

Mountain Bikers Priapism: A Rare phenomenon

Abstract:

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Abstract

Soft tissue and bony injuries are well described risks of the increasingly popular sport of mountain biking. Priapism, a persisting unwanted penile erection, as a result of perineal straddle injury due to a fall astride bicycle handlebar, is rare. We present a case of a competitive mountain biker with high flow priapism after such an injury who presented late but was successfully treated by non-invasive selective arterial embolization.

Case Report

A 22 year old male presented with a five week history of ongoing priapism after he had sustained a blow to perineum when he fell on to the crossbar of his mountain bike. Perineal pain, swelling and bruising had settled within days but he had ongoing priapism with rigid erection. Examination revealed no signs of injury but the penis was erect. Manual compression caused resolution of erection but the penis rapidly refilled with blood to full tumescence. Cavernous blood gas analysis was in keeping with arterial blood. Initial management involved pressure dressing for two weeks but release of pressure caused immediate recurrence of priapism, typical of high flow category.

Further management involved penile angiography (Figure 1) and selective arterial embolization (Figure 2), performed by interventional radiologist. Via the right common femoral artery, pelvic arteriography using a 5 French Omni flush catheter was followed by super selective catheterisation of the cavernosal artery using a 2.7 French micro catheter (Terumo). A fistulous communication between cavernosal artery and right corpus cavernosum was embolized using gel foam and four 0.018 platinum coils (3 mm x 7 mm). Priapism resolved immediately with uneventful recovery. At one month there was no recurrence of priapism and patient reported satisfactory erection and intercourse.

Discussion

Priapism, a prolonged unwanted erection for more than four hours in the absence of sexual stimulation, is classified as low flow or high flow. The commonest low flow variety is due to veno-occlusion, there is painful rigid erection with severely restricted cavernosal blood flow. This warrants emergency intervention with penile drainage to prevent permanent damage. In high flow priapism, usually caused by trauma and considerably less common, there is unregulated arterial blood flow commonly due to traumatic fistula into the corpus cavernosum. As this is a painless erection, patients usually present late. In Kuefer's report on high flow priapism (202 cases), 70.5% had suffered blunt trauma or iatrogenic laceration of penile vasculature (perineal trauma 40.4%, straddle injury 24.4%, penile trauma 3.8%, complication of cavernosography 0.6% and penile re-vascularisation surgery 1.3%). The general injury rate amongst mountain bikers is 1.54 injuries per 1,000 biker exposures. Soft tissue injuries and fractures are commonest, only 2 reports of priapism following cross bar straddle injury were found in medical literature.

Options for managing high flow priapism include watchful waiting, pharmacological, mechanical compression, selective embolization and surgical intervention. While 60% of cases resolve with watchful waiting, there is an incidence of long-term erectile dysfunction. Intra cavernosal injection pharmacotherapy generally fails because of the rapid washout of medication from the penis. Super selective embolization of the feeding artery occludes arterial inflow to the fistula to enable spontaneous healing. Non absorbable metallic micro-coils pose a risk of subsequent erectile dysfunction, therefore absorbable materials including Oxycel or Gelfoam are preferable with reported success rates 74 to 78%. Surgical intervention, the final option, carries 50% risk of future erectile dysfunction. We therefore recommend selective arterial embolization as optimal treatment for high flow priapism. It is minimally invasive and successful even in cases presenting late.

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