LOCAL RECURRENCES AFTER ULTRA LOW RESECTION OF THE RECTUM

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ABSTRACT

Introduction: the advances in surgical technique and complementary therapy implemented in the last decade have seen important improvements in the treatment of neoplasm of the proximal middle and distal rectum. The use of abdominal amputation (AAP) although it was the treatment of choice in the 80s after the introduction of new technology has seen an increase in the preservation of the sphincters, up to 90% for the low localizations of the neoplasm., And an improvement of the quality of life. The purpose of the present study in relation to our case studies is to analyze the data obtained in our experience to assess the causes that led to the local recurrence. Materials and Methods: From January 2010 to December 2017 consulted the database of the polyclinic AOU University of Catania were observed in 25 cases of neoplasm to site in the rectum in 93 cases of colon neoplasm with headquarters: in the blind 3 n cases (3.5%), colon ds n 39 cases (41.5%), transverse colon n 4 cases (4.2%), colon sn n 41cases (44.6%), sigma n 6 cases (6.2%) Results: Interventions with preservation of the sphincters (fig 2 ) represent 95% of the cases ( n 112 cases) and of these in 24 cases (21%) there was an exitus in the postoperative period. In the remaining 69 patients, local recurrence developed in 14% (10 cases). Recurrence was associated in 6% (4 paz,) of cases with the presence of MTS at a distance. The disease-free interval averaged 18 months (range 22 to 16 months) Discussion: Ultra-low resections help diagnosis Due to the simple and easily accessible sphincter transsectional maneuver of the rectal abutment, the distinction between anastomoses and recurrent scar lesions is difficult, but with the help of by rectal ultrasound diagnostics and that for CT and RNM imaging it is possible to obtain a diagnosis. The limit shown by the instrumental metod is that of the remote MTs in which the radio immuoscintigraphy has been shown to aid in lesions of a size of 1 cm, while for the initial ones it remains difficult to diagnose. In the anastomoses sites the relapses are not easily resectable because often they affect the plan of the elevators of the anus, but in the recurrences involving l in the pre-sacral involved it was possible to perform an AAP with resection extended to the muscular plane and to the genitourinary organs. Conclusions: In the data collected and analyzed, we highlight how a surgery that includes a correct excision of the middle rectum provides a high prevention of recurrences in addition to the correct approach to the neoplasm. A therapeutic program that includes radio and preoperative chemotherapy reduces recurrence as well as reducing the volume of the neoplasm allowing us to perform an ultra-low resection as we have seen.

INTRODUCTION

Advances in surgical technique and complementary therapy implemented in the last decade have seen important improvements in the treatment of neoplasm of the proximal middle and distal rectum.(1,2,3,4) The use of abdominal amputation (AAP) although it was the treatment of choice in the 80s after the introduction of new technology has seen an increase in the preservation of the sphincters, up to 90% for the low localization of the neoplasm., And an improvement of quality of life.(5,6,7,8) Also the prognosis has undergone a further change in the last decade, thanks to the introduction of new adjuvant chemotherapy, the results of which have led to a

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further reduction of the resection limit up to 2 cm from the anal fissure, which was accompanied by a reduction in relapses. But 5-year survival at a distance still remains high with a mortality that although noticeably reduced, due to a more accurate screening: "it is around 60%, while for patients with metastatic tumors it is less than 5%., it is evident how late the diagnosis is a crucial element. The reconstruction through an anastomoses perineal colon, or gracilis electro stimulated plastic although it is a technical procedure that improves the quality of life of the patients, nevertheless the latter procedures do not possess the functional characteristics of an anterior resection. (9,10,11,12)

Regional loco recurrence after curative resection of a neoplasm of the rectum, is considered a resumption of neoplasm disease based on either laparotomy or perineal scar, or along the path of a drainage, in the lymph nodes or in an anastomoses site. Relapses occur in most cases within 12 months with a greater ease of comparison in ultra-low resections. The frequency oscillates around 16-20% with a higher incidence when the extra peritoneal neoplasm, due to the absence of the serous lining and the multicentric lymphatic drainage. In addition to anatomical factors, the greatest risk of recurrence is due to manipulation of the neoplasm during surgery. The recovery of the disease after low resection is also due to the persistence of neoplasm little focus after resection accompanied by an inadequate lymphadenectomy.(13,14,15,16) For these reasons an accurate histological analysis in which the dimensions, the morphology of the neoplasms, the DNA index, the aneuploidy, the labelling index and other items are evaluated for the purpose of staging the risk of recurrence. the parameter of distance from the primary tumor has been documented with a distal margin from the neoplasm of only 2 cm. This margin offers sufficient guarantees of oncological radicality, however, in the literature the "Tailored surgery" is affirmed, a surgery carried out in relation to the characteristics and stage of the neoplasm.(17,18,19,20) Another parameter examined in the literature is the experience of the operator since for the implementation of a sufficient lymphadenectomy the "navigated" surgeon is of fundamental importance for the prevention of recurrences. anatomical dehiscence is a further evaluation parameter for prevention purposes because this item involves a percentage of relapses ranging from 35% to 47% of cases.(21,22,23,24) The pathogenetic hypothesis responsible for relapses is that of the presence in the intestinal lumen of exfoliated neoplasm cells that migrate in the dangerous tissues or on the margins of dehiscence or on the granulation tissue that together with the suture material from the recurrence origin. relation to our case studies is to analyze the data obtained in our experience to assess what are the causes that led to the local recurrences.

