

Avulsion of the perineal body in a single nulliparous woman following a motorcycle accident: A case report

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Abstract

Miss OO was seen at the gynaecology clinic in April 2008 with history of a road traffic accident three years earlier. She was thrown off a motorcycle and fell astride a culvert, sustaining perineal injury. She was treated at a private hospital, but subsequently developed faecal incontinence and was usually soiled with faecal matter during coitus. Examination revealed loss of perineal body and reconstruction was done, with success.

With increase in motorcycle accidents on our roads, many more gynaecologically-related traumas are bound to occur. Proper and timely referral will lead to improved management with reduced psychosocial trauma. Organized awareness creation programmes will reduce these accidents in the long-term.

Key words: avulsion, perineal body, single, nullipara, motorcycle accident, faecal incontinence

Date Accepted for publication: 11th March 2009

Nig J Med 2009; 190-193

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Introduction

Motorcycles (popularly referred to as 'Okada') serve as the primary commercial transportation mode in most cities and rural communities in Nigeria. They provide a quick and simple means of transport especially where commercial taxis may be lacking. In the rural areas, the roads are narrow, tortuous, rough, sandy and muddy; the operators are mostly young and inexperienced and may indulge in alcoholic beverages. Several publications have reported the variety of injuries following road traffic accidents involving the commercial motorcycles in Nigeria¹ including concussions, brain damage, bone and soft tissue traumas, and facial disfigurement.

We report a case of 4th degree perineal tear associated with loss of perineal body following a motorcycle road traffic accident, seen at the Mater Misericordiae Hospital, Afikpo Southeast Nigeria.

We obtained permission from the patient to publish this report with the pictures anonymously and ethical approval was granted by the Ethics Committee of the hospital.

Case

Miss OO was a 25-year old single, nulliparous Igbo woman, a Christian and a trader. She was first seen at the gynaecology clinic in April 2008, with complaints of faecal and flatus incontinence of three years duration. Her problems started three years prior to presentation following a motorcycle accident. She fell astride a culvert and bled profusely from her perineum. She was rushed to a private hospital where the bleeding was arrested and her wound sutured. The wound healed after four weeks. Thereafter she noticed a deficiency in her perineum. She became incontinent of flatus and faeces and got soiled by faeces during coitus. This made her unhappy and she stopped seeing her partner. She came to the clinic on self-referral.

On general examination, she was anxious. Her perineum was torn and there was no perineal body. The vagina and rectum opened into a common vulvo-anal pouch (Figure 1). A diagnosis of 4th perineal tear with loss of the perineal body was made. She was counselled on her condition and the need for perineal repair. She consented. Pre-operative workup included proper counseling, blood and urine tests, and rectal washout. Surgery was done under spinal anaesthesia. One gram of ceftriazone was given intravenously as antibiotic prophylaxis. The incision was made through the full thickness of the union between the vaginal and rectal walls, and the abnormal perineal skin was separated and the underlying perineal muscles (bulbospongiosus, superficial and deep transverse perineal, the levatore ani and the severed, retracted ends of external and deep anal sphincters) carefully exposed by a combination of sharp and blunt dissections. The freshened edges of the anorectal mucosa and its submucosa were sutured in two layers with Vicryl 2-0. The torn ends of the anal sphincters

were mobilized; the edges of the internal anal sphincter were freshened and sutured end-to-end, and those of the external overlapped and stitched using Vicryl 2-0. The rectovaginal fascia was sutured in the midline to support the rectal wall. The medial edges of the exposed perineal muscles were sutured together in the midline with Vicryl 2-0, creating another perineal body. The vaginal wall and perineal skin were then closed with Vicryl 2-0 sutures. Rectal examination performed at the end of surgery confirmed intact perineum. Figure 2 shows the perineum after surgery.

