

Residual Incontinence After Obstetric Fistula Repair



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The most common cause of a vesicovaginal fistula in the United States is surgical misadventure, generally occurring in association with hysterectomy. Unrecognized bladder injury leads to leakage of urine. Pooling of urine over the vaginal cuff interferes with wound healing. When the suture line fails to heal, a small fistula forms between the injured bladder and the vaginal cuff. In these cases, the fistula develops as a result of a discrete injury to otherwise healthy tissues.

The etiology of vesicovaginal fistula in poor countries is quite different. In these settings, the most common cause of vesicovaginal fistula is obstructed labor, not surgical misadventure.¹ These fistulae result from a crush injury, not poor healing of a surgical suture line, and they are very different from the typical posthysterectomy fistulae seen in U.S. patients. The fistula from obstructed labor is produced by tissue necrosis from the pressure on vulnerable soft tissues created by prolonged impaction of the fetal head in the pelvis. Lack of ready access to emergency obstetric care means that such labors often last for several days, producing extraordinary injuries that are not seen anymore in the United States. In prolonged obstructed labor, broad swaths of tissue may be destroyed, creating fistulae that involve the entire bladder base and urethra, often accompanied by profound scarring that distorts or even obliterates the vagina. The obstructed labor injury complex frequently involves multiple pelvic organs, not just the bladder. Such injuries lie outside the experience of most American clinicians.²

Although the basic principles of vesicovaginal fistula repair are unchanged—wide mobilization of the fistula so that it can be closed without tension, water-tight closure, and prolonged catheter drainage to allow the injured bladder to heal—the prognosis for the patient after surgery is dissimilar in the two different scenarios. Assuming the closure is done properly, almost all women with posthysterectomy fistulae should expect to regain continence after surgery. The prognosis is more guarded in the case of a fistula from obstructed labor. Despite successful fistula closure, a substantial number of women with an obstetric fistula remain incontinent after repair (up to 40% in some case series).³ Sorting out who is at risk for postrepair incontinence is an important clinical issue in urogynecologic surgery in resource-poor settings.

In this issue of the journal, Bengtson et al (see page 945) report a scoring system to assess the risk of residual incontinence after fistula closure, using data from a fistula referral center in Lilongwe, Malawi.⁴ The authors conducted a prospective cohort study of 401 women who underwent fistula repair at this center and who returned for follow-up within 120 days of surgery. Using preoperative clinical and demographic characteristics, they created a risk-scoring system that predicted the likelihood of postrepair incontinence (including failed fistula closure) with a sensitivity of 82% and a specificity of 63%. A risk score of 20 or higher in their

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system was associated with a high risk of residual incontinence after fistula repair.

The risk factors they identify are not new: age older than 50 years (menopausal status) at the time of surgery, one or more prior attempts at fistula repair, fistula size, moderate-to-severe vaginal scarring, a compromised urethra (length 1.5 cm or less), or the presence of a circumferential fistula in which pressure necrosis has resulted in complete detachment of the urethra from the bladder.⁵ There has long been a need for a scoring system that usefully predicts surgical outcome in patients with obstetric fistulae (Ouedraogo I, Payne C, Nardos R, Adelman AJ, Wall LL. Obstetric fistula in Niger: six-month post-operative follow-up on 384 patients from the Danja Fistula Center. *Int Urogynecol J* [in press]). The present research study has produced a statistically derived, weighted scoring system that appears to correlate reliably with surgical outcome. This represents an advance in our understanding of the problem of incontinence after obstetric vesicovaginal fistula repair.

The most important clinical problem yet to be fully addressed is understanding why some women remain incontinent after otherwise successful fistula surgery. What are the reasons for this persisting “continence gap” if the fistula has actually been closed?⁶ Fistula-repair surgery has three possible outcomes: 1) failure to close the fistula (failed repair), 2) successful closure of the fistula with restored continence (closed and dry), and 3) successful closure of the fistula but with persistent incontinence (closed but wet). Bengtson et al do not attempt to address the causes of residual incontinence after surgery (urethral failure, detrusor overactivity, low bladder compliance due to scarring, markedly decreased capacity from loss of bladder tissue, or bladder stone formation). Although failure to close the fistula was rare in this series (only 3% of cases), the authors included these failures in the residual incontinence group (24% of patients overall). Urodynamic testing in patients who have successful closure of a fistula but experience persistent incontinence has shown that there are many reasons for persistent urinary leakage other than stress incontinence

(which was the assumption in the past).⁷ This is important because the etiology of the incontinence directs future treatment.

The authors suggest that one possible use of their system (if validated by further studies) would be in helping surgeons in peripheral units decide which patients should be referred elsewhere for more expert surgical care. There is abundant evidence (including this study) that the best opportunity for successful surgery in obstetric fistula cases is at the time of the first operation. Perhaps a better long-term strategy would be to refer all patients with obstetric fistulae to specialized centers where their unique needs could be handled by experienced surgical experts. In a setting where surgical care is optimized, a scoring system such as this could be a useful tool in helping explain to patients the nature of their injuries and in providing them with realistic expectations regarding the outcome of surgery. Better prognostic indicators (and an understanding of how they influence outcomes) are an important part of improving the care for these birth-injured women among the “bottom billion” of the world’s poor.

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