

ASPECTS OF TREATMENT*

Complete rectal prolapse: repair by a simple technique

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Key words: RECTAL PROLAPSE; POSTERIOR RECTOPEXY

Summary

A simple technique for the repair of complete rectal prolapse is described, and the results assessed. The method involves posterior rectopexy, suturing the rectum to the sacrum with paired interrupted linen sutures, thus avoiding the insertion of sheets of foreign material. The operation is suitable for all ages, and the minimal pelvic dissection required facilitates its use in high risk patients. The procedure was carried out in 23 patients, aged between 14 and 88, with a follow up period of between 2 months and 6.5 years. There was one postoperative death. The operation has a low morbidity and mortality, and the majority of the patients are now totally asymptomatic. There have been no recurrences of the complete rectal prolapse.

Introduction

The large numbers of procedures available to the surgeon for the treatment of complete rectal prolapse, reflect the varying degrees of success obtained with most, and the inadequacy of many of these methods. The use of Thiersch wire introduced in 1891 (1) should by and large be abandoned except in the very infirm, because of the high rate of recurrence (2) and troublesome faecal impaction. Operations employing fixation of the rectum to the sacrum, either by means of polyvinyl alcohol sponge as described by Wells (3), or the use of a Teflon sling to reconstruct the normal posterior curve of the rectum as described by Ripstein (4), have been more successful. The disadvantage of these two procedures, which have a low recurrence rate, is that they involve the use of foreign materials. Moore (5) reported 42 cases of rectal prolapse in which he used a method of fixation of the rectum to the anterior abdominal wall; there was only one recurrence but patients were frequently left with a bulge in the lower abdomen.

We report a simple technique of repair of complete rectal prolapse, by posterior fixation. Essentially this method is the same as described in a small series by Efron (18). Goligher (19) referred to 42 patients treated by similar means; individual data including period of follow up are not given though there was no recurrence. Essentially the method avoids the need for insertion of foreign material, and the relatively simple nature of the surgery permits its use in frail patients.

Patients and methods

Twenty-three patients have been operated on, their ages ranging from 14 to 88 years (average 65 years). There were

18 women and 5 men. The duration of prolapse varied from 1 month to 47 years. Six patients had previously undergone a Thiersch repair. The prolapse had either recurred spontaneously, or when the suture was removed. One woman had had 3 previous operations consisting of Thiersch repair, an Ivalon sponge rectopexy and sigmoid colectomy over a period of 35 years, and still the prolapse recurred. Factors contributing to the prolapse included anal dilatation in 1 man, third degree obstetric tears in 2 women, and 2 cases associated with uterine prolapse. Nine patients suffered from faecal incontinence, and 1 was also incontinent of urine.

OPERATIVE METHOD

The abdomen is opened through a lower abdominal incision. The rectum is mobilised by incising the peritoneum on both

