

HIGH FLOW PRIAPISM (SEMIERECTION) AFTER PERINEAL TRAUMA

(Received 17 July, 1996)

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ABSTRACT

High flow priapism is a quite rare condition. It is usually painless and occurs after a trauma. Nevertheless duplex ultrasound and selective arteriography remain to give us the final diagnosis. Here we present a young man with high flow priapism after perineal trauma.

Key Words: Priapism, High-flow, Trauma.

INTRODUCTION

Priapism is defined as a persistent erection in the absence of sexual desire or stimulation. Two subtypes of this pathology have been described (1). The more common and well-known type of priapism is to be secondary to an ischemic veno-occlusive mechanism (2). This type of priapism is usually seen with pain and characterized by low arterial inflow and inadequate venous outflow.

Recently, high flow priapism has also been described, which has arterial etiology. High-flow priapism results usually after perineal trauma, which can cause injury to a cavernous artery (3). In the new spectrum of this pathology an increased and unregulated arterial inflow, due to the injury to a cavernous artery elevates the pressure within the corpus cavernosum, and this causes penile erection (4,5). Because this is not an ischemic condition, patients have less pain and usually seek medical help later than veno-occlusive priapism. Here we describe a case of high flow priapism.

CASE REPORT

A 22-year-old university student had perineal trauma one year ago. He fell down on a wooden bar. Immediately after the trauma he had a pain of a short duration and erosion on the skin. The pain resolved

without any medication within hours, and he could void without any difficulty. The next morning he realized that his penis did not get flaccid completely and his genitalia remained in partial tumescence. Thereafter he could have almost normal erections in the mornings, but his penis sustained in partial tumescence.

He was admitted to our hospital one year after the trauma. During this time he could achieve semierrections with fantasy and masturbation, and his penis was able to penetrate vagina during intercourse, but these erections were not as rigid as the erections before the trauma. His main complaint was, that his penis did not get flaccid completely after the sexual stimulus.

In his physical examination there was no abnormality except his penis. His penis was in partial tumescence (40% erection), and it became flaccid when squeezed in the hand, but it "refilled" back in seconds, if released. A murmur could be heard in auscultation on perineum.

His blood chemistry was normal and there was no abnormality in his hematological examination. On duplex ultrasound (US), "pre-injection" velocity of cavernous arteries was 38 cm/min., and 40 cm/min. in his right and left cavernous arteries respectively. After 30 mgr. papaverine injection 60% erection was achieved, and maximal systolic velocity was 106 cm/min. in his right cavernous artery and 105 cm/min. in his left cavernous artery. In his right corpus cavernosum a lesion with 28x19 mm size and turbulences in it was identified. (Fig.1) On nocturnal penile tumescence (NPT) with Rigiscan (Dacomed / Minesota) at the base of his penis he had 80 percent rigidity but on distal penile shaft the rigidity was not sufficient. (6) (Fig.2) On dynamic infusion pharmacocavernosometry/graphy the pressure in the corpus cavernosum was 35 mm Hg before the papaverine injection. After administration of 30 mgr. papaverine, pressure raised slightly to 45 mm Hg and only tumescence was seen but not full erection. Full

erection was not achieved with 120 ml/min. flow and the pressure in the corpus cavernosum did not raise higher than 60 mm Hg. (Fig.3) Selective pudendal arteriography demonstrated the presence of a cavernoso-sinusoidal fistula at the right cavernous artery.(Fig.4)

He refused any treatment because of the possibility of impotence and he is still under follow - up for more than 2 years, and there is no change in his condition.

