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MULTIVISCERAL RESECTION OF ADVANCED SIGMOID COLON CANCER

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ABSTRACT

Introduction: Colorectal cancer is one of the most common digestive malignancies, with a high mortality and morbidity rate, with nonspecific symptoms in the early stages and with a diagnosis in the advanced stage most often. In a significant percentage there are cases in which tumors with invasion in the border organs and multiorgan resections are required. In women, the invasion frequently occurs in the vagina, uterus and bladder.

Case report: We report the case of a 52-year-old woman, who presented in the Department of Surgery with the following complaints: fecaluria, pneumaturia, constipation and moderate abdominal pain, with onset of 4 months, in wich the patient neglected her symptoms. Following the investigations, a large tumor formation of sigmoid colon was diagnosed, with invasion in the uterus and bladder, with which it communicates through a 16mm fistula. The result of the biopsy was of low / moderate grade adenocarcinoma differentiated G2. Cystoscopy revealed bladder trigone invasion without being able to identify ureteral orifices, biopsy and urine cytology was also positive for cancer. The surgery was performed by a multidisciplinary team and a multivisceral resection was performed.

Conclusions: Multiorgan resections require trained, experienced teams, and oncological pathology raises special issues when it comes to radical visa. The management of invasive colonic tumors in the border organs must be established preoperatively, in agreement with the patient, because it involves problems related to the quality of life and the potential for survival.

Keywords: colon cancer, invasion, multivisceral resection, case report

Introduction

Colorectal cancer (CRC) is found in the top 3 pathologies commonly encountered globally, with up to 1 million new cases diagnosed (1). At the time of presentation to the doctor, approximately 5-22% of CRC cases are considered to be locally advanced (2). Between 3-10% of cases the invasion occurs in the genitourinary organs (3). Fecaluria is the most common symptom when there is a colovesical fistula (CVF). CVF has as common main causes: sigmoid diverticulitis, sigmoid malignancies, Crohn's disease, radiotherapy (4). The most common locations for CRC to involve the urinary bladder are the distal sigmoid followed by the rectum (5). Advanced sigmoid colon cancer can in some cases invade the bladder, uterus, and can occupy the entire upper pelvis, occupying all the space in front of the promontory. In such cases, the therapeutic decision is difficult to make, considering certain aspects such as the curability of the operation, quality of life, type of intervention, adjuvant / neoadjuvant oncological treatment (6). The use of computed tomography (CT) / magnetic resonance imaging or endorectal ultrasound to establish preoperative staging remains another area of research and debate (7). The decision

of a multiorgan resection is usually taken at the time of surgery, when assessing the palliative or curative nature of the operation. Such surgeries are demanding for the patient and the possible intraoperative / postoperative complications must be weighed against the survival potential (5).

Material and Method

Here we report the case of a patient with locally advanced sigmoid colon cancer with invasion of the bladder and colovesical fistula and invasion in uterus, whose tumor was en bloc resected.

Case report

A 52-year-old woman without any significant medical history, who presented to the Surgery Department accusing in the last 4 months fecaluria, pneumaturia, constipation and moderate abdominal pain. The clinical and paraclinical examination was within normal limits. The digital rectal examination did not reveal any anomalies. A CT scan was performed and showed a tumor mass involving the sigmoid, uterus and the bladder with mucosal damage and endocavitary overflow and fistulous orifice of approx. 16mm. Subsequently, it was decided to perform an lower digestive endoscopy that showed a sigmoid tumor formation about 40 cm from the anal orifice, partially stenotic that could not be overcome with the endoscope, from which biopsies were taken, resulting a low / moderate grade adenocarcinoma differentiated G2. Next, a cystoscopy was performed and it was found a tumor that invades the bladder trigone and the left lateral wall, where the existence of a fistula through which fecal matter is externalized is also observed; the ureteral orifices cannot be visualized. The result of the bladder trigone biopsy reveals intestinal adenocarcinoma. In order to better visualize the lesions, it was decided to perform an MRI. (Figure 1) Preoperative staging was cT4bN1M0 locally advanced sigmoid colon cancer. Neoadjuvant therapy was considered; however, because the patient presents with fecaluria and pneumaturia, we decided against neoadjuvant therapy.

