

Contour Transtar in True Rectal Prolapse

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ABSTRACT: **Background:** A new device, the CCS-30 Contour Transtar™, was recently launched for the treatment of obstructed defecation syndrome (ODS).

Objectives: To evaluate the efficacy of the Contour Transtar in resection of true rectal prolapse in relation to age and concomitant urogynecologic procedures.

Methods: During a 50 (median) month period 15 women with rectal prolapse of ≥ 5 cm and complaints of obstructed defecation underwent perineal resection of rectal prolapse with the Contour Transtar.

Results: In 3 of the 15 patients (20%) rectal prolapse recurred. Amelioration of ODS symptoms and improved continence were noted in 82% and 75%, respectively, following surgery.

Conclusions: The Contour Transtar procedure for full-thickness rectal prolapse is a safe and promising procedure and is likely suitable for elderly poor risk patients.

IMAJ 2015; 17: 219–222

KEY WORDS: rectal prolapse, perineal resection, obstructed defecation syndrome (ODS), Contour Transtar™

Rectal prolapse is the protrusion of layers of the rectal wall through the anal canal; it may be partial (mucosal) or complete (full thickness). Rectal prolapse is most common among older women and is frequently associated with fecal incontinence, constipation, and obstructed defecation syndrome (ODS). Non-surgical management is mainly applied for mucosal prolapse [1]. However, for full-thickness prolapse, there are two main approaches, transabdominal and perineal. Transabdominal procedures constitute the most effective management and are favored for healthy patients, irrespective of age. Perineal procedures, mainly the Altemeier procedure, are applied in patients with full-thickness prolapse and can be offered to elderly poor risk patients as well [1].

A new device, the CCS-30 Contour Transtar™ (Ethicon Endosurgery, Cincinnati, OH, USA), launched for the treatment of ODS caused by rectocele [2], was used by Scherer for perineal resection of rectal prolapse [3] in order to simplify the Altemeier procedure [4,5]. We adopted this procedure for perineal resection of full-thickness true rectal prolapse. This procedure seems

to be simple, safe and effective, is particularly recommended for elderly high risk patients, and may substitute for the traditional Altemeier procedure.

In this study we investigated the use of the CCS-30 Contour Transtar for perineal rectal resection of true rectal prolapse in relation to age and concomitant urogynecologic procedures.

PATIENTS AND METHODS

After obtaining Institutional Review Board approval, we conducted a retrospective cohort analysis of all Transtar procedures for true rectal prolapse performed at Wolfson Medical Center, documented in medical records and hospital charts. During a 50 month period (median), 15 women underwent the Transtar procedure for true rectal prolapse. The symptoms of ODS and prolapse were graded according to the presence or absence of complaints. Grading of the rectal prolapse was evaluated clinically according to the classification of Fleshman et al. [6]. All women complained of ODS and pain and all had rectal prolapse of at least 5 cm length (grade 5).

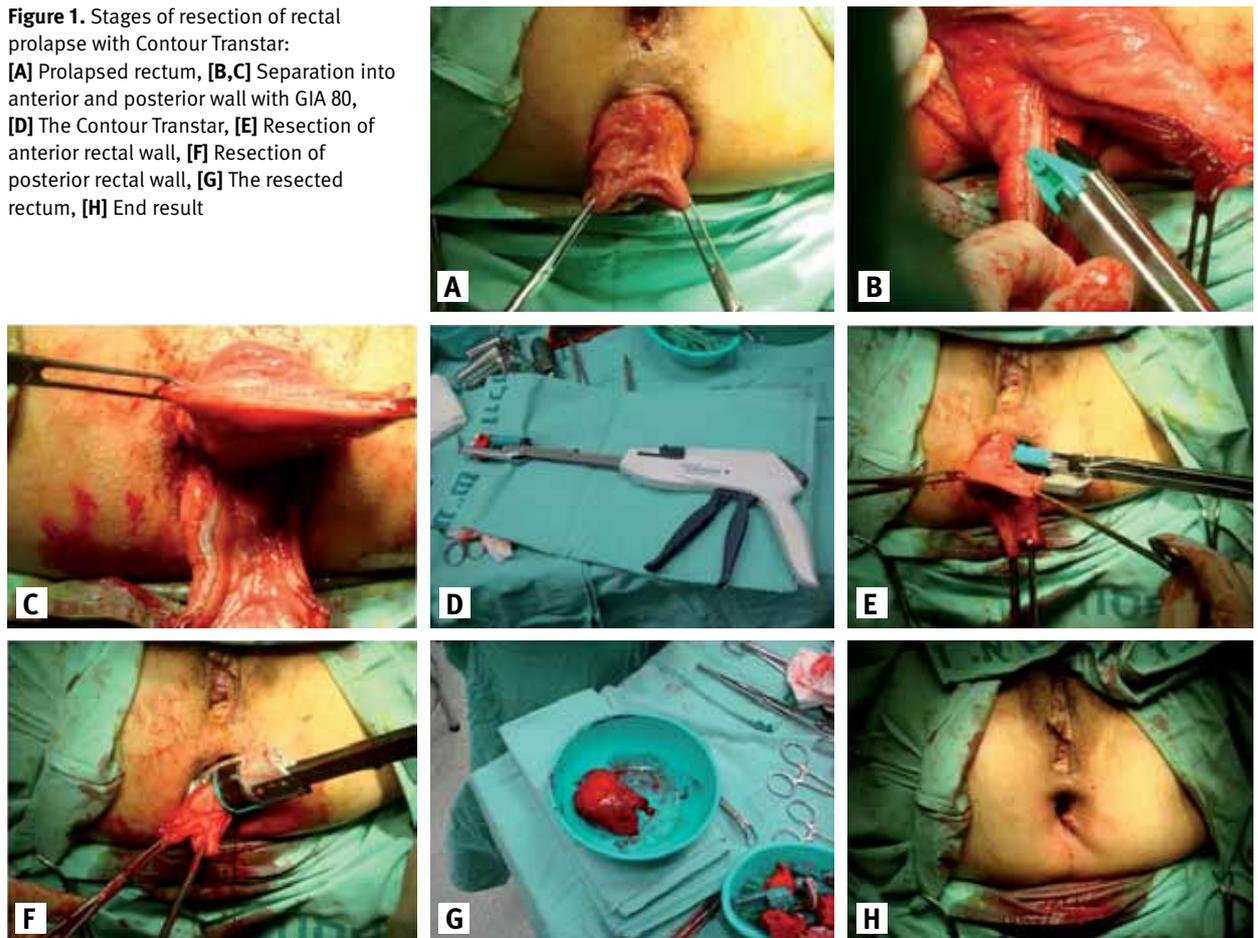
Ten patients had some degree of fecal incontinence (soiling) preoperatively. One patient underwent sacral neuromodulation for gross fecal incontinence 4 years before the prolapse. All patients except those with incarcerated prolapse were evaluated preoperatively by anal manometry and transrectal ultrasound.