MATERIALS AND METHODS

From January 2010 to December 2017 consulted the database of the AOU Polyclinic University of Catania were observed in 25 cases of neoplasm in the rectum and in 93 cases of colon neoplasm: in the blind 3 n cases (3.5%), colon ds n 39 cases (41.5%), transverse colon n 4 cases (4.2%), colon sn n 41 cases (44.6%), sigma n 6 cases (6.2%) studied at the Department of Medical and Surgical Sciences II The patients selected for this analysis had a mean age of 72 years (range 74-70) and a clinical symptomatology that was related to the severity of the disease. in fact, the blood in the stool was accompanied by asthenia, rapid weight loss and anemia. All the patients examined performed. The colonscopy (fig 1), the echo endoscopy, (fig 3) the virtual endoscopy, the TAC and nuclear magnetic resonance.

These investigations visualized the entire lumen of the colorectal, in order to identify also other synchronous pathology present within the intestinal lumen. With the diagnostic investigations described associated with the markers we obtained a staging of the TNM neoplasm of the American Joint Committee on Cancer, and therefore we observed the stage T1 neoplasm in 25 cases, at the T2a stage in 12 cases, at the T2B stage n 10 cases and finally in the T4 stage the last 10 cases. Thereafter we proceeded according to a therapeutic protocol that included
radiotherapy and adjuvant chemotherapy that was implemented only in 25 patients in the T1NoMo stage, while the postoperative in the remaining group of patients (93 cases). This was followed by the surgical treatment with local excision that was placed in the elderly, debilitated, and with severe functional deficits, respecting the principles of oncological radicality with safeguarding the sphincter function. The histological examination of this group of patients confirmed a 3.4 cm neoplasm, movable to the underlying planes, easily reachable with the anal access, within two cm from the anal margin, with polyloid and vegetative appearance but not ulcerated, with the absence of infiltration on the definitive piece of the lymph nodes muscularis, and with a grading of low aggressiveness (G1 G2). For the preparation of the colon a rapid preparation was adopted by administering the day before isoosmolar solutions in suitable quantities of water (4 lt) which saturate the capacity of absorption of the intestine with progressive reduction of stool consistency and elimination of clear liquid, without causing alterations in hydroelectrolytic homeostasis. The surgical treatment carried out in the remaining group of patients examined showed the need for curative intervention with the removal of the middle rectum and the execution of an ultra-low anastomosis, or an abdomen - perineal sec Miles, or a local excision with ultra-low tumor located between 0 and 30 mm.

RESULTS

The interventions with conservation of the sphincters (fig 2) represent 95% of the cases (n 112 cases) and of these in n 24 cases (21%) there was an exitus in the postoperative period. In the remaining 69 patients, local recurrence developed in 14% (10 cases). Recurrence was associated in 6% (4 cases,.) of cases with the presence of MTS at a distance. The disease-free interval averaged 18 months (range 22-16 months). After local excision, the local recurrence rate was 11% for T1 tumors and 37% for T2 tumors. Local excision preceded by new adjuvant therapy was considered to be T2 tumors only within clinical trials. In relation to the type of surgical anastomoses the manual ultra-low was present in 20 cases, the mechanical AAP in 98 cases. Anastomoses dehiscence was present in 18 cases (15%) and in this group the presence of local recurrence was 27.5% (5 cases). The curative resection of local recurrences was possible in 10 cases (72.5%) for lesions which oscillated as 2-3 cm in diameter and in an anastomoses or medial position therewith. 5-year survival was 55% and 45% of cases died at 36 months. the remaining patients are present at the planned control. Complementary radiotherapy at high doses associated with systemic chemotherapy in order to sterilize the neoplasm small outbreak have shown their effectiveness both in terms of incidence of recurrence (14%), and in the effectiveness of reoperation for the local recurrence to be attributed to a probable neoplasm exfoliation during surgical resection. Follow-up and prevention measures have allowed for a precocious diagnosis as well as curative treatments, especially when recurrence is still asymptomatic, allowing an increase in resective interventions and an improvement in survival.

