

DEFECT- SPECIFIC RECTOCELE REPAIR: MEDIUM- TERM SUBJECTIVE AND OBJECTIVE OUTCOMES

Hypothesis / aims of study

Rectocele is a herniation of the anterior wall of the rectal ampulla through a defect in the rectovaginal septum (RVS), causing a protrusion of the posterior vaginal wall (1). It is common in parous women, but may also be seen in nulliparae (2). Rectocele is associated with symptoms of prolapse and bowel dysfunction. To date, there is no data in the world literature on objective anatomical cure by surgical means, ie., imaging appearances before and after rectocele repair. This is mainly due to the cost, limited availability and invasiveness of the standard imaging method employed to diagnose rectocele, ie., defecation proctography (DP). It has recently been shown that transperineal ultrasound can be used as an alternative to DP in diagnosing a 'true' or 'radiological' rectocele (3). Hence, we undertook a study to describe subjective, anatomical and functional results of defect specific rectocele repair using this method for pre- and postoperative imaging.

Study design, materials and methods

This was an internal audit of 140 women who underwent defect specific posterior repair at a tertiary urogynaecological unit between 2005 and 2012, by or under the direct supervision of one subspecialist surgeon. The RVS was identified using hydrodissection in a caudo- cranial direction. Defects were invariably high and transverse. The cranial RVS margin was reattached to the pericervical ring or vaginal vault in a transverse fashion, using delayed absorbable sutures (Fig 1). Pre- and post operative assessment included a standardised interview, clinical examination (ICS POP-Q) and 3D/4D transperineal ultrasound (US) using GE Kretz Voluson 730 expert and Voluson I systems with RAB 8-4 Mhz transducers (3). Volume analysis for pelvic organ descent and levator morphobiometry was performed offline using proprietary software (GE Kretz 4D View 10.0, Kretz Medizintechnik, Zipf, Austria), blinded against all clinical data. Downwards displacement of rectocele or rectal ampulla was used to quantify posterior compartment prolapse. A true rectocele, ie. a diverticulum of the rectal ampulla, was diagnosed if there was a discontinuity in the anterior contour of internal anal sphincter and anterior anorectal muscularis resulting in a diverticulum of the ampulla, measuring ≥ 10 mm in depth. (Fig 2). Main outcome measures were symptoms of obstructed defecation (straining at stool, vaginal digitation, incomplete bowel emptying), recurrent prolapse symptoms (lump/drag), recurrence on clinical examination (ICS POP-Q Bp \geq -1) and rectocele recurrence on US as defined above.

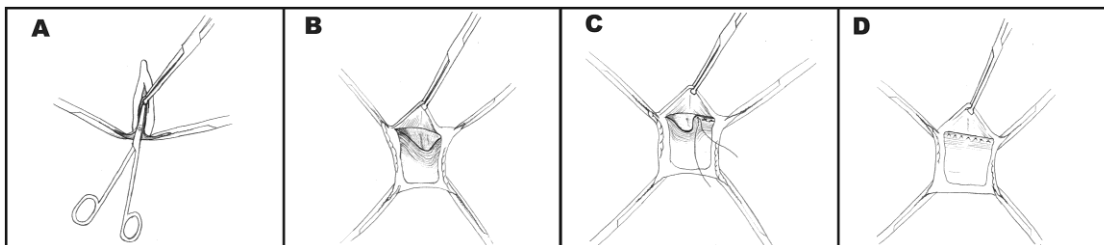


Figure 1: Defect- specific rectocele repair: A; posterior colpotomy after hydrodissection, B; identification of the superior margin of the detached RVS, C; attachment of the RVS to vault/ pericervical ring, D; completed RVS repair prior to colpotomy closure.

Results:

A test retest series of 20 ultrasound volume datasets showed good repeatability of rectocele presence (Cohen's kappa, 0.694) and depth (ICC 0.73 [0.44- 0.89]). Out of 140 cases, 138 women were seen at a minimum follow up of 3 months (range, 0.25- 5.7 years, mean 1.4 years). One postoperative volume data set was unavailable, leaving 137. The following analysis pertains to these 137 women, of which seven had had a previous posterior repair.

