

## A Case of Partial Intersphincteric Rectal Resection in a Patient with Undefined Intestinal Polyposis

Costanzo A<sup>1\*</sup>, Rampulla V<sup>2</sup> and Petrelli F<sup>3</sup>

<sup>1</sup>Department of General Surgery, Ospedale di Treviglio-Caravaggio (Bg), Italy

<sup>2</sup>Department of surgical oncology, Ospedale di Treviglio-Caravaggio, Italy

<sup>3</sup>Department of Medical Oncology, Ospedale di Treviglio-Caravaggio, Italy

### Abstract

The intersphincteric technique was initially described by Schiessel et al. in 1994. It has gradually spread to Europe and Asia: it has progressively established itself also through laparoscopy and robotics. The largest published series are Asian, and the last review is by Japanese author Kazuo Shirouzu et al. Indications: adenocarcinoma of the low rectum "c" or ycT1-T3N0/+, within 1 cm of the anorectal ring, without involvement of the intersphincter plane. Contraindications: G3-G4 tumours, cT4 (external sphincter invasion, puborectalis muscle, prostate, vagina), distant metastases, tumour fixity to rectal exploration, sphincteric hypotonia, psychiatric comorbidity, moderate-severe cardio-respiratory, renal or hepatic comorbidity.

**Keywords:** Tumour; Comorbidity; Laparoscopy; Diagnosis

### Introduction

The diffusion of this technique was possible thanks to the neoadjuvant chemo-radiotherapy and to the demonstration that a distal margin of 1 cm is sufficient from an oncological point of view. The local recurrence rate varies from 0% to 22.7% and is lower than that reported after abdominal-perineal amputation (10-57%) [1-4]. 70% of patients are overall satisfied: stool fragmentation, defecatory urgency, soiling night, daytime soiling and use of wears pad is very variable and respectively 15-79%, 2-52%, 24-53%, 26-35%, 19-57% [2]. The mortality rate varies from 0% to 5% and morbidity from 7.7% to 32%; it is not significantly different from those reported for the LAR (Low Anterior Resection) and APR (Abdominal- Perineal Resection). The removal of the internal anal sphincter reduces the sphincter tone at rest, increasing the rate of incontinence compared to anterior resection of rectum (Figures 1 and 2). The incontinence is normal between 27% and 89% of cases, severe between 0-33.3% of cases, with the need for colostomy final in 0.8% [5]. The genito-urinary disorders after rectal surgery (with or without intersphincter) is very important: 58% of males have normal genito-urinary function before a surgery resection; this percentage drops to 10% after 1 year from surgery. In women, on the other hand, genito-urinary function remains substantially stable in post-operative [6].

### Case Report

We report a case of young man (age 52) with a diagnosis of rectal intra-anal adenocarcinoma (according to Rullier staging) cT3N2M0 CRM+ (circumferential resection margin) with associated intestinal polyposis (benign duodenal e colon polyps removed in the last fifteen years) [7]. Preoperative staging was based on endorectal ultrasound, pelvic MRI with contrast medium, chest-abdomen CT with contrast medium and PET FDG; CEA level was 2.6 mcg/L. Restaging was done after six weeks with the same staging systems and surgery after eight weeks. Before surgery, the patient underwent gastroscopy and colonoscopy: Ten hyperplastic colon polyps removed; two hyperplastic polyps of first duodenal portion (1 cm) removed (Figures 3 and 4). The video capsule study excluded jejuno-ileal polyps; the genetic evaluation at a second level centre excluded mutations. We performed a laparoscopic partial intersphincteric rectal resection with first abdominal approach and then perianal, after neoadjuvant radio-chemiotherapy long course (capecitabine 1650 mg/m<sup>2</sup>/die, IG-IMRT 50,4 Gy, ycT2N0M0).

Final decision was based on the digital exploration in the operating room: Our choice was partial internal anal sphincter resection as in case of juxta-anal tumour because of mobility of tumour on the

intersphincteric space instead of a total intersphincteric as generally indicated in intra-anal stage. The result of histological examination was intestinal adenocarcinoma ypT2N0 (0/18), distal margin 2 cm, negative circumferential and proximal margin, not lymphatic and perineural invasion, TRG 2 according to Mandard, complete mesorectum, mismatch repair protein 4/4 present. The quality of the mesorectum was based on the criteria of Quirke [8]. The patient was discharged on the 10 postoperative day with faecal and gas incontinence (4 times a day). He was undergoing adjuvant 4 cycles of capecitabine and six months of Kegel exercises and biofeedback (Figures 5 and 6). Six months after surgery: A 2-3 weekly episodes of faecal incontinence, formed stool 2-3 times per day, occasional use of wears pad. Regular coloanal



**Figure 1:** T2 weighted staging image: Tumor in postero-lateral wall of rectum.

**\*Corresponding author:** Costanzo A, Department of General Surgery, Ospedale di Treviglio-Caravaggio (Bg), Italy, Tel: +3466662031; E-mail: [antonio.costanzo@unimi.it](mailto:antonio.costanzo@unimi.it)

**Received** November 12, 2019; **Accepted** November 21, 2019; **Published** November 29, 2019

**Citation:** Costanzo A, Rampulla V, Petrelli F (2019) A Case of Partial Intersphincteric Rectal Resection in a Patient with Undefined Intestinal Polyposis. J Clin Case Rep 9: 1298.

