

Fracture of the penis

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An experience with six cases of fractured penis is described. A 'rolling sign' accurately identifies clot at the fracture site and facilitates a direct and rapid approach to the torn corpus cavernosum. Early operation hastens recovery and limits deformity.

Keywords: Penis, injuries

Fracture of the penis is a rare surgical emergency; less than 100 cases have been reported¹. Thus, most surgeons have a limited experience and controversy exists about whether operative or conservative management should be advised^{2,3}. Six cases of rupture of the corpus cavernosum of the penis treated operatively are described.

Case reports

Case 1

A 28-year-old negro man felt sudden pain when his penis twisted during sexual intercourse. There was immediate detumescence and swelling of the penis. He presented 3 h later when a visible swelling, 2 cm in size, could be seen near the base of the right corpus cavernosum (Figure 1). This was firmer than the diffuse swelling in the rest of the penis and the skin could be rolled over the lump which was fixed in position over the corpus cavernosum.

A 2.5 cm incision made directly over this revealed localized clot deep Buck's fascia, lying against the 2 cm rent in the right corpus cavernosum. The clot was evacuated and the corpus cavernosum repaired with interrupted 2/0 polyglycolic acid sutures. The swelling decreased rapidly over 2 days. Recovery was uneventful and when seen 8 months later erections were normal.

Case 2

A 26-year-old man suffered pain, swelling and sudden detumescence of the penis during intercourse. On presentation 6 h later, he had marked swelling of the whole penis and urinary retention. The skin could be rolled over a firm 1.5 cm swelling in the left corpus cavernosum. There was no obstruction to passage of a catheter. Surgery was advised, but refused. Over the next 4 days the swelling decreased rapidly but careful examination still revealed this focal swelling over the left corpus cavernosum. He was discharged after 6 days. When seen 2 months later erections were normal but at 14 months the penis was curved, yet sexual intercourse was not affected.

Case 3

A 31-year-old negro man was in the habit of pushing the erect penis downward until he 'felt it crack' with a snapping sensation. This he had done every morning for the previous 15 years without event. However, one morning it broke, became very swollen and he presented at hospital. On examination, the entire penis was swollen but a discrete 2.0 cm fixed swelling was palpable at the base of the right corpus cavernosum, over which the skin could be rolled freely. At operation an incision directly over this discrete swelling confirmed that the rolling sign identified firm clot at the fracture site. The clot was evacuated, the cavernosum repaired and the patient recovered uneventfully. When seen 14 months later erections were normal.

Case 4

A 28-year-old Indian male got an erection while driving his car. He felt a pen pain and the penis became flaccid. On examination there was, in addition to the swollen penis, a bony hard swelling over the distal 5 cm of the urethra. At operation, the ruptured corpus cavernosum was repaired with chromic catgut via an incision directly over the fracture site. On probing the urethra with an artery forceps a hard mass could be felt within the urethra 2 cm from the external meatus. This was extremely difficult to remove but after liberating the mass it was extracted and found to be the cover of a ballpoint pen with extensive deposition of



Figure 1 Focal palpable lump (arrow) representing clot at fracture site

calcium in and around it. Postoperative recovery was normal and the patient insisted that he had no dysuria and did not know anything about the foreign body.

Case 5

A 27-year-old negro man felt his penis crack while having sexual intercourse. There was rapid detumescence and swelling of the organ. On admission to hospital 5 h later the entire penis was swollen but careful examination revealed a firm tender lump 2 cm diameter over the left corpus cavernosum. The skin could be rolled freely over it.

The patient refused surgery, was discharged after 6 days and, when seen 16 months later, was having normal erections.

Case 6

A 19-year-old negro man felt sudden pain in the penis during intercourse and soon after noticed marked swelling with blood oozing from the urethral meatus. Injury to the corpus cavernosum as well as the urethra was suspected. Through a circumcoronal incision a 2 cm tear in the left corpus cavernosum was identified and repaired using a 3/0 daxon. A transverse tear in the urethra was also identified and repaired using 2/0 catgut. When the urethral catheter was removed after 5 days the patient passed urine satisfactorily and had normal erections. Over the following 5 months, he noticed progressive weakening of the urinary stream. Urethroscopy revealed a tight annular ring stricture at the site of the previous urethral rupture. This was explored, excised, repaired primarily, and 18 months later the patient has had no further problems.

