

A Synchronous Tumor (Colon Adenocarcinoma and Cecal Appendage Carcinoid): Clinical Case

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ABSTRACT

Introduction: Synchronous tumors are those primary neoplasms that appear during the diagnosis of another primary neoplasm or in the following six months, with a frequency of 9.9 to 3.5%. The tumors of the cecal appendix constitute a heterogeneous group of neoplasms with variable evolution and prognosis; they represent a small part of all gastrointestinal neoplasms, around 0.5 to 1%. Add to this a synchronous tumor, which is rare; the coexistence of colon and appendix cancer is unusual. **Clinical case:** A 79-year-old male underwent surgery due to intestinal occlusion. With imaging studies with a presumptive diagnosis by simple tomography of a tumor in the transverse colon at the level of the hepatic flexure, colonoscopy shows 70% stenosis in said segment. Surgical intervention was performed, performing right hemicolectomy with the anatomopathological result that reported: conventional, moderately differentiated adenocarcinoma and a cecal appendix with a microscopic finding of carcinoid tumor. **Discussion:** In this case, a carcinoid tumor of the appendix is documented in men, despite being more frequent in women. However, the presence of a synchronous tumor occurs more

frequently in men with a ratio of 2-4:1, in the ages between 20 and 29 years for primary tumors and between 40 and 70 years in the case of synchronous tumors. Conclusion: This pathology is essential because the frequency of neuroendocrine tumor neoplasms at the appendiceal level is not high, and its simultaneous association with colorectal adenocarcinoma makes them even more unusual.

Keywords. Cancer, Tumor, Adenocarcinoma, Appendix, Surgery, Intestinal occlusion.

INTRODUCTION

Synchronous or multiple primary tumors (MPT) are those primary neoplasms that appear during the diagnosis of another primary neoplasm or within six months of the diagnosis of the first neoplasm (1). Appendiceal tumors can be associated with a synchronous colorectal tumor, with a frequency of 0.9-3.3%, so follow-up of these patients is recommended (2). They have different malignancies and histological patterns; if they are in the same organ, they are not connected (2).

Colorectal cancer (CRC) represents the second cause of cancer death in Mexico (9.5% of all cancer deaths) and worldwide (2). In the case of synchronous tumors outside the colon, their incidence has been described in a few publications and varies between 0.9-4.5% (3). Appendiceal tumors constitute a heterogeneous group of neoplasms, with an incidence of less than 0.5% of all gastrointestinal tumors. The mean age of presentation is in the sixth decade of life (3). Currently, the trend is to differentiate them according to their histological grade (high or low), according to the classification of the American Joint Committee on Cancer (4).

Synchronous extracolonic neoplasms in asymptomatic patients report an incidence of 0.35%, and in different segments from the primary tumor are almost always found. Most of the cases are synchronous mucus-secreting adenocarcinomas (5). On the other hand, the appendiceal carcinoid tumor is a rare neoplasm of the diffuse neuroendocrine system that occurs in tissues derived from the embryonic intestine. It originates from Kulchitsky cells found in the rest of the digestive tract, pancreas, lower respiratory tract, and occasionally in other tissues (6).

It has a benign biological behavior and occurs more frequently in young adults between the 4th and 5th decades of life, although it is possible to identify it at any age. Although it represents only 1% of gastrointestinal tumors, it is the most common appendiceal tumor in children and adolescents (7).

CASE PRESENTATION

The male patient is 79 and has a significant history of type 2 DM. He refers to a clinical picture of four months of evolution, characterized by abdominal pain, distension, and changes in evacuation habits; he does not report weight loss, fever spikes, hair, or hematochezia. The clinical picture progresses until presenting intestinal occlusion. On physical examination, the abdomen was painful on palpation, generalized, distended, tympanic, without color changes, signs of peritoneal irritation, and decreased peristalsis. It is reported: complete blood count, blood chemistry, serum electrolytes, liver function tests: without alterations, serum DHL 893 mg/dl, carcinoembryonic antigen 2.96 ng/ml. Conservative management and imaging studies were started. Simple abdominal tomography shows significant thickening of the colonic wall in

its portion of the hepatic flexure decreased lumen. It hinders the passage of fluid into the transverse colon, causing evidence of intestinal occlusion.

Due to a probable neoplastic process, a colonoscopy was performed (Fig. 1) with a report of a lesion in the ascending colon that produced stenosis of approximately 70%. Intestinal occlusion secondary to a colon-dependent tumor in the hepatic flexure was diagnosed. Right hemicolectomy and ileo-transverse anastomosis were performed, and an uncomplicated incisional hernia in the late postoperative period without any other added symptoms.

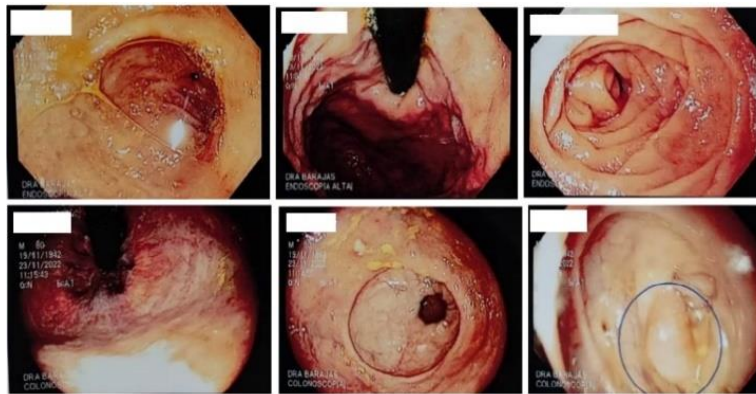


Figure 1

Anatomy-pathology report: Adenocarcinoma of the transverse colon that invades the serosa, distal and proximal margins free of tumor. The second primary tumor in the cecal appendix reached the muscle layer without going beyond it, and 5/12 lymph nodes were positive for metastasis (Fig. 2).

