



Silent And Sinister Colon Cancer

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ABSTRACT

Introduction: colon and rectal cancer is unfortunately an emerging public health problem since it occupies second to third place worldwide in incidence, with a high mortality rate. **Objective:** presentation of a case and review of the literature. **Method:** 71-year-old male, who was evaluated in the emergency department, underwent an emergency surgical procedure due to a clinical picture suggestive of acute complicated and perforated appendicitis, performing exploratory laparotomy with extended right hemicolectomy. With a tumor that is an adenocarcinoma with areas of differentiation into signet ring cells. **Discussion:** The origin of colorectal cancer is complex and diverse, since it has a genetic origin, intrinsic factors, and extrinsic factors, which at some point combine or synergize. At the beginning it is completely asymptomatic, which explains the high incidence in advanced clinical stages and its lethality. The first-line treatment is resection or ablation, which ranges from colonoscopy as an initial option, to the same laparoscopic and/or robotic surgery, both multivisceral or the same pelvic exenteration. **Conclusions:** The symptoms and signs in colorectal cancer are not adequate for diagnosis and this causes late treatment with only repressive or palliative treatment, with a poor prognosis and obviously no survival.

Keywords: Colorectal cancer, Cancer, Colonoscopy, Appendicitis, Right hemicolectomy, Signet ring cells, Adenocarcinoma.

INTRODUCTION

Colon and rectal cancer (CRC) are unfortunately an emerging public health problem, as it occupies second to third place worldwide in incidence, with a high mortality rate. [1, 2] Another phenomenon of this type of neoplasia today is the increase in its incidence in patients under 50 years of age, where the age limit is reduced from 45 to 40 years. [3] In Mexico its frequency of presentation is unknown, there is no reliable source or statistical bases that support reality. It

is speculated that it occupies the third place of all neoplasms and with an exponential increase in the future, [4, 5] and the vast majority is diagnosed at a very advanced clinical stage; stage IV CRC has a five-year survival of only 10 to 15%. [6] And since there is no national health program or policy for timely detection or screening of CRC and since the population does not have any beneficiary interest, the health authority in Mexico will ultimately continue as a silent and/or sinister disease. [7]

OBJECTIVE

Case report and literature review.

METHOD

This is a 71-year-old male patient, who is evaluated in the emergency department, with a history of type 2 diabetes mellitus under control; His condition began 72 hours ago with intermittent colicky abdominal pain and a gradual increase in intensity, starting in the periumbilical region with irradiation to the right iliac fossa, accompanied by nausea, occasional vomiting, asthenia, adynamic and anorexic. It presents with unquantified intermittent fever. He had previous treatments with multiple doctors with painkillers and antibiotics. On physical examination he showed vital signs with P/A: 127/89 mm Hg. HR: 96x'. BF: 26x'. Temperature: 37.6°C. Conscious, oriented, with abdominal facies, cardiopulmonary without compromise, distended abdomen, hypoactive peristalsis, palpation soft, depressible, painful on middle and deep palpation in the right iliac fossa, Mc Burney, Rovsing, psoas and obturator present, with signs of peritonism and Blumberg's sign present, in summary, with clear data of peritoneal irritation, the rest without data to comment on. Laboratories with leukocytosis 13.6×10^3 mm³, neutrophilia 82.9%, hemoglobin 14.9 g/dl, hematocrit 44.6%, platelets $312,000 \times 10^3$ mm³, prothrombin time 11.7'', thromboplastin time 26.4'', INR 0.98, creatinine 1.05 mg/dl, urea 5.1 mg/dl, BUN 16.4 mg/dl, glucose 160 mg/dl. Arterial blood gas: pH 7.33. PCO₂ 30 mm Hg. PO₂ 81 mm Hg. Lactate 1.2 meq/l. HCO₃ 17.9 meq/l. BEEF -10 meq/l. SaO₂ 95 %.

Chest and abdominal x-rays. See figure 1, 2, and 3.

