Therapy of Stenosing Rectal Cancer

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Abstract
Develop a rectal cancer management aims to establish an algorithm diagnostic, surgical treatment strategy implementation, strategy and neoadjuvant and adjuvant treatment response and optimal methods for assessing response to specific treatment. In trying to track this management, we studied the issues listed above, we conducted a retrospective clinical study, descriptive and included the analysis of data obtained on a sample selected 90 patients diagnosed with stenosing rectal cancer between January 2008 and December 2012 treated on the General Surgery Clinic I of "Prof. Dr. Al. Trestioreanu" Oncology Institute and on the General Surgery Clinic of Colentina Clinical Hospital, in Bucharest and aimed at analyzing the therapeutic attitudes of stenosing rectal cancer. Choosing the surgery, especially when applying preoperative and postoperative radiotherapy, with or without concomitant chemotherapy, it took into account the presence of stenosis (obstruction complete or incomplete) and the evolutionary stage locally and remotely disease.

Key words: rectal cancer, complications, therapeutic strategy

Introduction
In most cases, rectal cancer diagnosis is established in advanced disease, both locally and remotely, sometimes only during complications. In terms of treatment, this neoplasia requires a well thought therapeutic conduct, developed by a multidisciplinary team, which monitors the evolving strategy locally and remotely, and presence of complications.
Material and method

Clinical study include retrospective analysis of data from a selected group of 90 patients diagnosed with stenosing rectal cancer between January 2008 - December 2012 treated on General Surgery Clinic I of "Prof. Dr. Al. Trestioreanu " Oncology Institute and on the General Surgery Clinic of Colentina Clinical Hospital, in Bucharest.

Conducting the clinical trial involved the following steps:
1. Stage of diagnosis and initial evaluation of the condition of the actual extension
2. Stage of surgical treatment
3. Stage of oncology treatment (neoadjuvant and adjuvant)
4. Stage of monitoring, which included postoperative complications, local recurrence for operations performed with curative visa, remote metastasis for patients who have metastases at diagnosis.

Diagnostic phase began from the time of admission the patient, which included a detailed clinical examination associated with a number of biological laboratory investigations: blood count, erythrocyte sedimentation rate, blood group and Rh, direct and total bilirubin, transaminases - TGP, TG, GGT, LDH, alkaline phosphatase, glucose, blood urea nitrogen, serum creatinine, total protein, total fat, total cholesterol, triglycerides, serum ionogram examination, urine analysis, ECG, revealing data about vital functions. These investigations were related to exploration clinical target: X-ray thoracic pleural pulmonary, abdominal X-ray, abdominal-pelvic ultrasound, computer tomography of the thorax, abdomen and pelvis (CT), pelvic magnetic resonance (IRM), colonoscopy, cardiology specialist exam and echocardiography. Serum tumor markers were determined at diagnosis (CEA and CA 19-9) in all patients included in the study. To confirm the diagnosis of histopathological examination was made necessary by transanal biopsy, recto-sigmoidoscopy and colonoscopy with biopsy or intraoperative biopsy.

Stage of surgical treatment. For patients with occlusion of rectal cancer that required surgical intervention in the emergency, was performed left iliac colostomy (contiguous or terminal), with the sampling biopsy, depending on the stage of evolution of the disease, the extent to which the overall condition of the patient, and its associated diseases allowed, priority is solving complication - ensuring digestive transit, for the patient to receive radiation therapy with or without chemotherapy. For patients with stenosing cancer, but with incomplete obstruction of the rectal lumen, depending on the stage of evolution of the disease, they were performed following surgery: for stage I, in which obstruction of the lumen was incomplete, were performed anterior resection of the rectum type Dixon with end-to-end or side-to-end colo-rectal anastomosis performed manually or mechanically, with or without cecostomy protection, rectal amputation and surgery type Hartmann and then patients may benefit from adjuvant cancer treatment. Adjuvant therapeutic approach is nuanced by histopathology and staging pTNM. For locally advanced disease without distant metastases (includes stages T3N0 or T4N0 or any T N1-2 and / or unresectable or medically inoperable local tumor) with incomplete obstruction lumens, left iliac colostomy was performed in continuity or terminal with sampling biopsy, because patients may benefit from treatment or radiotherapy, simultaneously radio-chemotherapy, tumor operability subsequent revaluation. In patients who gave the down-grading of the tumor and the tumor has been resected within safe oncology limits, was practiced surgery with curative visa, depending on the location of the tumor in the rectum, followed by further therapy. In patients in which no tumor regression was obtained, it was changed chemo-radiotherapy further treatment. Patients who had resectable rectal tumors, but with unresectable distant metastasis, radical surgery of the tumor was practiced, followed by radio-chemotherapy. For rectal tumors and the presence of unresectable distant metastases was performed left iliac colostomy in continuity with biopsy, to prevent complete obstruction of the lumenal rectal application of palliative oncologic therapy.