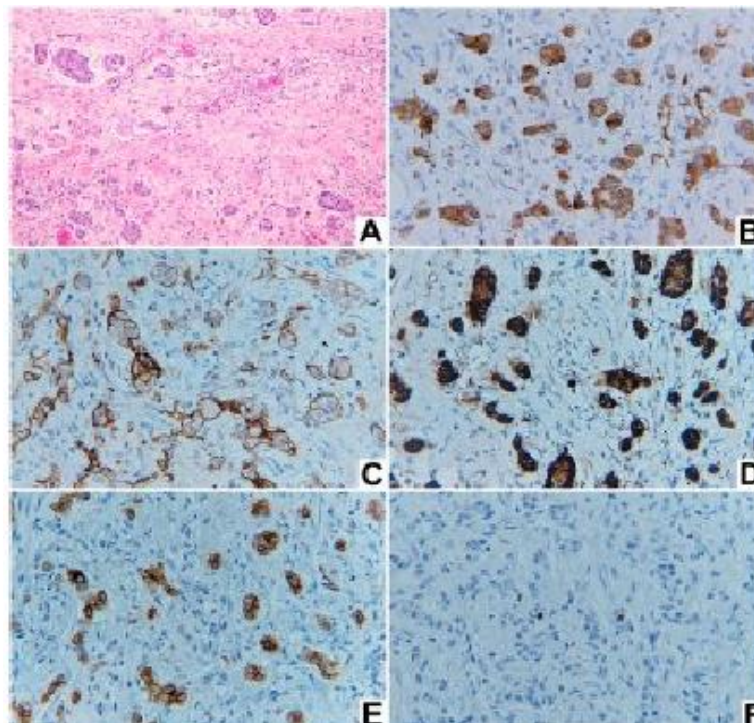


Figure 2

It is indicated adjuvant treatment with capecitabine 3-0-3 (14x7) and oxaliplatin 230 mg intravenously for three weeks for six months. Control by tomography two months after surgery without reporting data on the tumor at the patient's clinical stage, the patient is classified as T3N2aM0 with clinical stage IIIB, with follow-up after six months in the outpatient clinic without tumor activity.

DISCUSSION

Synchronous tumors are sporadic, and the coexistence of colon and appendix cancer is unusual, posing diagnostic challenges to discriminating their primary or metastatic nature (1).

Presumably, synchronous tumors originate from a common genetic and environmental etiological substrate (2). The latest advances in molecular biology provided evidence of chromosome instability, microsatellite instability, and gene methylation. They are responsible for various lesions or predisposing factors for synchronous cancer (3). It is categorized by the location of the different tumors throughout the colon and by the different immunohistochemical and molecular profiles, with anatomy-clinical and familial correlates (4). It is identified a significant similarity of the molecular profiles of the tumors within the same individual. The categories resulting from the different molecular markers help to establish with greater precision the treatment and prognosis of each patient (5).

In this case, a carcinoid tumor of the appendix is documented in men, despite being more frequent in women. However, the presence of a synchronous tumor occurs more frequently in men with a ratio of 2-4:1, in the ages between 20 and 29 years for primary tumors and between 40 and 70 years in the case of synchronous tumors (7).

Appendiceal tumors are frequently incidental findings in patients with a classic picture of acute appendicitis, chronic pain in the right iliac fossa, or classic carcinoid syndrome. The imaging test considered to be of choice is tomography computerized, which is diagnostic in less than 50% of cases (8). Most cases are asymptomatic and incidentally found during abdominal surgery (9, 10).

If symptoms are present, they are vague and nonspecific. Depending on their location, colon tumors can give rise to occlusion, transrectal bleeding, changes in evacuation habits, and nausea (11). Occasionally, is found a synchronous tumor (double colon cancer) must be evaluated in each case. In the case of ipsilateral tumors, performing a right or left hemicolectomy may be considered, depending on the location of a tumor on the right side and another on the left side (12), a decision must be made between performing two segmental operations or a total colectomy (13). In these cases, the surgical risk, the patient's age, their genetic load, and the experience of the treating team are decisive (14). The patient corresponds to the highest frequency ranges for sex and age described in the literature. Most malignant appendiceal lesions are a product of the spread of a primitive tumor from neighboring organs and, in some cases, caused by metastasis from distant tumors (15).

Simple appendectomy is considered curative for tumors smaller than 2 cm confined to the appendix. For tumors larger than 2 cm, with positive resection margin, or with metastatic deposits in the lymph nodes, Computed Tomography or Magnetic Resonance of the thorax,

abdomen, and pelvis is recommended for the evaluation of the patient in search of probable tumor activity (15, 16).

The European Neuroendocrine Tumor Society (ENETS) consensus guidelines also recommend simple appendectomy for tumors smaller than 2 cm, which appears to be curative regardless of tumor site, and a right hemicolectomy within three months after the operation. Initial appendectomy in patients with tumors larger than 2 cm (17). For tumors between 1 and 2 cm, posterior right hemicolectomy is recommended if there is a positive or unclear margin, deep mesoappendicular invasion, increased rate of proliferation, and vascular invasion (18).

The diagnosis is made through the anatomical piece analyzed by the pathologist after surgery. The proportion of suspected appendix tumors during surgery is low, which delays their confrontation (19).

CONCLUSION

Colorectal cancer in recent years has increased its prevalence in the world, as has the incidence of synchronous tumors, so an imaging study, pathology, and follow-up should be performed in these patients in order to reduce recurrence or the omission of tumor presence in some other location in order to offer more remarkable survival and timely treatment to the patient.

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