

# Preservation of Anal Sphincter and Colostomy Rate in Locally Advanced Rectal Cancer- Multi-Institutional Group Experience from 2010 to 2017

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## Case Report

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### ABSTRACT

Treatment with chemo radiotherapy is the standard prior to surgery for locally advanced rectal cancer. However, depending on the distance to the anal margin, surgeons decide to amputate + a definitive colostomy or preserve the anal sphincter + a protective colostomy. We performed a retrospective study in our hospital to describe colostomies and amputations rates based on the distance to the anal margin as well as the complications derived from them.

## INTRODUCTION

Anal sphincter preservation and colostomy rate in locally advanced rectal cancer is increasing the incidence among last year's<sup>[1-5]</sup>. Our aim is to describe the results of a multi-institutional group from 2010 to 2017.

## CASE PRESENTATION

Retrospective 181 patients (p) diagnosed with locally advanced rectal cancer between 2010-2017 have been retrospectively studied. All of them were treated with tridimensional radiotherapy (RDT) with a dose of 50.4 Gy and concomitant chemotherapy based on 5Fu/Capecitabine. Surgery has been performed in 180 of them at 8 weeks of treatment<sup>[6-10]</sup>. It has been grouped taking into account the distance to the anal margin according to diagnostic tests for the analysis.

## RESULTS

The mean age was 67 years. There were 180 interventions: 128 abdomino perineal resections (APR) (71.1%) and 52 rectum amputations (29.9%). The distance to the anal margin was measured by magnetic resonance (MRI) in 97% of the cases. 39 patients (21.5%) were placed between 1-4 cm from anal margin (group 1), 64p (35.4%) between 5-7 cm (group 2), 60 p (33.1%) between 8-10 cm (group 3) and 16 (8.8%) >10 cm (group 4) (**Table 1**). Rectum amputation is chosen in the tumour's closest to the anal margin (<4 cm), although in our group we have 9/39 patients (23%) in whom APR has been performed. As we move away, the APR rate increases and amputations (4/60=6.6% in 7-10 cm and 1/16=6.6% in 7-10 cm) are uncommon.

The colostomy was definitive in 18,3% (11/60)in group 3; 12,5% (2/16)in group 4. Whereas a protection colostomy was performed in 46.9% (30/64) in group 2, and 46.6% (28/60) in group 3. Several "protection colostomies" were definitive by the patient's request. APR complications in the group with disease at <4 cm were present in 100% of the cases in form of fecal

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incontinence with impact on quality of life. There were 2 local relapses (1.1%), 1 local + distant (0.6%), 32 distant (17.9%), with 4 secondary tumors (2.2%) and 139 patients (77.7%) had not progressed until now (**Table 2**).

**Table 1.** Patients with colostomy according to distance from anal margin.

Distance from anal margin	Patients
1-4 cm	21.50%
5-7 cm	35.40%
8-10 cm	33.10%
>10 cm	8.80%

**Table 2.** Relapses after chemoradiation and surgery.

Progression	Patients
Local relapses	1.10%
Local+ distant relapse	0.60%
Distant relapses	17.90%
Secondary tumors	2.20%
Not progression	77.70%

## DISCUSSION

The most common injury is to indicate definitive stoma is rectal cancer. Despite advances in surgical treatment, the abdominoperineal resection is still the most effective operation in radical treatment of malignancies of the distal rectum invading the sphincter and anal canal. Even with all the effort that surgeons have to preserve anal sphincters, abdominoperineal amputation is still indicated, and a definitive abdominal colostomy is necessary. This surgery requires patients to live with a definitive abdominal colostomy, which is a condition that modifies body image, is not without morbidity and has great impact on the quality of life<sup>[6-8]</sup>. In Brazil, a retrospective analysis of medical records of 55 patients who underwent abdominoperineal resection of the rectum with perineal colostomy in the period 1989-2010 was published in 2014. The mean age was 58 years, 40% men and 60% women. Complications were: mucosal prolapse, necrosis of the lowered segment and stenosis<sup>[9]</sup>. On the material of the Clinic for Abdominal Surgery at the Clinical centre University of Sarajevo, during the four-year period (from 2006 to 2010), out of the 406 patients with CRC, 261 of them (64.3%) had cancer of the final part of the colon and rectum. In this case, all the time of the treatment, protocol was strictly applied. Primary surgery was performed on the early stages of the disease. Radiochemotherapy (RCT) followed by operation after 6 to 8 weeks is applied in the progressive state of the disease with the penetration of the meso rectal fascia with positive lymph-gland assessment (NMR-nuclear magnetite resonance). Out of 261 operated patients, 5 of them (1.9%) underwent transanal resections where the tumour was up to 2 cm; 104 patients (39.8%) underwent rectal resection with TME (II and III tumour states of recto-sigma); 24 (9.2%) patients underwent amputation; 156 (22.4%) underwent left chemicolecotomy with rectal resection and 29 (11%) underwent intersphincteric colo-trans-versal-anal anastomosis. The operation by Hartman was performed on 44 (16.8%) patients and colostomy on 10 (3.8%) patients in emergency service. In the tumours with low localisation we do low colo-transversal-rectal or ultra-low intersphincter colo-anal anastomosis. They conclude that team work and close cooperation of oncologic team of physicians (surgeons, gastroenterologists, pathologists, oncologists, radiotherapeutists) as well as respect for the protocol of the treatment are the most important factors of a successful oncologic surgery<sup>[10]</sup>.

## CONCLUSION

APR technique is the most commonly used in the subgroup at >4 cm from anal margin, with ultra-low resection syndrome in all patients performed in <4 cm instead of amputation. The rate of protection colostomies is almost 50% after APR, and the transit can be reconstructed in almost 100%. The unreconstructed ones have been at the request of the patient.

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