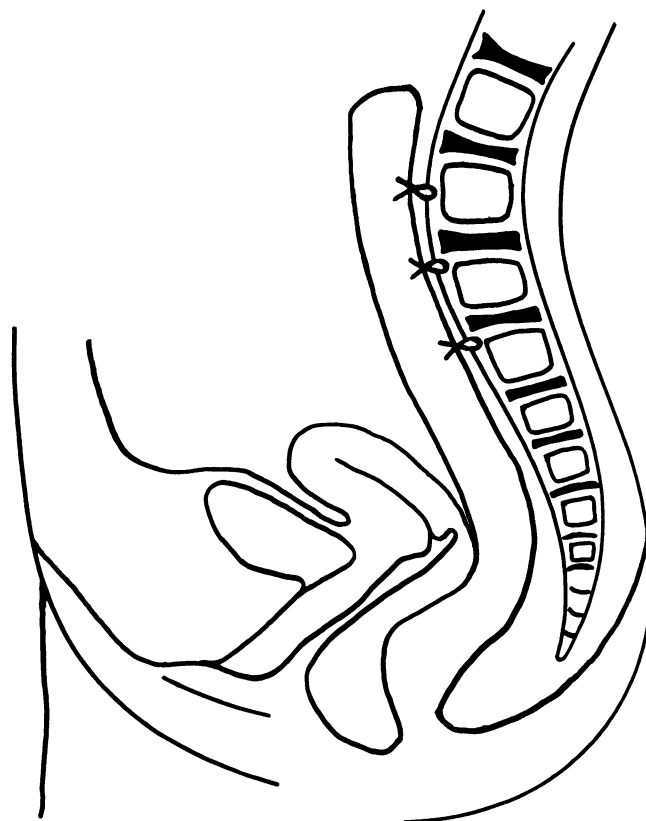


FIG. Showing position of sutures.

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its lateral aspects down to the level of the mid rectal vessels. The peritoneum in front of the rectum is not incised but posteriorly the rectal wall is mobilised from the front of the sacrum down to the tip of the coccyx. A slim Kelly retractor is useful here in lifting the rectum forward, and exposing the presacral area. Six 2/0 non-absorbable sutures, on curved needles, are next firmly inserted through the sacral periosteum, close to the midline in three pairs situated at the level of the lower sacrum, the mid sacral concavity, and the sacral promontory. The needles are left on the sutures, and while the assistant firmly reduces the prolapse by upward traction the sutures are placed through the serosa and musculature of the postero-lateral rectal wall; the mucosa is not penetrated, but the tangential bites of the needle should take a broad sector of the rectal wall, making displacement by tearing unlikely. When the three paired sutures are in place, they are tied, firmly fixing the rectum inside the sacral concavity (Fig). The firmness of this attachment to the sacrum, on the completion of the operation, will assure the surgeon of the strength and firmness of his repair. The abdomen is closed in the routine manner with no drainage of

the pelvic cavity but precautionary perioperative bowel anti-sepsis has been used.

Results

Twenty-three patients have been reviewed either by personal interview, postal questionnaire or by reference to the notes of the 2 patients who died during the follow up period after discharge from hospital. One 88 year old woman died from congestive cardiac failure while still in hospital 19 days after operation. Her prolapse had been present for 47 years. Postoperative stay in hospital for the remaining 22 patients varied from 7 to 25 days (average 10 d). There were 2 cases of wound infection, 1 with subsequent dehiscence which required resuturing. Two patients have a follow up of under 6 months but the other 20 have been followed up between 1 and 6.5 years. There have been no cases of recurrent complete prolapse but 3 patients have developed minor mucosal prolapse, one of which was circumferential and required simple excision. Nine patients suffered from faecal incontinence prior to posterior rectopexy but only 2 still have this problem following the permanent reduction of the

TABLE Clinical details

| Age | Sex | Previous surg. | Post op days | Infection | Prolapse | Follow up | Incontinence | Pain |
|-----|-----|--|--------------|-----------|--------------------------|-------------------|---|---|
| 47 | F | Third degree obstetric tear | 7 | No | No | 6 years | Yes—Lax anal sphincter Post anal repair | No |
| 82 | F | Thiersch wire | 8 | No | No | 4 years (died) | No | No |
| 73 | M | Anal dilatation | 13 | No | No | 3 years (died) | No | No |
| 63 | F | Thiersch wire | 8 | No | Mucosal | 2 years 10 months | No | No |
| 14 | M | Nil | 9 | No | No | 2 years 9 months | No | No |
| 72 | F | Thiersch repair | 7 | No | Slight mucosal | 2 years 2 months | No | No |
| 78 | F | Thiersch wire Ivalon wrap Ant. resection of rectum | 11 | No | No | 2 years | No | No |
| 81 | F | Nil | 8 | No | No | 15 months | Slight soiling | No |
| 36 | M | Cryosurgery for haemorrhoids | 7 | No | No | 14 months | No | No |
| 88 | F | Uterine prolapse repair | 25 | No | No | 11 months | Yes | No |
| 88 | F | Nil | 19 (died) | No | No | | | |
| 72 | F | Nil | 3 | No | No | 6 months | No | No |
| 74 | F | Nil | 13 | No | No | 6 months | No | No |
| 74 | F | Nil | 8 | No | No | 3 years | No | Anal—mild |
| 53 | F | Nil | 7 | No | No | 2 years | No | No |
| 72 | F | Nil | 9 | No | No | 2 years | No | No |
| 62 | F | Nil | 9 | No | No | 1 year | No | No |
| 67 | M | Nil | 14 | No | Mucosal prolapse excised | 1 year | No | No |
| 63 | F | Nil | 12 | Wound | No | 9 months | No | No |
| 59 | F | Nil | 9 | No | No | 6 months | No | Lower abdominal colic? diverticular disease |
| 61 | F | Nil | 11 | Wound | Small mucosal | 9 months | No | No |
| 69 | F | Nil | 9 | No | No | 6 months | No | No |
| 54 | M | Nil | 8 | No | No | 6 months | No | No |