Stage of oncology treatment. Patients diagnosed in stage I, which was practiced surgery with curative visa, followed adjuvant radiotherapy with or without chemotherapy, depending on the outcome histopathology. Starting radiotherapy treatment was at least 5 weeks after surgery, radiotherapy applied to the long-term, using doses of 45-50 Gy in 25-28 sessions. The association of chemotherapy was under international therapeutic protocols (3). Patients diagnosed with locally advanced stenosing rectal tumor without the presence of distant metastases (includes stages T3N0 or T4 or any T N1-2 and / or locally unresectable or medically inoperable), who underwent surgery as a first gesture the left iliac colostomy (in continuity or terminal) to ensure continuity and avoiding digestive transit occlusion during oncology treatment application, chemo-radiotherapy were treated concurrently. Patients diagnosed with resectable rectal tumors, but with unresectable distant metastases, which was practiced tumor radical surgery, adjuvant therapy was long-term radiotherapy concomitant chemotherapy. Patients diagnosed with unresectable rectal tumors and the presence of distant metastases unresectable, who underwent left iliac colostomy in continuity with the biopsy to prevent lumenal rectal complete obstruction benefited from oncological palliative therapy, according to international protocols for locally advanced disease and illness metastatic.

Stage of monitoring

In this stage were evaluated patients immediately after surgery to identify and resolve immediate complications, post-operative deaths length of stay depending on the stage of disease and type of surgery practiced, aimed to tumor regression after applying radiotherapy and conducting investigations for recognition early recurrent disease, both local recurrence and metastasis away.

Results

In the study group, predominate cases diagnosed in the sixth and seventh decade of life (32.22% and 26.67% respectively), with an average age of 64, while the proportion drops to patients aged over 80 and under 50 years. Only 5 patients were
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Table 1. Influence of tumor localization on the presence / absence of distant metastases at diagnosis, according to the portal venous territory and systemic venous territory

<table>
<thead>
<tr>
<th>Port Venous Metastases Proportion Territory</th>
<th>Systemic Venous Metastases Proportion Territory</th>
<th>Statistics $\chi^2$</th>
<th>Degrees of Freedom</th>
<th>P-Value</th>
<th>Difference (CI95%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.475</td>
<td>0.240</td>
<td>5.43</td>
<td>1</td>
<td>0.0197</td>
<td>0.235</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.04 to 0.42</td>
<td></td>
</tr>
</tbody>
</table>
Depending on the clinical stage and histo-pathological result, the most common chemotherapy protocols applied were CapeOx (25.56%) and Fol-Fox (17.78%) (3).

Regarding the total number of days of hospitalization between patients who underwent different types of surgery were no statistically significant differences (test result $z = 3.39, p < 0.01$), so patients with palliative interventions spend an average of 4 days less surgical oncology ward to those interventions with curative intent. The same correlation was observed for the number of days of hospitalization (test result $z = 3.39, p < 0.01$).

They died during hospitalization 3.33% patients due to associated heart disease.