**Copyright:** © 2019 Costanzo A, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.



Figure 2: T2 Weighted staging image: Pathologic nodes at 4 and 9 O' clock.



Figure 3: T2 Weighted restaging image.

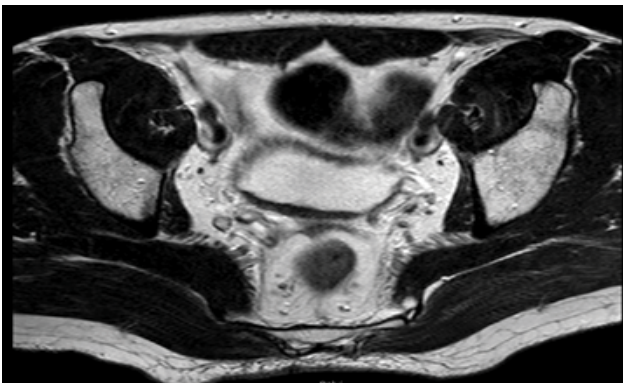


Figure 4: T2 Weighted restaging image: Mesorectal nodes response.

anastomosis, negative colonoscopy, gastroscopy with exegesis of the 2 polyps of the second duodenal portion (adenomas), negative CEA. He will repeat the gastroscopy in three months, while chest abdomen CT mdc, colonoscopy and CEA in six months.

## Discussion

The inter-sphincteric technique has revolutionized the treatment of low rectal cancer. The diffusion of this technique was possible thanks to the neoadjuvant CTRT and to the demonstration that a distal margin of

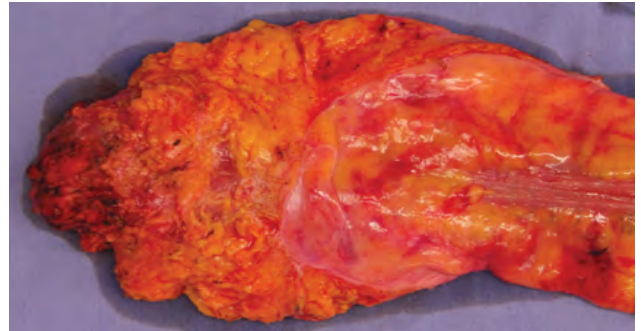


Figure 5: Rectal specimen: Anterior aspect.



Figure 6: Rectal specimen: Posterior aspect.

1 cm is sufficient from an oncological point of view. The Rullier staging was another fundamental system for the assertion of this technique in a standard way. The technique was described more than 20 years ago; given its delicacy it must be performed in expert centres and it is essential to know it because it gives to the patient the possibility of surgery without a definitive stoma.

## Conclusion

Proper patient selection, based on staging and comorbidities, is essential. In a patient with ultra-low rectum cancer with important comorbidities or with already sphincteric hypotonia the best technique is abdomino-perineal amputation: Better a well-made stoma than incontinence with poor quality of life.

## References

1. Schiessel R, Karner-Hanusch J, Herbst F, Teleky B, Wunderlich M (1994) Intersphincteric resection for low rectal tumors. *Br J Surg* 81: 1376-1378.
2. Shirouzu K, Murakami N, Akagi Y (2017) Intersphincteric resection for very low rectal cancer: A review of the updated literature. *Ann Gastroenterol Surg* 1: 24-32.
3. Kapiteijn E, Corrie AM, Iris DN, Hein P, Willem HS, et al. (2001) Pre-operative radiotherapy combined with total mesorectal excision for resectable rectal cancer. *N Engl J Med* 345: 638-646.
4. Guillem JG, Chessin DB, Shia J, Suriawinata A, Riedel E, et al. (2007) A prospective pathologic analysis using whole-mount sections of rectal cancer following pre-operative combined modality therapy: Implications for sphincter preservation. *Ann Surg* 245: 88-93.
5. Park JI, Kim JC (2018) Intersphincteric resection for patients with low-lying rectal cancer: Oncological and functional outcomes. *Ann Coloproctol* 34: 167-174.
6. Denost Q, Rullier E (2017) Intersphincteric resection pushing the envelope for sphincter preservation. *Clin Colon Rectal Surg* 30: 368-376.

7. Rullier E, Denost Q, Vendrely V, Rullier A, Laurent C (2013) Low rectal cancer: Classification and standardization of surgery. Dis Colon Rectum 56: 560-567.
8. Campa-Thompson M, Weir R, Calcetera N (2015) Philip quirke and susanne carmack: Pathologic processing of the total mesorectal excision. Clin Colon Rectal Surg 28: 43-52.