Postoperatively, she was continued on antibiotics and commenced on analgesics and laxatives. Her recovery was smooth. She was counselled on need for specialist care during childbirth and discharged on the fourth day postoperative day. At follow-up four week later, she did not have any more perineal pain and the wound union was good. At the second follow-up visit 12 weeks postoperatively, she had no complaints, had resumed sexual activity and rectovaginal examination did not reveal any abnormality. She was given a six-month follow-up appointment, but had not come prior to this report.

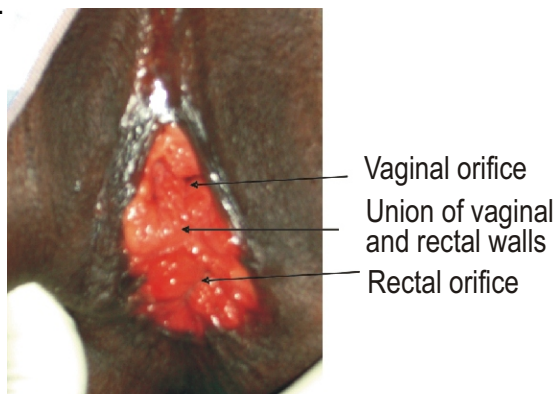


Figure 1: Photograph of the Perineum. Note: the surgeon's finger retracting the perineum on the left, absence of perineal body, vagina and rectum opening into the common 'vulvo-anal' pouch, and union between vaginal and rectal walls, and between these walls and perineal skin.



Figure 2: The perineum immediately after repair

Discussion

The perineal body or central tendon of the perineum is a midline fibromuscular mass which lies between the anal canal and the vagina in females^{2,4}. Bulbospongiosus (bulbocavernosus) muscle, superficial and deep transverse perinei, perineal membrane, external anal sphincter, posterior vaginal muscularis converge on and fibers from puborectalis and pubococcygeus, and the rectovaginal septum blend into it^{2,4}.

The perineal body separates the vaginal from the anal canal, supports the distal vagina and is necessary for normal anorectal function and in stabilization of other pelvic and perineal structures^{2,4}. The anal sphincter complex (made up of the internal and external anal sphincters) lies posteroinferior to this body³. The external sphincter is overlapped by the internal sphincter which is also continuous with the smooth muscle of the colon^{2,3}. The internal anal sphincter provides most of the resting anal tone essential for maintaining continence; laceration of this sphincter leads to with anal incontinence³.

Perineal tears are common following childbirth^{2,3,5,6} and have been reported following rapes and fall astride sharp objects^{7,8}, as in the index report. They are classified into four degrees^{3,5} according to their depth. First degree tear involves only the skin; second degree tear involves perineal muscles; in third degree tear the anal sphincter is injured; when this is associated with damage to the anal epithelium, it is termed fourth degree tear^{3,5,6}. In most of such cases, the perineal body is torn but not lost. In the index case, fourth degree tear with loss of the perineal body was noted. Avulsion of the perineal body probably resulted from the shearing force at landing on the culvert. The eventual outcome may have been worsened by inexperienced repair, infection and tissue necrosis, resulting in the vagina and rectum opening into a common 'vulvoanal' pouch (figure 1).

The complications from perineal avulsion that were seen in our patient were loss of anorectal function^{4,6} and depression. These led to flatus and faecal incontinence with soiling of the vagina and withdrawal from sexual relationships. Weakness of the pelvic floor and/or genital organ prolapse² were, however, not seen in our patient. Perineal avulsion and fourth degree perineal tear should be repaired by experienced doctors^{3,6}. Effective repair depends on a good knowledge of perineal anatomy and surgical technique³. Inexperienced attempts at repair may lead to morbidity with resultant anal incontinence⁶. So, a physician not versed in this repair may allow time for appropriate

support staff to arrive³.

Preoperative bowel preparation⁹ reduces intraoperative wound contamination with faecal matter. Repair in the theatre allows the operation to be done under aseptic conditions with appropriate instruments, adequate light and good assistance^{3,6}. Regional or general anaesthesia eliminates pain and causing good relaxation of the anal sphincters, with easy retrieval and tension-free suture of their torn, retracted ends^{3,6}.