75.55% of the operated patients became apparent early postoperative any complications. In patients who developed early postoperative complications (24.44%) it was found that the most common complication was perineal suppuration in wounds (6.66%) treated with topical and systemic antibiotics according to antibiogram. The same therapeutic conduct was adopted at abdominal postoperative wound complications, which totaled 3.33%. Prolapsed colostomy was performed at a rate of 3.33% and required repositioning with recovered colostomy. Postoperative ileus dynamic (3.33%) were resolved by conservative treatment. Of the 22 anastomosis performed, only 2 patients had anastomotic fistula at the anastomosis handmade and were treated conservatively. Postoperative complications that required surgical treatment were 2 cases of peritonitis, 1 case of bowel obstruction occurred on adherents clamp and 1 case of incomplete evisceration. Urethral fistula (1.11%) occurred after laparoscopic surgery rectal amputation and urethral plasty recovery required by repositioning the probe tract.

Evolving, 6 patients (12.76%) of 47 cases in which surgery was performed with curative visa tumor had developed local recurrence.

Of patients at diagnosis had no distant metastases (59 cases) and developed metastases evolving, 6 patients (10.16%) had metastases with liver location. Of patients at diagnosis had no distant metastases (59 cases) and developed metastases evolving in 7 patients (11.86%) had metastases with pulmonary location. Greater frequency of pulmonary metastases localization (11.86%) compared to the localized liver (10.16%) in the evolution of patients with stenosing rectal cancer was correlated with literature studies showing higher frequency of metastasis at lung cancer of the rectum (12,13,14,15).

Discussions

Surgeries practiced emergency could not be preceded by training local septic bowel contents. Emergency have been corrected fluid and electrolyte imbalances, hepatic and renal function improvement, the administrations of antibiotics with broad spectrum, prevention of deep venous thrombosis, but also training local intestinal lavage using antiseptic solutions, ensuring emptiness colon.

Surgical treatment was applied at an interval of 5-12 weeks after completion of neoadjuvant therapy.

For surgery who underwent anterior resection of the rectum kind Dixon with mechanic colo-rectal anastomosis, were used linear staplers cutting the proximal end colonic (TA 45 mm or 60 mm or GIA 60 mm) and for cutting the distal end, 2 cm below the tumor, was used TA 30 mm linear stapler. To perform the colo-rectal anastomosis, both end-to-end, and side-to-end, circular staplers have been used EEA 28, 31, 33 mm. To achieve rectal dissection and total excision of mesorectum we used Ligasure forceps clotting and tissue sectioning. (Fig. 1, 2, 3)

Cecostomy protection using the Pezzer probe was performed in 2/3 of patients who had undergone colo-rectal anastomosis, with its removal at about 10-14 days after the operation, and its spontaneous closure at about 1-3 months after surgery.

During the surgical procedure was considered observance of the safety oncology: outskirts resection proximal to be situated at least 5 cm of formation tumor,distal resection margins to be located at least 2 cm below the tumor, edge safety distance mesorectum to 4 cm below the caudal pole tumor. (16,17,18,19)
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Patients with stenosing rectal cancer were diagnosed with iron deficiency anemia in biological samples, while 51.17% of the patients had anemia. Weight loss is a general sign of neoplastic impregnation, and when it became present is a bad sign, being associated with an advanced stage of neoplasia. In patients with stenosing rectal cancer in the study group, 44.92% had weight loss, and at 55.08% was not present. (4,5,21,22).

There were statistically significant differences in terms of the size of the tumors between the location at the recto-sigmoid junction and higher rectum (mean = 4.00 cm) and at the lower rectum (median = 6.50 cm) (p <0.01) (Table 2).

