

Hybrid transanal and laparoscopic hand-assisted TME for low rectal cancer: report of a case

Hibridinė transanalinė ir laparoskopinė ranka asistuojama TME sergant žemu tiesiosios žarnos vėžiu: atvejo analizė

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Total mesorectal excision (TME) is a widely accepted golden rectal cancer surgery standard. In low rectal cancer, there are a lot of important concerns related to sphincter saving, positive resection margins and similar aspects. We present a case of 52 year old female, who underwent a successful hybrid transanal and laparoscopic hand-assisted TME for low rectal cancer. Trials to delineate proper indications for low rectal cancer of robotic TME, transanal TME (Ta TME) and hybrid transanal plus laparoscopic TME are needed.

Key words: total mesorectal excision, transanal dissection, rectal cancer

Totalinė mezorektinė ekscizija (TME) yra plačiai pripažintas auksinis tiesiosios žarnos vėžio gydymo standartas. Operuojant ligonius, sergančius žemu tiesiosios žarnos vėžiu, iškyla išsargūs raukų išsaugojimo, teigiamų rezekcijos kraštų ir daug kitų klausimų. Mes aprašėme 52 metų amžiaus moters, operuotos dėl žemo tiesiosios žarnos vėžio, atvejį. Šiai ligonei buvo atlikta hibridinė laparoskopinė ranka asistuojama TME su distalinės tiesiosios žarnos dalies išpreparavimu per tarpvietę. Ateityje reikalingi tyrimai, kurie padėtų nustatyti robotinės chirurgijos, transanalinės TME (Ta TME) ir hibridinės laparoskopinės TME su distalinės tiesiosios žarnos dalies išpreparavimu per tarpvietę indikacijos žemo tiesiosios žarnos vėžio chirurgijoje.

Reikšminiai žodžiai: totalinė mezorektinė ekscizija, transanalinis preparavimas, tiesiosios žarnos vėžys

Introduction

Total mesorectal excision (TME) is widely accepted routine technique in rectal cancer surgery today [1]. Laparoscopic surgery for colon cancer became a gold standard of colonic cancer care years ago, but suitability of this type of surgery for rectal cancer gained evidence much later. Recently, laparoscopic rectal cancer surgery has been proven to be an alternative to open surgery, with all advantages of laparoscopic approach and similar oncological results [2–5]. Despite this scientific evidence, data on adequacy of laparoscopic surgery in low lying rectal cancers are lacking [6, 7]. It may be related with the limitations of laparoscopic armamentarium, for example for rectal stump closure – what is a possible cause of higher anastomotic leakages in laparoscopic group [8]. Robotic surgery may overcome a lot of issues which rise not only in laparoscopic, but in open surgery as well. It is related with excellent conversion rates compared to laparoscopic surgery, it may be of advantage in low rectal cancer, especially related to proper dissection in narrow male pelvis ending in less positive circumferential resection margins and safer coloanal anastomosis [9].

We present a first case in Lithuania of low rectal cancer using hybrid transanal and laparoscopic hand-assisted TME, which may allow to overcoming of some of the difficulties in laparoscopic surgery for low rectal cancers.

Case report

A 52 year old female complained of a prolapsing through the anus polyp and bleeding on defecation for last 3 months. Colonoscopy was performed on March 22, 2016, and a 2,5 cm polyp on short stalk was detected 2 cm from the dentate line on the left lateral rectal wall. Biopsy showed tubular adenoma with high grade dysplasia. April 7, 2016 an endoscopic ‘peacemeal’ (in three fragments) polypectomy was performed. Polypectomy specimen revealed moderately differentiated T1 adenocarcinoma with positive resection margin. Chest and abdominal CT did not show any spread of the disease, and pelvic MRI did not detect any pathology in the rectal wall of regional lymph nodes. Patient was informed about the possibilities of local treatment and

total mesorectal excision, and she insisted on most radical treatment – total mesorectal excision. On endoscopy prior to surgery a 5 mm scar with possible residual polyp tissue was noted 2 cm from the dentate line on the left lateral rectal wall.

She was operated on June 1, 2016. Operation was started in a prone-jackknife position, exposing the anus with Lone-Starr retractor. Rectal was incised circumferentially 0.5 cm from the dentate line and a TME dissection was performed up to 8–9 cm from the anal verge, above the former polypectomy site (Fig. 1). The mobilized rectal lumen was closed with purse-string suture (Fig. 2), and then rectal stump was closed in a same fashion (Fig. 3). Patient was put into a lithotomy position, and a completion hand-assisted TME with

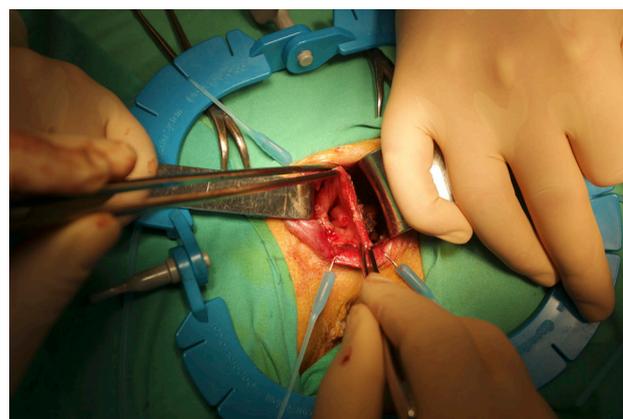


Figure 1. In prone-jackknife position, exposure of anus using Lone-Starr retractor was made and full-thickness circular rectal incision was performed 0.5 cm above the dentate line starting the TME from below

