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Correspondence

Fracture of the Penis: Treatment and Complications

To the Editor: We read with great interest the paper by Hinev [1] who describes an experience with 25 cases of fractured penis. Most patients underwent early surgical repair with a delayed complication rate of 40%. Like the authors, we agree based on our own experience, that immediate repair should be undertaken, and that immediate action is associated with the lowest complication rate [2, 3]. The complication rate can further be reduced if a longitudinal incision is made directly over the fracture site [4]. We have used the "rolling sign" to identify the site of the hematoma confined below Buck's fascia [5]. The use of Doppler Ultrasound Scanning, when available, can further aid in locating the exact site. The use of subcoronal degloving incisions is in itself a traumatic distal approach to a lesion that is usually proximal and carries with it complications including wound infection, abscess formation, and subcoronal skin necrosis [3]. Furthermore, the use of an absorbable, ideally non-braided suture for closure of the tunica will avoid the lumpy sensation due to the knots of non-absorbable sutures [6]. The risk of developing a granuloma as has occurred in one patient [1] is also reduced. Access through the small, longitudinal skin incision, performed under local anesthesia, permits same-day patient discharge with a minimal complication rate [4].

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Reply from the Authors: The high overall delayed complication rate of 40%, found in our series of 25 consecutive cases of penile fracture, was due mainly to a delay of correct diagnosis and proper treatment (emergent surgery) by the physician (most often a non-urologist) who consulted the patient first. In those 17 patients who received immediate surgical repair, the delayed complication rate was much lower-17.6%. The late complications' observed in these 17 patients included: slight penile curvature that did not affect the patients' sexual activities and did not require further treatment in 2 cases (11.8%), and one "foreign body" granuloma (5.9%) that formed around the knots of the silk sutures placed on the tunica albuginea. We used such non-absorbable sutures only during our earliest initial experience with this condition. We evaluate these 3 complications as acceptable and not significantly different from those of other patient series cited in the current literature.

The overall complication rate in our series of patients should have been much lower if a prompt surgical exploration had been generally applied each time when penile rupture was suspected. Patients who have operative repair within 24 h of the injury might expect excellent functional results.

Both longitudinal and circumferential penile skin incisions offer an excellent approach to the entire penile shaft, including the corpora and corpus spongiosum, and are alternatively used in penile surgery, *e.g.* in Peyronie's disease and congenital penile curvature [1].

Distal circumferential subcoronal incision, followed by degloving of the skin down to the penile base, is favored

by most of the authors [2-5] because it allows both excellent visualization of the fracture site and adequate assessment of the contralateral corpus and corpus spongiosum. Such a careful inspection of all 3 corporeal bodies is obligatory in these cases. It may reveal additional tear sites in the corpora and urethra, because hematoma formation may mask some ruptures. When the penile fracture extends beneath the dorsal neurovascular bundles, this incision allows free elevation of the ipsilateral neurovascular bundle which facilitates repair of lacerations and avoids later complications. Such an approach also avoids making an incision into markedly edematous penile skin and allows an excellent cosmetic result with an almost invisible scar on the internal layer of the preputium. We have successfully applied this approach routinely for many years in penile surgery, without any complications that might compromise the results and might prolong the postoperative period.

We agree with D. Maharaj, V. Naraynsingh, and M. Ramdass, however, that the subcoronal degloving incision is more traumatic than an incision made directly over the fracture site, especially when the latter is situated at the penile base. In such cases, and in those cases with small, unilateral corporeal tears, an elective longitudinal penile incision directly over the fracture site, as advocated by them, may be the best surgical option [6].

Of course, any single case may require a surgical approach different from the above mentioned, depending on the site of lesion, the severity of injury, and the surgeon's personal experience. In this respect, other approaches, applied in selected cases, have also been recommended [7-8].

Unlike the surgical approach, which remains controversial, a general consensus exists in the current literature regarding the suture material used for repair of the tunica albuginea in cases of penile fracture. Now all authors uniformly agree that long-term absorbable suture material is ideal for such cases. Interrupted 4-0 slowly absorbable sutures should be used to repair the laceration in the tunica albuginea. In case of urethral injury, primary repair with interrupted 5/6-0 absorbable sutures is advocated.

The use of synthetic absorbables (Maxon, Dexon, Vicryl, *etc.*) reduces the risk of granuloma formation around the knots of the nonabsorbable (silk) sutures, as it occurred in 1 case from our initial series of patients [9]. Cicatricial nodules may occur, however, even if absorbable suture material has been previously used [10]. Therefore, we recommend that the knots be always buried under the tunica by inverted sutures, in order to avoid such fibrotic complications as well as "lumpy sensations" in the patient, due to knots palpated under the penile skin.

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