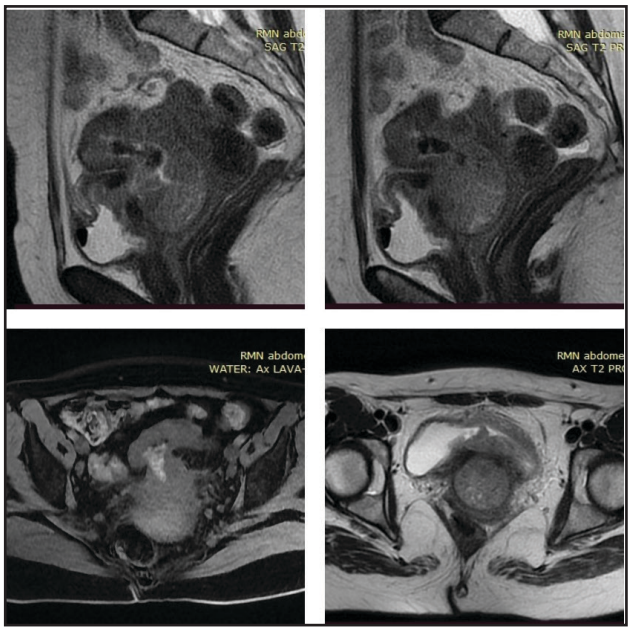

Figure1. Magnetic resonance images show a large tumor directly ivading the uterus and urinary bladder with colovesical fistula

A laparotomy was performed by a mixed team of general and urologic surgeons. During surgery, a tumor was found at the level of the sigmoid colon with bladder and uterus invasion. We performed ”en bloc” resection of the colonic tumor with complete mesocolic excision and total mesorectal excision, uterus with ovaries, bladder, with terminal left colostomy and bilateral ureterocutaneostomy. (Figure 2)

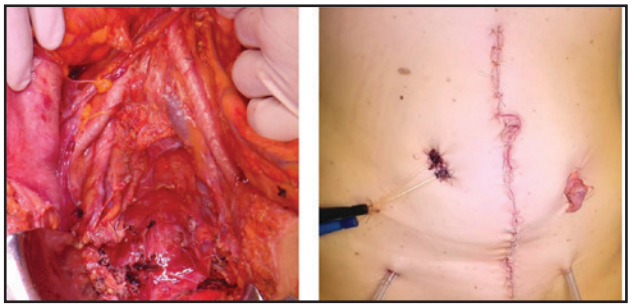

Figure 2. Intraoperative image after resection of the tumor block and immediate postoperative image.

Results

From surgical point of view, the patient’s evolution was favorable, this patient was discharged on the 8th day after surgery. The pathological results revealed a pT4b pN1c (0/20 lymph nodes and subserosal tumor deposits),

pM1b, intramural and extramural vascular invasion and perineural invasion and showed similar histological features with previous biopsy of the urinary bladder tumor. (Figure 3). Chemotherapy consisting of 5-fluorouracil, leucovorin, and irinotecan was the recommended cancer therapy 5 weeks after surgery and was associated with radiotherapy.

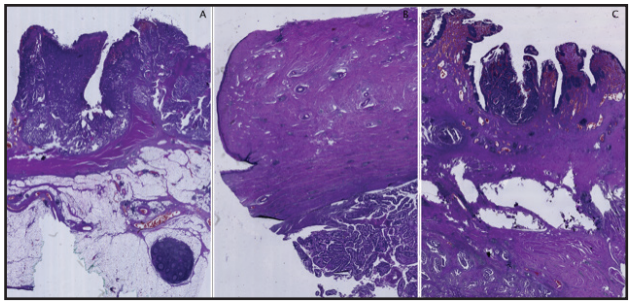

Figure 3. Colonic adenocarcinoma with aggressive regional behaviour. A. Invasive low grade/moderate differentiated adenocarcinoma of the rectosigmoid portion of the colon with a reactive lymph node, stage pT4b pN1c (0/20 lymph nodes and subserosal tumor deposits), pM1b, intramural and extramural vascular invasion and perineural invasion (HE, 4x). B. Tumor infiltrating the uterine cervix and upper third vaginal wall (HE, 4x), C. Adenocarcinoma invasion in the epithelial layer of the bladder (HE, 4x).