Discussion

In fracture of the penis the tear in the tunica is unilateral, almost always transverse, involves less than half of the circumference of the corpus cavernosum, and occurs most frequently in the distal third of the penile shaft⁴. Since the tear is small, accurate identification of its site would permit rapid and simple repair of the tunica. Clot lying directly against the fracture site is palpable as a firm, immobile, discrete, tender swelling over which the penile skin can be rolled. This 'rolling sign' was identified in four

of our six cases and may also have been present in the other two though these were not seen by the authors pre-operatively. Incision over this swelling reveals that it consistently and accurately identifies clot at the fracture site, thus facilitating repair, being preferable to the circumferential incision which is more frequently recommended¹. When the fracture is repaired by this technique the penile swelling decreases rapidly and the skin healing is good with minimal scarring.

Excellent results in five of our six cases emphasizes the importance of early surgical exploration since one of the two cases managed conservatively experiences some curvature of the penis on erection. Non-operative treatment results in 10 per cent incidence of penile deformity⁵ while none who had surgical repair developed this complication.

Case reports

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Gas explosion during diathermy colotomy

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Fatal colonic explosions have been recorded during colonoscopic polypectomy, after poor mechanical bowel preparation or oral mannitol and during laparotomy using diathermy. We report here a further case of explosion using diathermy to perform a colotomy at operation.

Case report

A 69-year-old man was admitted in June 1984 with a malignant ulcer of the stomach. A double contrast barium enema also demonstrated a single colonic polyp in the middle of the transverse colon. It was decided to perform peroperative polypectomy, during gastrectomy for cancer of the stomach. As he had been suffering from constipation for several years, he had dioctyl sodium sulphosuccinate, 30 mg and danthron, 25 mg 3 times a day, for 5 days before operation. On the day before operation he had liquid diet and 'Magcorol' (containing magnesium citrate 34 g) for bowel preparation. After gastrectomy for cancer of the stomach the polyp in the colon was palpated and a colotomy was performed. The bowel contained no faecal matter. A knife was used to incise the serosa and then diathermy was applied; as soon as the mucosa was incised there was an explosion which was audible outside the operating theatre. The escaping gases had ignited but with no flame. There was no faecal soiling in the abdomen but two areas in the transverse colon showed full-thickness lacerations. The lacerations measured up to 3.2 cm in length (Figure 1) and there were no other visceral injuries. It was decided to resect the middle portion of the transverse colon. The patient's postoperative course was uneventful except that he developed an intra-abdominal abscess. He was discharged on the 25th postoperative day.

Discussion

Diathermy-induced explosion in the gastrointestinal tract is a frightening iatrogenic complication. Such an explosion is

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Figure 1 Two full-thickness lacerations which are in the longitudinal axis of the bowel (serosal aspect)

possible^{1,2} because of excessive concentrations of hydrogen or methane formed by colonic bacteria in the presence of oxygen. There are reports^{3,4} of gas explosions during electrosurgery through the rigid sigmoidoscope or flexible fibre-optic colonoscope as well as during bowel surgery using diathermy. Many factors affect the concentration of combustible gases in the colon during electrosurgery. Carbon dioxide has been recommended in the prevention of colonic explosions during rigid sigmoidoscopic electrosurgery. Ragins¹ reported that explosive mixtures were present in rectal gas samples of 42.8 per cent of patients with an unprepared bowel, but never in patients in whom the bowel was satisfactorily cleansed for colonoscopic polypectomy. It was concluded that carbon dioxide insufflation during polypectomy was unnecessary in a well-prepared bowel. In our case, the colon appeared completely clean and contained no faecal matter but was moderately dilated with gas. In view of our experience it is recommended that a knife, not a diathermy, should be used to incise the bowel even though it contains no faecal matter and seems completely clean.

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