DISCUSSION

The ultra-low resections help the diagnosis due to the simple and easily accessible sphincter trans-spherical exploration maneuver of the rectal stump, the distinction between anastomoses cicatrix lesions and recurrences is difficult, but with the help of trans rectal ultrasound diagnostics and that for TAC and RNM images it is possible get a diagnosis.(25,26,27,28) however, the limit shown by the instrumental methods is that of the remote MTS in which the radium immuoscinintigraphy has been shown to aid in lesions of sizes sup by 1 cm, while for the initial ones they remain difficult to diagnose. (The optimal treatment of relapses is the radical surgical resection after ultra-low resection. The therapeutic path takes into account several parameters: the size of the neoplasm, the presence of distant mts, the association with chemotherapy.(29,30,31,32) the lymphonodal and vascular venous neoplasm invasion grading, the immunohistochemical correlation of tumor new angiogenesis, the lack of undifferentiated cells in the invasive margin of carcinomas, the quantitative study of ploid DNA with correlation between aneuploidy, the labeling index as an index of cell proliferation, the molecular genetics investigations with the identification of genes which regulate cell proliferation and differentiation of which the K-RAS located in chromosomes 12p which is most frequently activated in rectal neoplasm. (33,34,35,36) This was associated with the determination of the P53 gene which indicates a particular aggressiveness of the neoplasm with a greater tendency to lymphatic and venous invasion. Furthermore, in the preclinical phase, the index of recovery of the disease was also evaluated by serum markers macromolecules synthesized by neoplasm tissues, expression of tumor necrosis, or of the body's reaction that hosts the neoplasm. according to their characteristics they were used to confirm a suspected diagnosis or to identify the tumor residues after surgical treatment for the purpose of an early diagnosis of recovery of the disease. (37,38,39,40)The most used were the CEA (70.80%) whose specificity is not satisfactory since the recovery of the disease is not preceded by the elevation of the markers (42%) and in 10% its elevation did not follow the recidivism. The ca 19.9 and the ca 195 used in the follow-up protocols also did not show superiority to the cae in terms of sensitivity and specificity the TAG 72 glycoprotein with the characteristics of a mucin found in the epithelial neoplasm its association to the CEA has demonstrated a high sensitivity in the diagnosis of relapses (80%). (41,42,43,44)The radical resection of the local recurrence after ultra-low resections was possible in our experience confirming the literature data but the therapeutic path of the local recurrences took into account the presence of lesions at a distance as their presence also of single lesions curative oncological radicality has been questioned.(45,46,47,48)The association chemo and radiotherapy seems to offer advantages on prevention not on recurrences. the technical modalities of resection have been personalized to the individual case (tailored surgery) as they are conditioned by the site of the recurrence and by the surrounding structures.(49,50,51,52) In the under peritoneal recurrences in the anastomoses site, the AAP amputation remains the therapeutic procedure that offered the greatest possibilities of curative resection.( 53,54,55,56) In the near anastomoses sites relapses are not easily resectable because they often affect the plane of the anus lifters. However, in relapses involving the pre-sacral band it was possible to perform an AAP with resection extended to the muscular plane and to the genitourinary organs. In palliative surgery with the implementation of the reductive resection, the operative risk,
the benefit obtained on the prolongation of life, and the presence of disabling and non-curative disease were carefully assessed.\(^{(57,58,59,60)}\) For these reasons, it was decided to opt for an intestinal derivation in order to solve obstructive problems, and as an alternative to the therapeutic stomy due to the presence of precarious clinical conditions accompanied by low obstruction, the intraluminal reduction was performed with laser photocoagulation, cryotherapy, or application of stents to temporarily resolve the transit.\(^{(61,62,63)}\)

**CONCLUSIONS**

In the data collected and analyzed, it is highlighted that a surgery that includes a correct excision of the middle rectum provides a high prevention of recurrences in addition to the correct approach to the neoplasm. A therapeutic program that includes radio and preoperative chemotherapy reduces recurrence as well as reducing the volume of the neoplasm allowing us to perform an ultra-low resection as we have seen. Colon cancer biology studies lead to the detection allowing us to perform an ultra\-low resection that includes a correct excision of the middle rectum surgery that includes a correct excision of the middle rectum. All this allowed to reduce obstructive problems, an ideal treatment in cystic tumors of the pancreas: conservative or resection. \(^{(57,58,59,60)}\) For these reasons, it was decided to opt as an alternative to the therapeutic stomy due to curative disease were carefully assessed.\(^{(57,58,59,60)}\) For these reasons, it was decided to opt for an intestinal derivation in order to solve obstructive problems, and as an alternative to the therapeutic stomy due to the presence of precarious clinical conditions accompanied by low obstruction, the intraluminal reduction was performed with laser photocoagulation, cryotherapy, or application of stents to temporarily resolve the transit.\(^{(61,62,63)}\)

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