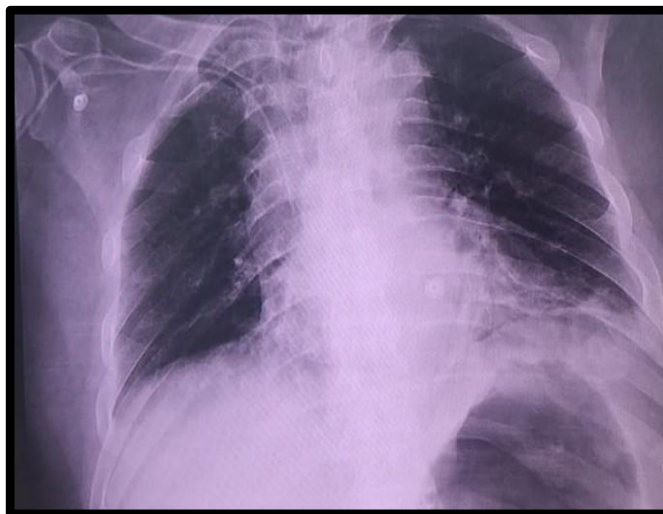


Figure 1: Chest x-ray showing the “seagull” sign, which is bilateral subdiaphragmatic “free air”.



Figure 2: Standing abdominal film showing air-fluid levels, reflex ileus, interloop edema, fixed loop, sentinel loop, absence of colon and absence of air in the rectum, with clear evidence of intestinal obstruction.

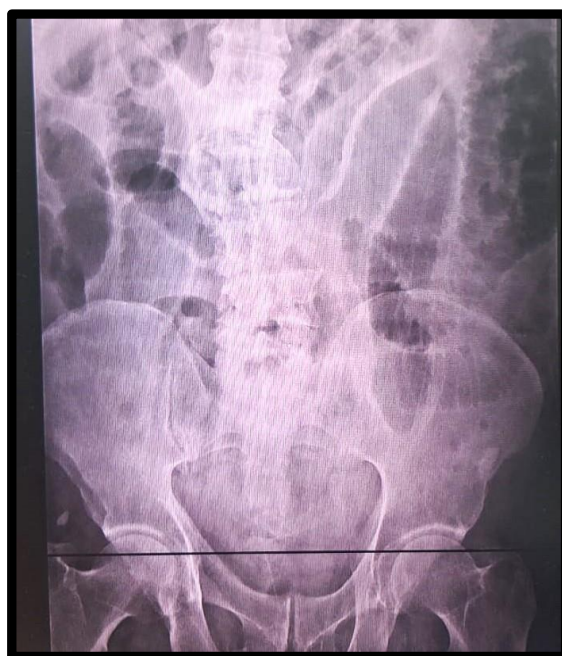


Figure 3: Plate of the abdomen in recumbency, with absence of colon, fixed loop, sentinel loop, reflex ileus and absence of gas in the rectum.

An emergency surgical procedure was performed due to a clinical picture suggestive of acute complicated and perforated appendicitis, carrying out exploratory laparotomy with extended right hemicolectomy and ileo-transverse anastomosis at the lateral end in two planes, with the findings: stony and indurated tumor measuring 8 x 5 cm. , which involves terminal ileum, cecum and cecal appendix, with intestinal perforation at the level of the ileocecal valve, necrosis of the cecal appendix and cecum. (See Figure 4) Subsequently, he was admitted to hospital for follow-

up, during his stay he presented adequate clinical progress and was discharged for control in the Surgery consultation.



Figure 4: Surgical piece from right hemicolectomy and terminal ileum. Where a tumor is seen in the cecum.

The pathology report describes an adenocarcinoma with areas of differentiation in signet ring cells, with grade of differentiation G3, poorly differentiated, measuring 8x5x4 cm, with invasion of the visceral, perineural and lymph vascular peritoneum, with macroscopic tumor perforation present at the expense of two breaks of 0.8 and 1.5 cm in the cecum, tumor present in 7 of 18 regional lymph nodes, with pathological stage pT4a, pN2b Mx. (Figure 5). Hospital discharge for sending to the Oncology service with follow-up by Surgery.

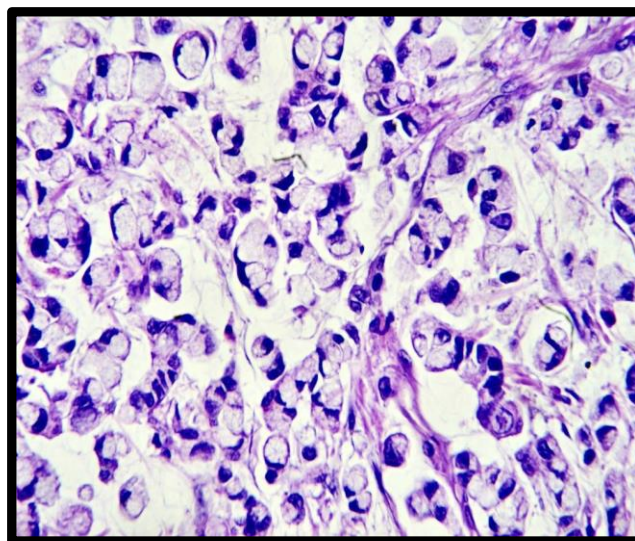


Figure 5: Image detailing the histological section showing poorly differentiated adenocarcinoma, with signet ring cells.