Discussion

In the presence of a colovesical fistula, a malignant process must be suspected, even if the most common cases are the result of a benign process. Colonoscopy and cystoscopy with biopsy are necessary examinations to confirm the existence of the malignant process (8). In our case, the preoperative diagnosis could be established and was a real help in establishing together with the patient the operative moment and the type of surgery. Bladder adenocarcinoma raises suspicion if it is a primary lesion / local invasion / metastatic process (9). Up to 20% of CRC cases in the US are considered to be T4, with tumors that exceed serous and invade border organs (10,11). Kobayashi et al. (3) reviewed the clinical records of 580 patients with colorectal carcinoma: 2.9% had a diagnosis of urinary bladder invasion intra-operatively.

Surgical resection remains an effective therapeutic option in the treatment of advanced CRC. This type of surgery requiring a multidisciplinary team, well trained, in order to provide the best results from an oncological point of view (5,10). The treatment of the bladder is perhaps the most difficult to decide at the time of surgery. The volume of the resected bladder is difficult to calculate during surgery and can only be a subjective estimate based on experience. An enterocystoplasty can be performed, but considering that the patient will perform postoperative radiotherapy, this possibility remains a contested topic (12).

Obtaining negative surgical margins has a major importance. An R0 resection also has a strong prognostic impact on the survival rate. Current guidelines recommend microscopically negative margins as the standard surgical procedure for locally advanced, adherent colon cancer (13). Cukier et al. (14) reported that neoadjuvant chemoradiotherapy and ”en bloc” multivisceral resection can result in high rates of R0 resection and excellent local control, with acceptable morbidity, in selected patients with locally advanced, adherent colon cancer. Therefore, total exenteration or cystectomy should be considered and discussed in advance with the patient, including urinary diversion modalities. The modalities of urinary diversion are numerous, but they must be chosen according to the patient's history, comorbidities, of the following treatments and last but not least the patient's preference.

The methods of urinary diversion mainly include two categories: uncontrollable urinary diversion (cutaneous ureterostomy and intestinal urinary diversion) and controllable urinary diversion. Cutaneous ureterostomy is applicable to all urinary diversions following radical cystectomy and is particularly suitable for older patients and for patients with advanced cancer combined with renal inadequacy. The surgical procedure is simple, and the abdominal cavity is not involved, thus greatly reducing the incidence of abdominal complications (15). The ileal conduit (IC) has been considered the ‘‘standard’’ urinary diversion for bladder cancer patients submitted to radical cystectomy and gave the surgeon options in supporting the patient’s final choice. (16) Even at many tertiary high-volume referral centers, the IC is performed on greater than 75% of patients

undergoing radical cystectomy (17). In our case the patient did not agree to this procedure (IC) due to possible complications (leakage of the uretero-ileal anastomosis, paralytic ileus, intestinal anastomosis leakage, uretero-ileal anastomotic strictures, deterioration of renal function), so we performed a urinary diversion ureterocutaneostomy.

Winter et al. (18) evaluated the outcome of combined bladder resection in 63 patients with colorectal carcinomas: the bladder was closed primarily in 48 patients, with enterocystoplasty in five and ten patients required urinary diversion; morbidity rate 18%, mortality rate 1.5%; bladder adherence in 46%, bladder invasion in 54%; disease-specific survival was 54% with a mean follow-up of 7.6 years.

Lymph node status is one of the most important factors influencing survival. Particularly in this case is the absence of regional lymph node metastases in a locally advanced tumor with long evolution.

Conclusions

Multiorgan resections must follow standardized surgical procedures and are recommended to be performed only in high-volume hospitals in colorectal surgery by trained, experienced teams. Because palliative resections cannot be predicted accurately at the time of surgery, every effort should be made to achieve complete tumor resection. From diagnosis to treatment the management of these cases can be difficult and challenging.

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