All patients performed a full colon preparation and received intravenous antibiotics preoperatively. In three patients an emergency Transtar procedure was performed for incarcerated rectal prolapse. The other patients had an elective operation. The device used was the Contour Transtar CCS-30. The number of cartridges varied from five to eight depending on the characteristics of each case.

SURGICAL PROCEDURE [FIGURE 1]

Patients underwent a complete bowel preparation including intravenous antibiotics prior to surgery. Surgery was performed under general or spinal anesthesia with the patient in lithotomy position. The prolapse was completely pulled out [Figure 1A] and cut open with GIA 80 at three and nine o'clock [Figure 1B & C]. A vicryl suture marked both edges of resection just above the dented line. The Contour Transtar [Figure 1D] was inserted down to this point, and a counter-

Figure 1. Stages of resection of rectal prolapse with Contour Transtar: **[A]** Prolapsed rectum, **[B,C]** Separation into anterior and posterior wall with GIA 80, **[D]** The Contour Transtar, **[E]** Resection of anterior rectal wall, **[F]** Resection of posterior rectal wall, **[G]** The resected rectum, **[H]** End result



clockwise resection was performed first on the anterior wall of the rectum and then on the posterior wall, using three to four cartridges on each wall [Figure 1E & F]. The resection line was parallel to and just above the dented line. At the end, the stapler line was checked for homeostasis and continuity, and if necessary, sutures were added.

Following surgery, a low residual diet was prescribed for 3 days and antibiotics for 48 hours. Ambulatory follow-up was at 2 weeks, 1 month, 6 months and 2 years following the operation, and included evaluation of symptoms and clinical signs of rectal prolapse with straining, and occurrence of internal intussusceptions on anoscopy.

RESULTS

The study group comprised 15 women who underwent the Transtar procedure for true rectal prolapse. The mean age of the patients was 69.3 years (range 53–91). Before the surgery, seven patients had low anal sphincter basal and squeeze pressures on manometry, and two patients had a damaged internal

anal sphincter on ultrasound. The other six patients had normal sphincters.

The mean operating time was 40 minutes (range 30–65) and mean hospitalization time 5 days (range 3–10). There were no intraoperative complications; two women complained of pain and minimal bleeding that lasted 2 weeks following surgery. Of 11 patients who complained of obstructed defecation, in 9 the ODS symptoms and soiling resolved following surgery [Table 1]. In all the patients with incarcerated prolapse the surgery ameliorated the ODS symptoms. Of the 12 patients who complained of some degree of incontinence (mild soiling) before surgery, 9 reported marked improvement in continence, including 2 patients with incarcerated prolapse. Two patients died: one from lymphoma 18 months after surgery, and the other from cardiac insufficiency 24 months post-surgery.