DISCUSSION

The origin of CRC is complex and diverse, since it presents a genetic genesis, intrinsic factors, and extrinsic factors, which at some point combine or synergize. [2, 8] Everything converges in three etiological strains such as inheritance, origin due to polyps and non-polyposis or the so-called sporadic ones. Lynch syndrome is an autosomal dominant inherited disorder, characterized by a predisposition to various cancers, mainly CRC, caused by germline mutations in mismatch repair genes MLH1 (newly discovered), MSH2, MSH6 and PMS2. This occurs in 10 to 15% of the general population. [9] The other aspect that must be considered is the genesis of CRC from a polyp that can be from an isolated polyposis disease or from polyposis syndromes such as Cowden syndrome, Bannayan-Riley-Ruvalcaba syndrome, juvenile polyposis syndrome, Peutz-Jeghers syndrome, Cronkhite-Canada syndrome, hyperplastic polyp syndrome, Gardner syndrome, Turcot syndrome, MYH gene-associated polyposis, attenuated familial adenomatous polyposis and familial adenomatous polyposis. [7, 10] In addition, there is an association of CRC with several diseases, however, there is a real origin in chronic nonspecific ulcerative colitis, where continuous severe and accumulated chronic inflammation exposes severe dysplasia, transforming into CRC. [11, 12]

The diagnosis of CRC is impossible to recognize in the initial stages since it is completely asymptomatic, it is only made by discovery, accident, or scrutiny; and certain health infrastructure is required; the warning signs and symptoms in patients with colorectal cancer only occur with very advanced stages, which leads to a late diagnosis and delayed treatment with a worse prognosis. In addition, it is also strongly associated with the anatomical site of the tumor in the colon or colon in the rectum. [13] Regardless of the screening of risk populations or health policies, attempts are currently being made to find the diagnostic calyx, such as the detection of miR-549a, miR-552 and miR-592, which serve as possible specific panels of CRC, [14] on the other hand, CRC is very heterogeneous at the molecular level, with different subtypes characterized by different somatic mutational profiles, epigenetic aberrations, and transcriptomic signatures, all of which would allow an early diagnosis in the future. [15]

The onset of CRC is completely asymptomatic, so the high incidence in advanced clinical stages and high mortality [4] forces the health system (Romania) of certain countries to implement health policy programs for timely detection or screened, in the group of 50 to 74 years, with a survey system, where the priority of a fecal immunochemical test or a colonoscopy is discerned directly, with a degree of diagnostic assertiveness in CRC that has reached the 6%. [16] In another similar study (Australia) the new incidence was 7%, with a significant increase in right-sided tumors and concurrent MMR deficiency and BRAF mutation. [17] Strategies have been implemented in other governments, such as the National Cancer Database for better control (U.S.A.), in diagnosis, exponentially impacting on reducing the mortality and morbidity of its population, where it is evident that the lack of infrastructure for its treatment (rural regions) increase staging and its exponential increase in a poor prognosis (5 months on average delay in surgery). [18] Timely detection (diagnosis) of CRC gives the option of better patient survival with an overall 5-year net survival per country that ranged between 60.8% and 74.5%. Evaluating at the same time recurrence in stages I to III. [19] The detection of adenomas or polyposis pathology, excellently positioned (detection, diagnosis, and treatment) by colonoscopy as the "gold standard", is still performed routinely without any optimization device, with the same results in the prevention of CRC. [20, 21] The warning signs and symptoms (abdominal pain, rectal bleeding, diarrhea, constipation and anemia) can notify or