prolapse; 1 has only slight soiling but the other, a lady, has severe soiling, her prolapse having occurred some years after a third degree obstetric tear which had severely damaged her anal sphincter muscles. She has subsequently had a post anal repair with a good functional result. One man who had an anterior mobilisation of the rectum is the only patient with an ejaculation problem following this operation.

Discussion

Complete rectal prolapse in the adult is an uncommon condition, between 2 and 4 cases being seen each year, in a general surgical unit. The prolapse causes considerable discomfort and social embarrassment, and is associated with a wide variety of symptoms including faecal incontinence, constipation and diarrhoea, persistent mucus discharge and bleeding and excoriation of the prolapsed rectal mucosa. Prompt diagnosis may be somewhat elusive. Our youngest patient presented with a 2 year history of passing frequent loose motions, with streaks of blood. Barium investigations were negative, and it was only at a second sigmoidoscopy, that complete rectal prolapse presented itself by chance. Usually a good clue as to whether prolapse is occurring is the laxity of the anal sphincter muscles. Conservative management is usually doomed to failure. However, 1 elderly, myxoedematous patient, not in this series, was treated with Thyroxine medication alone. There has been no recurrence of her complete rectal prolapse after 4 years.

Early operative methods of treating rectal prolapse involved obliterating the Pouch of Douglas (6). These were based on the view that the prolapse occurred as a sliding hernia, through a weakness in the pelvic floor. Roscoe Graham (7) developed this further by suturing the levator muscles in front of the rectum, as well as obliterating the Pouch of Douglas. Unfortunately for the sliding hernia hypothesis, the prolapse is truly circumferential being of equal length anteriorly and posteriorly. Weakness of the levator ani muscles has been suggested by many authors but Porter in his physiological studies (9) of the pelvic floor, showed no evidence of muscle weakness, though he did find that the levator ani muscles behaved differently. Fry et al (10) found no abnormality of the pelvic floor in 12 out of 15 cases with complete rectal prolapse. It has been suggested that if pelvic floor weakness is a contributory factor, then this may be due to childbirth. However, in Hughes (11) and Goligher's (12) series 39% and 47% respectively of their women with rectal prolapse were childless. Elegant cineradiographic studies by Broden et al (8) have shown quite clearly that rectal prolapse initially starts as an intussusception of the upper rectum by the sigmoid colon several centimetres above the pelvic floor. As well as intussusception occurring, the normal posterior curve of the rectum in the sacral concavity is lost and the rectum assumes a straight position. For this to be possible there is either a mesorectum, which could explain prolapse in children, or the rectum becomes separated from the sacrum by loose areolar tissue (4). It would seem reasonable therefore to treat rectal prolapse by fixing the rectum to the sacrum. This would restore the normal posterior curve, and prevent intussusception. Early attempts at this were made by Large (13) and Verneuil (14), using the perineal approach. In 1939 Pemberton and Stalker (15) used the abdominal approach to carry out combined posterior fixation of the rectum, and colopexy, postulating that after mobilising the rectum, the cavity between it and the sacrum became filled with fibrous tissue, and aided in fixation. These principles are applied in the Wells and Ripstein procedures but reinforced by the addition of foreign