Mean age was 58.4 (27.8-87.9) years, median parity 3 (0-10) and mean body mass index was 30.5 (17.9-45.9). All except one were vaginally parous. 112 (82%) patients suffered from symptoms of prolapse, 106 (77%) of stress incontinence, 98(72%) of urge incontinence, 56 (41%) of symptoms of voiding dysfunction, 49 (36%) from constipation and 96 (70%) of obstructed defecation (OD) symptoms such as vaginal digitation (n=34, 25%), straining at stool (n=75, 55%), and/ or incomplete bowel emptying (n=69, 50%). Pre-operatively, on clinical assessment all patients had a prolapse ICS POP-Q stage ≥ 2 which was of the anterior, [n=98], central [n=21] and/ or posterior compartments [n=134]. On ultrasound imaging, defects of the RVS were seen in 124/137 patients. In 13 cases a defect was diagnosed intraoperatively (9.4%). The mean depth of preoperatively diagnosed rectoceles was 20.1mm (10-53.6). Mean hiatal area on Valsalva was 34.2 cm² (13.3- 60.6). Fifty- one (37.2%) patients were diagnosed with a levator avulsion which was bilateral in 23(17%).

All patients underwent a defect specific posterior repair as per Figure 1. Concomitantly, 25 (18%) had a vaginal hysterectomy, 58 (42%) an anterior repair (38 [28%] with Perigee mesh), 59 (43%) a sacrospinous colpopexy, 3 (2%) a hysteropexy, 95 (69%) a suburethral sling. There were no intraoperative complications related to the rectocele repair.

At follow-up, 117 (85%) patients considered themselves cured or improved. However, 34 patients (25%) complained of recurrent symptoms of prolapse and 47 (34%) of symptoms of obstructed defecation. The latter implies a highly significant reduction in such symptoms ($P < 0.0001$). Objective evidence of posterior compartment recurrence (Bp \geq -1) was seen in 19 women [14%]. On imaging, recurrence of a true rectocele (ie., a diverticulum of the rectal ampulla) was seen in 27 women (20%). The mean depth of recurrence was 16.6 mm (10.3-25.1).

We tested multiple potential predictors of recurrence such as age, BMI, vaginal parity, previous hysterectomy and/ or prolapse surgery, follow-up time, preoperative clinical and ultrasound findings, against recurrent symptoms as well as clinical and sonographic recurrence. Only hiatal area on Valsalva (for sonographic recurrence, $P = 0.01$) and enterocele (for clinical and

sonographic recurrence, $P= 0.01$ and $P= 0.02$ respectively) reached significance. There was a highly significant association between defect cure and symptomatic cure ($\kappa= 0.31$, $P< 0.001$).

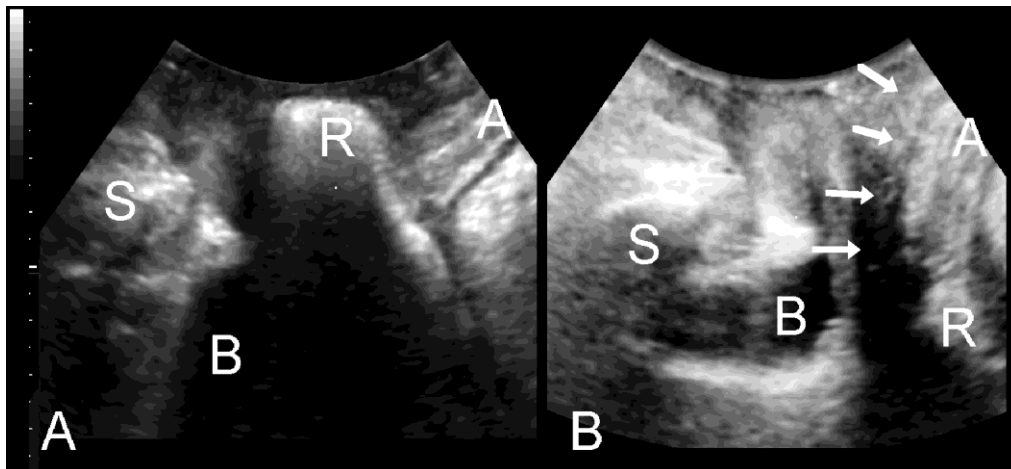


Figure 2: Typical appearances after defect specific rectocele repair. Panel A shows preoperative findings of a true rectocele of 2.5 cm depth, panel B demonstrates a completely normal posterior compartment contour (arrows) on Valsalva.

Interpretation of results:

In this single- surgeon series of 137 defect- specific rectocele repairs with transverse defect closure we demonstrated high objective cure rates both clinically and on imaging, and a highly significant reduction in symptoms of obstructed defecation. The likelihood of restitution of normal posterior compartment anatomy is about 80% at a mean follow-up of 1.4 years, and defect cure is highly significantly associated with cure of OD symptoms. We were unable to identify clinically useful predictors of recurrence, with the possible exception of enterocele.

Conclusion

Defect- specific rectocele repair is highly effective at a mean follow- up of 1.4 years.

References

1. Clin Colon Rectal Surg. 2010;23:90-8
2. Br J Obstet Gynaecol. 2006;113:264-7
3. Int Urogynecol J 2011; 22: 1221-1232

Disclosures

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