Case Report

Vaginal Repair of a Sigmoidocele

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Abstract: Sigmoidocele is an uncommon accompaniment of pelvic prolapse. It is difficult to detect a sigmoidocele during clinical pelvic examination, and as a consequence a sigmoidocele may be unexpectedly encountered during vaginal repair of pelvic prolapse. The author has discovered and repaired a sigmoidocele during vaginal surgery in 4 patients with either complete procidentia or vaginal vault eversion. The procedure involves a modification of the bilateral sacrospinous vaginal vault fixation using two additional sutures to suspend the sigmoid colon from the sacrospinous ligament. Clinical and functional results have been excellent. This is the first description of a vaginal approach to the repair of a sigmoidocele.

Keywords: Procidentia; Sigmoidocele; Surgery

Introduction

Surgical correction of sigmoidocele has to date been limited to abdominal procedures [1]. Sigmoidocele is a rare finding in patients with pelvic prolapse. Physical examination is not diagnostic, and in the absence of defecation proctography the diagnosis is unlikely to be made preoperatively [2]. The author first encountered a sigmoidocele at the time of vaginal surgery to correct a massive procidentia. Faced with this unexpected component of the prolapse, a choice between proceeding with the vaginal repair or converting to an abdominal procedure was necessary. A modification of the sacrospinous vaginal vault fixation [3] was devised extemporaneously and used to achieve a vaginal repair of the sigmoidocele. This procedure has since been used successfully in 3 additional patients, and is described here in the hope that it may prove useful to vaginal surgeons who encountered an unexpected sigmoidocele.

Procedure

The patient upon whom this procedure was first performed had complete procidentia on clinical examination. We are currently using the pelvic organ prolapse quantification system (POP-Q) [4]. Based on this system this patient had stage 4 prolapse. The procedure can be divided into five components designed to treat the urinary incontinence, cystocele, uterovaginal prolapse, sigmoidocele and rectocele. A standard vaginal hysterectomy is performed. The anterior compartment is managed by completing a pubourethral sling using mesh, a bilateral vaginal paravaginal repair [5] and an anterior colporrhaphy. At completion of the anterior colporrhaphy the vaginal epithelium is left open. Because the posterior vaginal wall is completely separated from the rectum by the dissecting force of the sigmoidocele, a vertical incision can be made in the midline of the posterior epithelium, extending to the level of the posterior introitus. The peritoneum is dissected free where it overlies the top of the rectum, and this dissection is continued out of the cul-de-sac on to the serosa of the sigmoid colon (Fig. 1). At this stage of the procedure it becomes apparent that a sigmoidocele rather than an enterocele is present in the pouch of Douglas. The peritoneum is dissected off the bladder base and a pursestring suture placed through the peritoneum beneath the bladder base and overlying the sigmoid colon at the highest point of the peritoneal mobilization.

At the posterior introitus a diamond-shaped excision of the vaginal epithelium and perineal skin is made. The lateral aspects of the vaginal epithelium, which have
already been opened vertically down to this level, are then dissected free from the underlying rectum and the right rectal pillar is perforated to allow identification of the coccygeus muscle. A Heaney retractor is placed over the ischial spine and a Breisky–Navratil retractor is used to retract the rectum medially. The bottom blade of a bivalve speculum is used posteriorly to identify the coccygeus muscle. Two no. 1 permanent braided sutures are placed using a Miya hook through the coccygeus muscle (and underlying sacrospinous ligament). The first suture is placed 2 cm medial to the ischial spine and the second 1 cm medial to the first. The same procedure is repeated on the left side. One arm of each of the lateral sutures is attached to a patch of mesh sewn to the underside of the vaginal vault using the standard method described by Nichols [3]. These attachment points are identified by reducing the vaginal fornix manually to the level of the corresponding ischial spine. The attachment point is where the vaginal epithelium lies approximately 1 cm medial and inferior to the ischial spine. These points are quite lateral to the midline to avoid compression of the colon by the suspended vagina. The sigmoid colon is elevated into the curve of the sacrum, eliminating the redundant loop. The fixation point on the lateral aspect of the sigmoid is that point on the reduced sigmoid which corresponds to the midpoint of the coccygeus muscle, where the second set of sutures have been placed.

The fixation points on the sigmoid are marked with hemostats. The sigmoid is allowed to return to its prolapsed state while 1 cm patches of mesh are fixed to the serosa of lateral aspects of the sigmoid using a 2/0 permanent braided suture. One arm of each of the medial sutures is attached to the mesh (Fig. 2). This traction suture is attached using the same technique as for the vaginal vault, but only to the mesh, avoiding the sigmoid colon itself. The pursestring peritoneal stitch is tied, beginning the process of sigmoidocoele reduction. It is not possible to perform the posterior repair without first reducing the sigmoidocoele. The pulley arms of the medial sutures are used to reduce the sigmoidocoele and the sutures are tied. The posterior colporrhaphy is performed by imbrication and repair of the rectovaginal fascia with interrupted absorbable sutures. The anterior vaginal mucosa is closed down to the vaginal apex in a vertical line and along the mid-third of the posterior vaginal wall. The sacrospinous vaginal vault fixation sutures are then tied to elevate and suspend the vaginal vault (Fig. 3).

Fig. 1. Sigmoidocoele.

Fig. 2. Placement of stitches through the sacrospinous ligament for simultaneous correction of sigmoidocoele and vaginal vault suspension.

Fig. 3. Simultaneous sacrospinous suspension of sigmoidocoele and vagina.