material. However, research carried out by Chen et al. (16) and Wood (17) has shown in the case of the Wells procedure that polyvinyl alcohol sponge is gradually broken down, and almost completely disappears, leaving just dense fibrous tissues to maintain the rectum in place. It seems reasonable therefore that a similar situation could be obtained, by mobilising the rectum as we have described, reducing the prolapse, and suturing the rectum with nonabsorbable sutures to the lower and mid sacrum and to the sacral promontory. This not only fixes the rectum, but also re-creates the normal posterior curve. The method obviates the need for inserting sheets of foreign material. It is a simple straightforward approach to the problem of complete rectal prolapse, involving minimal dissection, and can be used in all groups of patients. Furthermore the post operative problem of faecal impaction does not occur. This is not so with more complicated procedures involving the insertion of foreign material, as often the dense fibrosis around the rectum narrows the lumen in the months ahead. It is indeed gratifying that after most intra abdominal procedures the preoperative problem of faecal incontinence ceases to exist due to the spontaneous restoration of tone in the anal sphincter muscles. Only 1 patient in this series required a post anal repair of the sphincter muscles to restore continence despite many patients being of advanced age.

References

- 1 Carrasco AB. Contribution 'a l'Etude du Prolapsus du Rectum. 1939 Paris Masson.
- 2 Porter NH. Collective results of operations for rectal prolapse. Proc R Soc Med 1962;55:1087-91.
- 3 Wells CS. New operation for rectal prolapse. Proc R Soc of Med 1959;52:602-3.
- 4 Ripstein CB. A simple, effective operation for rectal prolapse. Postgrad Med 1969;45:201-4.
- 5 Dendy Moore H. The results of treatment for complete prolapse of the rectum in the adult patient. Dis Col Rectum 1977;20:566-9.
- 6 Moschowicz AV. The pathogenesis, anatomy and cure of prolapse of the rectum. Surg Gynecol Obstet 1912;15:7-21.
- 7 Graham RR. The operative repair of massive rectal prolapse. Ann Surg 1942;115:1007-14.
- 8 Broden B, Snellman B. Procidencia of the rectum studied with cineradiography: A contribution to the discussion of causative mechanism. Dis Colon Rectum 1968;11:330-47.
- 9 Porter NH. A physiological study of the pelvic floor in rectal prolapse Ann R Coll Surg Engl 1962;31:379-404.
- 10 Fry IK, Griffiths JD, Smart PJG. Some observations on the movement of the pelvic floor and rectum with special reference to rectal prolapse. Br J Surg 1966;53:784-7.
- 11 Hughes ESR. Discussion on prolapse of the rectum. Proc. R Soc Med 1949;42:1007-11.
- 12 Goligher JC. Surgery of the anus, rectum and colon. 3rd edition. London, Baillière Tindall 1975;292.
- 13 Lange F. Contributions to intestinal and anal surgery. Ann Surg 1887;5:491-9.
- 14 Verneuil G. Sacral approach for suturing the rectum to the coccyx. Bull et Mem de la Soc. de Chrg de Paris 1891;15:754.
- 15 Pemberton JJ and Stalker LK. Surgical treatment of complete rectal prolapse. Ann Surg 1939;109:799-808.
- 16 Chen RW, Musser AW, Postlethwaite RW. Alterations of and tissue reactions to polyvinyl alcohol sponge implants. Surgery 1969;66:899-905.
- 17 Wood K. Rectal prolapse. Proc R Soc Med 1962;55:1086.
- 18 Gershon Efron. A simple method of posterior rectopexy for rectal procedentia. Surg Gynecol Obstet 1977;145:75-6.
- 19 Goligher JC. Surgery of anus, rectum and colon. 1980 4th Edition London, Baillière and Tindall 248-9.