After a median follow-up of 50 months (range 13–61), 12 women had no clinical signs of external prolapse with straining and no internal intussusception on anoscopy. Recurrence of prolapse that necessitated surgical treatment was observed in three patients (20%) [Table 2]. In one patient, age 78 years, who

Table 1. Patient evaluation before and after surgery

Presentation	Baseline (n=15)	Improvement*
Age (years)	75.5 ± 12.4	
Prolapse (≥ 5 cm)	15 (100%)	12 (80%)
ODS	11 (73%)	9/11 (82%)
Incarcerated prolapse	4 (27%)	4/4 (100%)
Incontinence	12 (80%)	9/12 (75%)

*Median follow-up 50 months, range 13–61
ODS = obstructed defecation syndrome

Table 2. Recurrence of prolapse: patient characteristics

Age (year)	Presentation	Concomitant urogynecologic procedure	Timing of recurrence
78	Incarcerated rectal prolapse	VH	3 months
59	Rectal prolapse and ODS	VH, AC	12 months
53	Rectal prolapse and ODS	TOT, AC	12 months

ODS = obstructed defecation syndrome, VH = vaginal hysterectomy, AC = anterior colporrhaphy, TOT = transobturator tape

underwent emergent surgery for incarcerated rectal prolapse and a vaginal hysterectomy 1 month later, the prolapse recurred (grade 5). She had a laparoscopic rectopexy 3 months later. Laparoscopic rectopexy was also performed in another two patients (53 and 59 years old) in whom the prolapse recurred after one year (grade 4). In both of them concomitant urogynecologic surgery was performed during the Transtar procedure (hysterectomy and anterior vaginal repair in one, and vaginal sling and anterior vaginal repair in the other). There were no signs of prolapse after 2 years in another patient, age 78, who underwent transobturator tape and anterior vaginal repair during the Transtar procedure, or in the other two patients with incarcerated prolapse.

DISCUSSION

We found that perineal resection of rectal prolapse with the Contour Transtar is an acceptable procedure, and at least in our series was favorable for elderly patients.

For many years there was disagreement regarding the etiology and treatment of rectal prolapse. The first report of perineal rectosigmoidectomy was published in 1882 by Auffret, followed by Mikulicz who reported a series of six cases in 1889 [7]. Miles in 1933 [7] declared this to be the preferred procedure for rectal prolapse. In 1970 Altemeier [8] classified rectal prolapse into three stages, assigning true rectal prolapse to stage 3. He summarized 19 years of experience with perineal rectal resection, reporting a very low complication rate and only three recurrences in 106 patients (mean age 62.2 years) [8].

The Contour Transtar was first introduced by Scherer for perineal resection of rectal prolapse [3] in order to simplify

Altemeier’s procedure. He performed a perineal rectal resection for prolapse in 15 women with a mean age of 84 (range 74–93); the follow-up was short, median 46 days (range 15–54), and there were no recurrences. Compared to the classical Altemeier procedure, the Contour Transtar resection is easy to perform, is time sparing and leads to a shorter recovery time [3].

A year later Romano et al. [9] reported the same procedure in three patients (age 58, 62, and 66 years) who were doing well 4 months after the operation. In a commentary, Martellucci and colleagues [9] described six patients aged over 80 who underwent this procedure but no data were available regarding follow-up. Tschuor et al. [10] claimed the procedure to be fast and safe, but noted a recurrence rate of 44% and concluded that patient selection is mandatory.

In our series, despite the small number of patients, we tried to specify what patient selection should be adopted. Elderly patients benefited from the Contour Transtar procedure except for one patient who was operated emergently and had urogynecologic surgery one month later. In all likelihood the severe edema and necrosis of the prolapsed rectum prevented sufficient traction of the entire prolapse during the Contour procedure, and an additional pelvic surgery worsened the situation. In two younger patients (53 and 59 years old) the prolapse recurred one year after the initial operation; both underwent concomitant urogynecologic procedures.

We suggest that age and physical activity could be the main reasons for recurrence in these patients, although Cirocco reported in 2010 [7] that at least Altemeier’s operation was suitable for all ages (20–97 years old) with no recurrences at 43 months.

Recurrence of rectal prolapse following additional urogynecologic procedures can be explained by the preexisting weakness of the pelvic floor. In addition, when correction of a gynecological prolapse is performed preceding the Transtar procedure, we found that traction and exposition of the rectal prolapse in preparation for resection is more difficult.

In elderly women, there is no doubt that this procedure is very well tolerated with or without concomitant urogynecologic procedures, with a short operating time, short hospital stay and almost no complications. The question is whether this procedure is as effective in younger women (< 60 years old) as it is in elderly women; perhaps the combination of young age and additional pelvic surgery leads to recurrence. Thus, should we avoid concomitant urogynecologic procedures, or should an abdominal rectopexy be performed? It should be emphasized that the procedure resolved the ODS symptoms in all patients and improved continence in 7 of 10 patients (70%).

The aim of this study is to raise awareness among physicians regarding this procedure for this specific indication, although only a few small studies have been published. The weakness of the study is the small number of patients, which precludes drawing definitive conclusions.

In conclusion, the Contour Transtar procedure for full-thickness rectal prolapse is a safe and promising procedure. We assume that elderly poor risk patients will benefit most from it. The dilemma is whether it is as effective for young active women, especially when an additional pelvic procedure is performed, or whether an abdominal rectopexy should be performed instead.

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