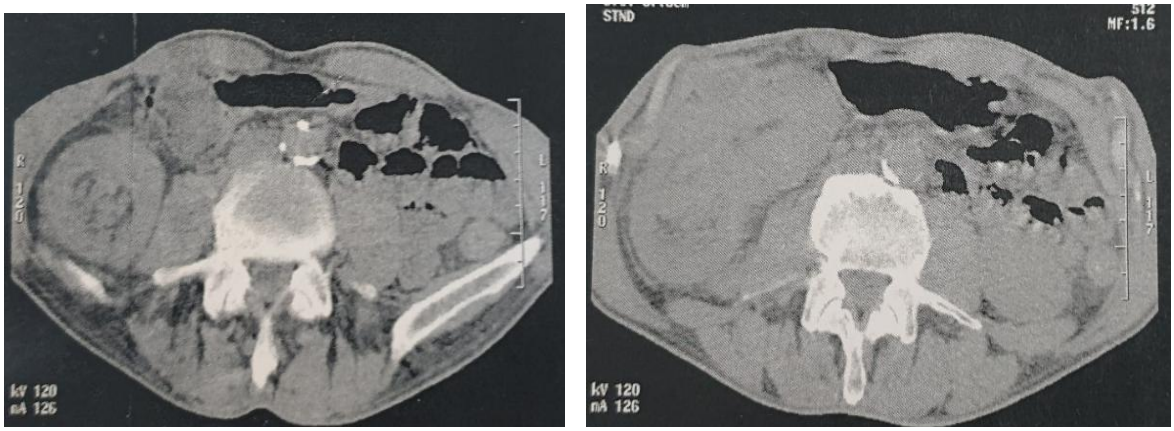

Fig. 1. The abdominal CT scan showed an ileocolic invagination with circumferential thickening of the the ascending colon and transverse colon

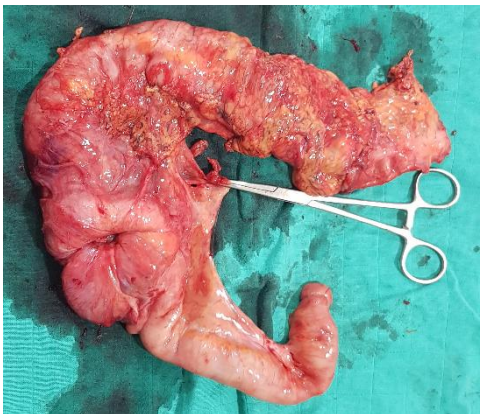

Fig. 2. Ileo hemicolectomy taking a tumor of the right colon extended from the cecum to the right colonic angle

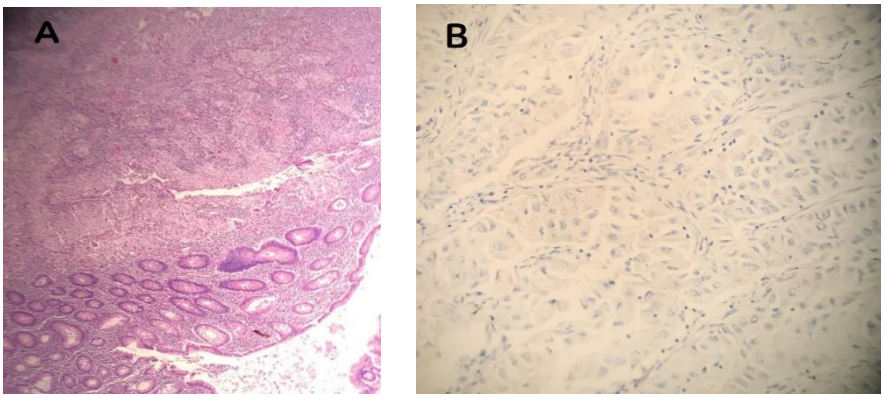

Fig. 3 A. Carcinomatous proliferation arranged in solid masses and clusters of syncytial appearance with a lymphoid stroma (Haemathein-Eosin at low magnification). B: Absence of cytokeratin 20 expression

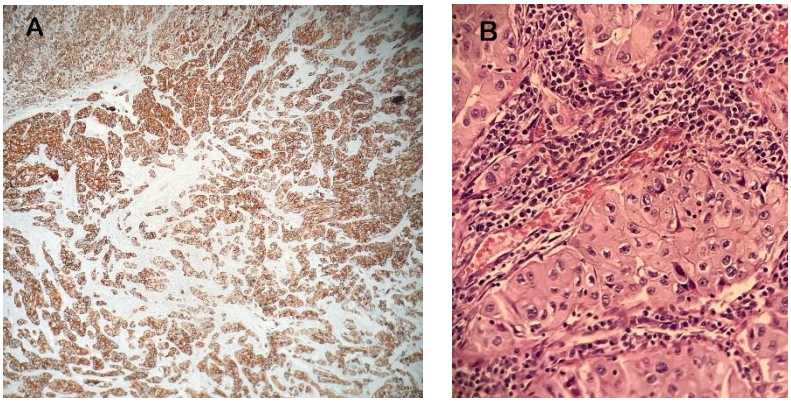

Fig. 4A. Diffuse expression of cytokeratin 7. B: Large tumour cells with irregular and sometimes polylobed nuclei within abundant cytoplasm, sometimes clarified and sometimes eosinophilic (Haematin-eosin at high magnification)

3. DISCUSSION

Sheets of malignant cells with vesicular nuclei, large nucleoli, and rich eosinophilic cytoplasm make up MC, an uncommon subtype of colorectal adenocarcinoma [6].