warn that there is disease (however, it is not diagnosed immediately for reasons of thinking of a benign disease) [22] it is because this means that when they already appear, there are really very invasive, metastatic or locally advanced tumors, which already when the diagnosis is reached, added to the fact that their treatment can be deferred for more than a year, due to the saturated attention of the public health service. : due to the lack of infrastructure, logistics and competence of health decision-makers in undeveloped countries (ironically, costs increase exponentially for palliative management - chemotherapy that is too financially burdensome, with physical consequences, permanent disability and with a prognosis or rickety survival-). [23] In addition, of the signs and symptoms already mentioned, weight loss in 3 months, stringy stools, constipation, chronic diarrhea, wasting syndrome, chronic malnutrition, among others, should be investigated; however, they can also have atypical presentations. [24] The universal CRC classification is the TNM staging system used worldwide and is a fundamental component in pathology reporting, with its significant variations in stage assignment. [25] The site of the tumor represents the proximity of the presentation of signs and symptoms, the tumor in the right colon can grow a lot without occluding due to the cecum's compliance with dilation, the early way to diagnose it is only by evidence of hemorrhage and colonoscopy. In the left tumor, the most frequent manifestation is constipation, or occlusion or chronic diarrhea, and the rectum is the quickest to give symptoms, especially in the lower third, such as bleeding and manifestations of constipation, unlike the middle portion and superior where the capacitance of the organ makes it locoregionally advanced before presenting any symptoms. [26]

The histological types of CRC did not demonstrate a correlation in lymph node invasion, but in pathological staging it is essential to identify risk factors such as vascular and neural invasion. [27] Differential diagnosis should be made with appendiceal neoplasms that are rare, with an estimated incidence of 1%, such as neuroendocrine tumors and low-grade appendiceal mucinous neoplasms. Most tumors are cured by appendectomy alone, but some require right hemicolectomy and intraoperative chemotherapy. [28] On the other hand, it is reported that the poor prognosis and the high rate of lymph node involvement in signet ring cell CRC are tumor size > 39 mm, T3/T4 stage, N1/N2, exhibiting worse prognoses. [29] Signet ring cell CRC is an extremely aggressive histological subtype of unknown and rare etiology. However, a very high incidence of up to 15% was detected in Asia, on the contrary, in the western world only 1% is reported. [30] It must be clarified that the histological lineage of signet ring cells does not only occur in the colon or rectum, which is why other anatomical sites where this study points out must be taken into account, such as the gastroesophageal junction (n=38), stomach (n=48), pancreatobiliary system (n=16), colorectal (n=40), appendix (n=32), breast (n=41) and lung (n= 42). [31] And emphasize that signet ring cell CRC is a subtype of mucinous adenocarcinoma that is often associated with a very poor prognosis. [32]

The first-line treatment is resection or ablation, which ranges from colonoscopy as an initial option, to the same laparoscopic and/or robotic surgery, both multivisceral or even a complete pelvic exenteration; on the contrary, there is a current trend of some surgeons being less competent in the so-called organ conservation; this is neither ethical nor viable since it confirms the result of failure in the end of the patient's non-survival. [33] For this reason, aggressive surgical eradication has become common, where multivisceral and extended resections offer a curative intent with a significant benefit achieving an oncological sound ablation on patient survival. [34] The robotic platform equals or surpasses laparoscopic surgery in postoperative outcomes in CRC. [35] In addition, neoadjuvant chemotherapy and specific radiotherapy must

be considered, such as adjuvant chemotherapy or, as a last option, palliative chemotherapy added to cytoreductive surgery and/or hyperthermic intraperitoneal chemotherapy. [36, 37] Surgical advances are confined to lymph node search in CRC, but oncological surgical improvement has been forgotten; on the contrary, near-infrared enhanced surgery promises to transform the landscape and emerges as a valuable tool for surgeons. [38] It is necessary to generate systematized preventive strategies in colonoscopy and surgical skills, which really impact survival; with an early diagnosis that achieves a better prognosis and a higher quality of life for the patient; optimizing resources and reducing costs to the patient, the family, the health system, or the government itself. [39]

CONCLUSIONS

The symptoms and signs in CRC are not an adequate diagnostic tool and this causes a late diagnosis, treatment based on findings that is only repressive or palliative, with an obvious poor prognosis and zero survival. Surgery is today the only option for better survival, and currently in Mexico we are not betting on this scenario; only the palliation option is optimized since the economic benefits to pharmaceutical emporiums, such as the profits of decision makers, as well as the political impact caused by the patient-institution-government dependency due to the high cost of chemotherapy; all of this is reason enough to tip the balance in favor of exorbitant costs for palliative medications. Finally, long-term logistical preventive colonoscopy follow-up should be undertaken so that, together with surgery, the morbidity and mortality of CRC in Mexico and equally in the rest of the world can be decimated.

Conflict Of Interests

The authors declare that they have no known competing financial interests or personal relationships that could have influenced the work presented in this article.

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