Conclusions

1. Stenosing rectal cancer was more common in male patients diagnosed in the sixth and seventh decade of life, urban and with an average age of 64 years.
2. The most common sign that prompted patients presenting to the doctor was rectoragy, followed by disorders of transit. All rectoragy requires urgent recto-colonic endoscopic exploration. 60% of patients have been to the doctor in the first 6 months of first appearance and 21.11% of patients experienced symptoms of approx. 6-12 months. From the group of 90 patients with stenosing rectal cancer, only 6 patients were presented in an emergency, requiring emergency surgery for intestinal transit insurance.
3. The highest frequency of rectal tumor localization was in the lower rectum (66.48%), followed by the location of the lower rectum (37.77%) and medium rectum (17.77%). Synchronous tumors were present in only 7.77% of patients, most of them located in the sigmoid colon.
4. Distribution of the stage was: stage I (11.11%), stage IIA (7.77%), stage IIB (11.11%), stage IIIA (5.55%), stage IIIB (2.78%), stage IIIC (3.33 %), stage IV (34.44%) N / A (36.66%). At the time of diagnosis in patients with stenosing rectal cancer study, we observed the presence of distant metastases in 34.44% of patients. In the evolution of the patients, there was a higher frequency of pulmonary metastases localization (11.86%) compared to the localized liver (10.16%), the data being related to studies in the literature showing higher frequency of metastases to lung cancer of the rectum. The proportion of patients with liver metastases at diagnosis was higher in patients with localized tumor in the superior rectum to those locations situated at medium or lower rectum. The most frequent tumor differentiation grade was G2 - moderately differentiated.
Table 3. Analysis of risk factors for early postoperative complications

<table>
<thead>
<tr>
<th>Variable</th>
<th>β</th>
<th>S.E</th>
<th>p-value</th>
<th>Exp (β)</th>
<th>Odds Ratio</th>
<th>IC95% for Exp (β)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-0.00378</td>
<td>0.0189</td>
<td>0.841</td>
<td>0.997</td>
<td>0.96 la 1.02</td>
<td></td>
</tr>
<tr>
<td>Sex M vs F</td>
<td>0.1041</td>
<td>0.5092</td>
<td>0.83795</td>
<td>1.105</td>
<td>0.41 la 3.09</td>
<td></td>
</tr>
<tr>
<td>R vs U Environment</td>
<td>-0.4164</td>
<td>0.5073</td>
<td>0.4118</td>
<td>0.663</td>
<td>0.24 la 1.80</td>
<td></td>
</tr>
<tr>
<td>Tumor size</td>
<td>-0.0223</td>
<td>0.0882</td>
<td>0.7935</td>
<td>0.980</td>
<td>0.79 la 1.13</td>
<td></td>
</tr>
<tr>
<td>T stage</td>
<td>-0.5836</td>
<td>0.5073</td>
<td>0.296</td>
<td>0.650</td>
<td>0.17 la 1.59</td>
<td></td>
</tr>
<tr>
<td>N stage</td>
<td>-0.4306</td>
<td>0.6868</td>
<td>0.5307</td>
<td>0.17 la 2.27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Curative surgery REF</td>
<td>-2.2136</td>
<td>0.6698</td>
<td>0.000951</td>
<td>0.109</td>
<td>0.02 la 0.36</td>
<td></td>
</tr>
<tr>
<td>Palliative surgery</td>
<td>-0.0785</td>
<td>0.5807</td>
<td>0.889</td>
<td>0.932</td>
<td>0.30 la 2.80</td>
<td></td>
</tr>
<tr>
<td>Grade Differentiation</td>
<td>-0.0785</td>
<td>0.5807</td>
<td>0.889</td>
<td>0.932</td>
<td>0.30 la 2.80</td>
<td></td>
</tr>
</tbody>
</table>

Legend: M - male, F - female, U - urban, R - rural, T - tumor, N - lymph node, vs - versus.

1. The analysis found that the true parameter that influences the risk for early postoperative complications is the type of operation, so operations with curative intent is a risk of postoperative complications were about 10 times higher than the palliative (Table 3).

2. There were statistically significant differences in terms of both total days of hospitalization and number of days of hospitalization between patients who underwent different types of surgery. Thus, patients with palliative interventions spend on average 4 days less in surgical oncology ward to those interventions with curative intent, the average hospital stay is 20 days.

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Note: This article is part of the doctoral thesis of Violeta Deaconescu. Professor Doctor Eugen Brătucu.

References