The cells are grouped in nests, cords, and sheets, and they can infiltrate the intestinal wall

extensively, causing necrosis as well as perineural and angiolymphatic invasion. Intense intratumoral or peritumoral lymphocytic infiltrates, lymphocytic infiltrates, and visible "Crohn's-like" lymphoid reactions are all too prevalent [7]. Neuroendocrine immunohistochemistry marker positivity is seen in roughly one third of cases. Only 5–8 out of 10,000 individuals with colon cancer have MC, according to Thrinavukarasu et al.[8].

The histological form of colorectal carcinoma known as medullary carcinoma of the colon is a relatively new addition to the histological varieties of colorectal carcinoma, with just a few research focusing on its pathological characteristics [9]. In 1977 Gibbs described a small group of undifferentiated adenocarcinomas that were symptomatic in the late stages but had a good prognosis [10]. Ruschoff et al. described a series of poorly differentiated non-glandular colorectal adenocarcinomas in 1997, the majority of which had extensive development and a significant peritumoral lymphoid infiltration, mimicking solid or medullary stomach carcinomas [11].

MC is a CRC subtype that is usually seen in the right colon and is most frequent in older females. It can, however, be localized in the left colon or the rectum in rare situations [8,12,13]. According to Thirunavukarasu et al. [8], the average age of MC patients is 69.3 12.5 years, with a female-to-male ratio of 2.12. Knox et al. [13] discovered that the average age was 76.8, with a female-to-male ratio of 3.33:1. The female-to-male ratio was 3.33:1 in Serkan et al's study [14], and 84.5 percent of the cancers were found in the right colon [8,12,13,14]. However, the average age is 59 18 years old, which is quite young. According to these research, 86 percent of the malignancies were found in the right colon. Tumors tended to be larger when they first appeared. Thirunavukarasu et al. found that the median tumor size was 7 cm. [8].

The diagnosis of medullary carcinoma of the colon is based on clinical signs that are identical to those of other colonic tumours, as well as on imaging (CT scan) and visualisation by colonoscopy, and on increased tumour markers, but the diagnosis of certainty is made by histology [2].

Poorly differentiated colorectal adenocarcinoma, neuroendocrine carcinoma, and "lymphoepithelioma-like carcinoma" are among the CM differential diagnoses [7]. Microscopy and special staining for markers are used to distinguish medullary carcinoma of the colon from these other cancers [15].

les carcinomes médullaires sont histologiquement identique aux tumeurs neuroendocrines, mais garde quelque différenciations, surface cellulaire se colore fréquemment à la Mucine1 (MUC1), et un gel de mucus oligomérique formé par la Mucine2 (MUC2), et le facteur de terminaison de transcription 2 (TTF2).c'est l'instabilité des microsatellites, avec une absence de coloration pour MLH1 et le facteur de transcription intestinal CDX2 qui distingue Le carcinome médullaire du côlon des adénocarcinomes coliques peu différenciés et indifférenciés. Dans une étude, l'instabilité des microsatellites (MSI) était limitée aux adénocarcinomes peu différenciés de type médullaire et il y avait souvent un manque de stabilisation de la protéine p53 [15].

According to several published studies medullary carcinoma has a good prognosis, but the prognosis of unstable microsatellite carcinomas (MSI) is questionable, the clinical course of MSI is different from stable microsatellite carcinomas (MSS), and except for stage II tumours which show clinical stability [16-17]. it is the variety of molecular heterogeneities under the effect of MSI tumours that explains the clinical variability. as they are the site of BRAF and KRAS mutations. MSI does not really reflect prognosis. Histological grade could have the greatest prognostic significance, all MCS are poor prognosis as they are grade 3 or 4 carcinomas. on the other hand stage N is not synonymous with lymphovascular invasion. which is difficult to explain. bearing the size of the tumour has not been shown to be a poor prognostic factor [9].

Up date, medullary carcinoma Treatment strategies have never been compared to high-grade adenocarcinomas. In the study by Thirunavukarasu et al., all patients with medullary carcinoma had undergone surgery [8]. In the Jessurun et al. case series of 11 patients, all underwent right hemicolectomy or total colectomy. [18]. Our patient had undergone an ileo-haemicolectomy with terminal ileo-colic anastomosis.

As the tumor is rare, optimal stragies treatment including specific chemotherapy including specific chemotherapyis difficult to determined [15].

4. CONCLUSION

Despite its rarity, MC merits special attention because of the wide range of differential diagnoses, clinical course, fair prognosis, and distinctive molecular modifications. MC appears to be a separate clinicopathologic entity with a favorable prognosis, and it should be recognized from other colon tumors that are more aggressive and non-glandular.

CONSENT

As per international standard or university standard, patients' written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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