The incision for repair is made through the full thickness of the union between the vaginal and rectal walls, and the abnormal perineal skin, to separate their edges, make them fresh and excise scarred tissues. The dissection between the vaginal and anorectal walls is carried into the rectovaginal space⁹. The torn, scarred edges of the underlying perineal muscles are carefully exposed, identified and grasped, and their edges freshened to facilitate healing. The external anal sphincter may need to be dissected further from the surrounding tissue to achieve adequate length for the repair³.

The rectal mucosa is approximated from its apex downwards using closely spaced interrupted or running sutures^{3,9}, continued onto the perineal skin. The sutures should not penetrate the complete thickness of the mucosa into the rectum to avoid promoting fistula formation^{3,9}. A second layer of sutures approximates the peri-rectal fascia⁹. The internal anal sphincter is stitched end-to-end and the ends of the external sphincter overlapped and stitched³, as in the index patient. Overlapping repair of the external anal sphincter is considered superior to end-to-end closure, and probably results in better anatomic and functional outcomes³. In the overlapping repair, the one end of the external anal sphincter, superior flap is made to overlie the other (inferior flap) and two to three sutures are passed from on top to the bottom through first the superior and then the inferior flap, and then in the reverse direction, taking care to incorporate the muscle capsule in the sutures³. The sutures are tied snugly with the knots on top of the overlapped ends³. This technique brings the torn ends of the external sphincter in manner that creates in a larger surface area of tissue contact between them³ for improved healing. Using a running suture that incorporates the underlying rectovaginal fascia, the vaginal wall defect is sutured from its apex down to the hymenal ring³. Inclusion of the rectovaginal fascia in the suture provides support to the posterior vagina³. The muscles to the perineal body are approximated each to its fellow of the opposite side

with interrupted sutures. These muscles are finally sutured together to form the new perineal body. The rectovaginal fascia is reattached to this new perineal body using interrupted vertical sutures³. Occasionally, the overlying perineal skin may approximate very well and not need sutures³. In the index case, however, the skin was sutured using subcuticular absorbable sutures which are considered superior to interrupted transcutaneous sutures³.

Monofilament sutures cause less infection and better long-term function of the anal sphincter complex when compared with catgut or polyglactin (Vicryl)⁶. But when not available, Vicryl sutures used in the index case with excellent results are to be preferred to catgut sutures³. Broad-spectrum antibiotics given intra- and post-operatively, reduce post-operative wound infection and dehiscence^{3,6}. Postoperative administration of laxatives also reduce wound dehiscence^{3,6}.

Well managed cases of fourth degree perineal tear heal fast with early resumption of sexual function, as in the index patient. Some patients may develop residual anorectal and/or psychosexual dysfunction, and some wound breakdown. Management should be planned from inception to avoid such complications. Also, adequate follow-up is important for it helps to identify cases likely to develop residual complications.

In women who underwent repair for avulsion of the perineal body, subsequent vaginal deliveries may worsen anal incontinence symptoms or lead to a repeat tear⁶. Therefore, they should be counselled regarding the risk of developing anal incontinence or worsening symptoms following future vaginal deliveries⁶. Our patient was properly counselled.

The case discussed is unique in that it is an unlikely trauma from motorcycle accident. So, with increase in the number of motorcycles on our roads and the accidents associated with them, more gynaecologically-related traumas may occur. Proper and timely referral will improve the initial management and its outcome, thereby reducing the overall economic and psychosocial trauma. Mass awareness campaigns, construction of better roads, a shift from motorcycle back to taxis as a means of intra- and inter-town transportation in our urban and rural settlements, and improvement in the overall economy of the people, will reduce the number of motorcycles on our roads and that of the associated accidents, including the gynaecologically-related traumas.

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