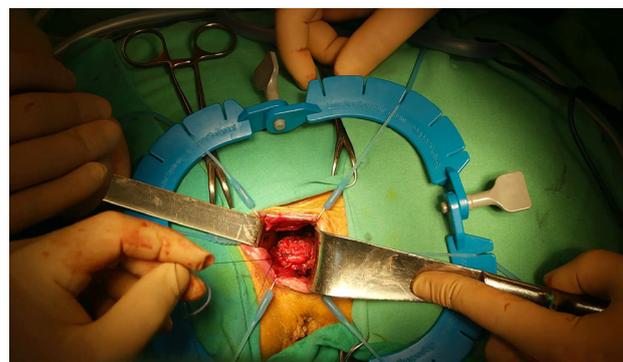


Figure 2. A purse-string suture is put on the distal part of the mobilized rectum

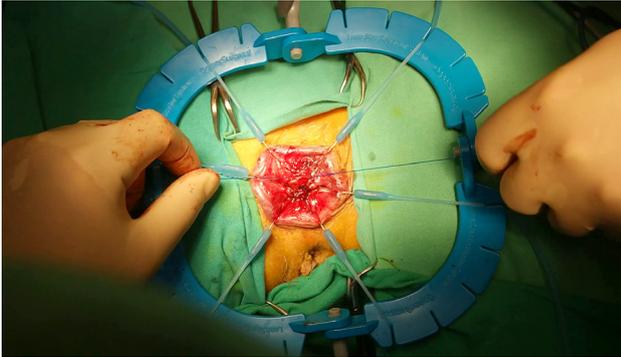


Figure 3. A purse string suture on the rectal stump is completed to allow further formation of stapled colonic J pouch anal anastomosis



Figure 4. Abdomen after a hand-assisted laparoscopic completion TME: 6 cm Pfannenstiel incision (handport and specimen extraction site) closed, a drain left in a presacral space through the 12 mm port incision and ileostomy created after enlarging 10 mm (camera) port site

high vascular ligation was performed in a standard manner: a handport was inserted through a 6 cm Pfannenstiel incision, and 12 and 10 mm trocars were inserted on the right side (Fig. 4). After meeting with the partial TME from below, specimen was extracted through the handport incision and a stapled colonic J-pouch anal anastomosis with CEEA 29 stapler was performed. Pelvic drain was inserted through the 12 mm trocar site, and preventive Turnbull ileostomy was performed enlarging 10 mm trocar site. Postoperative specimen showed intact uncompromised rectal fascia (Fig. 5). The distance from the polypectomy scar and the distal resection margin was 1,5 cm (Fig 6). Postoperative course was uneventful, and patient was discharged on day 7 after surgery. Final histology: pT3N1 moderately differentiated adenocarcinoma with lymphovascular invasion (2 out of 17 lymphnodes). An adjuvant oxaliplatin based chemotherapy has been recently started.

Discussion

Both in open and laparoscopic surgery, the whole TME dissection is performed through abdominal approach. Addition of perineal dissection for low rectal cancer using transanal route has been used to allow sphincter preservation [10]. In laparoscopic surgery, it has been reported as both an advantage for dissection of bulky tumors in narrow pelvis [1]) and as an alternative to difficult low rectal stump stapling [1]). One randomized controlled trial comparing standard laparoscopic TME and laparoscopic TME with perineal dissec-



Figure 5. Postoperative specimen showing intact uncompromised rectal fascia

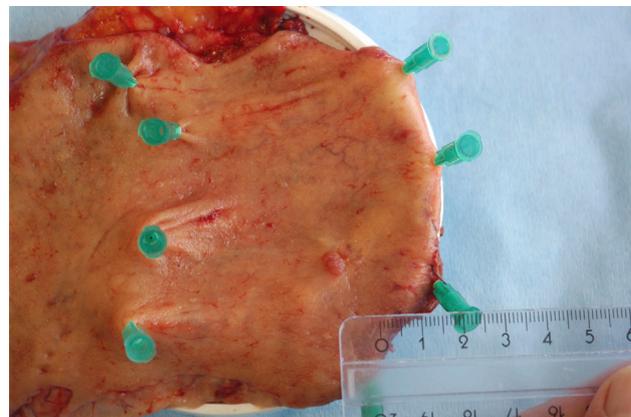


Figure 6. Rectal specimen after hybrid transanal and laparoscopic hand-assisted TME: distal resection margin is seen 1.5 cm from the site of the tumor (scar)

tion for low lying rectal cancer has been performed, demonstrating reduction of the risk of positive circumferential margin in perineal dissection group [1]). Thus it may be a suitable alternative to quite widely spreading transanal total mesorectal excision technique (TaTME), when a total perineal TME is performed or a combination of perineal and laparoscopic TME is done using transanal endoscopic microsurgery (TEM) equipment or laparoscopic equipment via single port for perineal dissection [14,15]. First three cases of TaTME performed in Lithuania have been recently

published [16]. Our technique is similar to the latter, but perineal dissection achieving same goals in low rectal cancer is done with no demand in a single port or complex TEM equipment.

Conclusions

In our hands, hybrid transanal and laparoscopic hand-assisted TME for low rectal cancer was a safe and technically feasible surgery. Trials to delineate proper indications for robotic, transanal TME (TaTME) and hybrid transanal plus laparoscopic TME are needed.

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