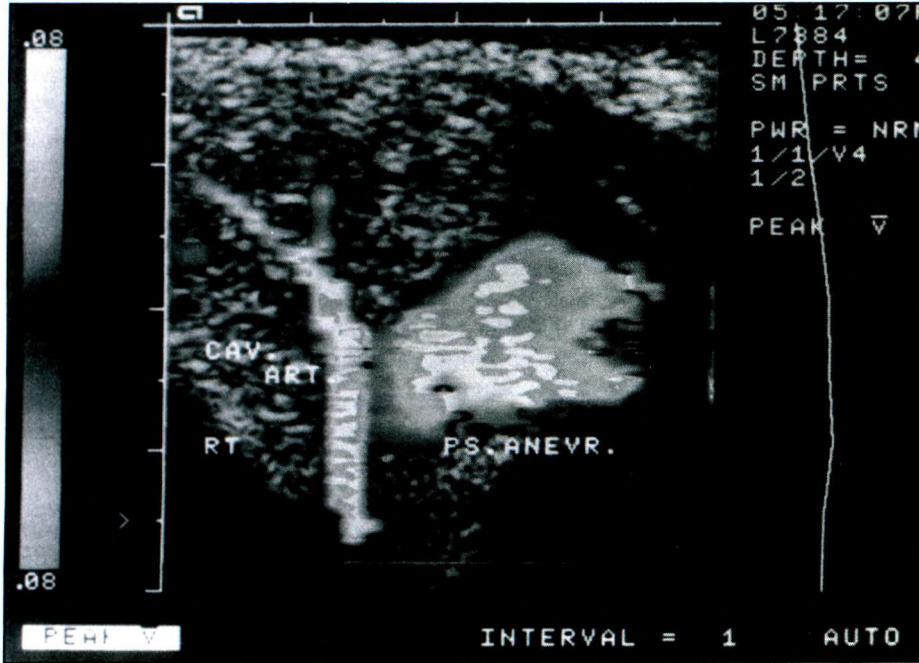


Fig. 1:
Duplex ultrasound demonstrating lesion in the right corpus cavernosum

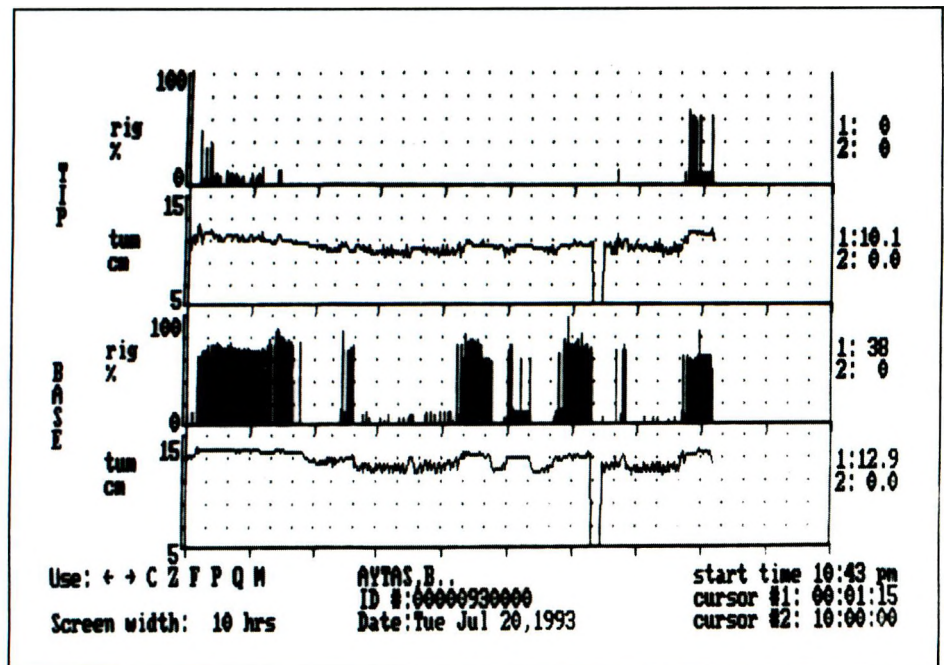


Fig. 2:
Nocturnal penile tumescence of the patient with insufficient rigidity on the distal penile shaft

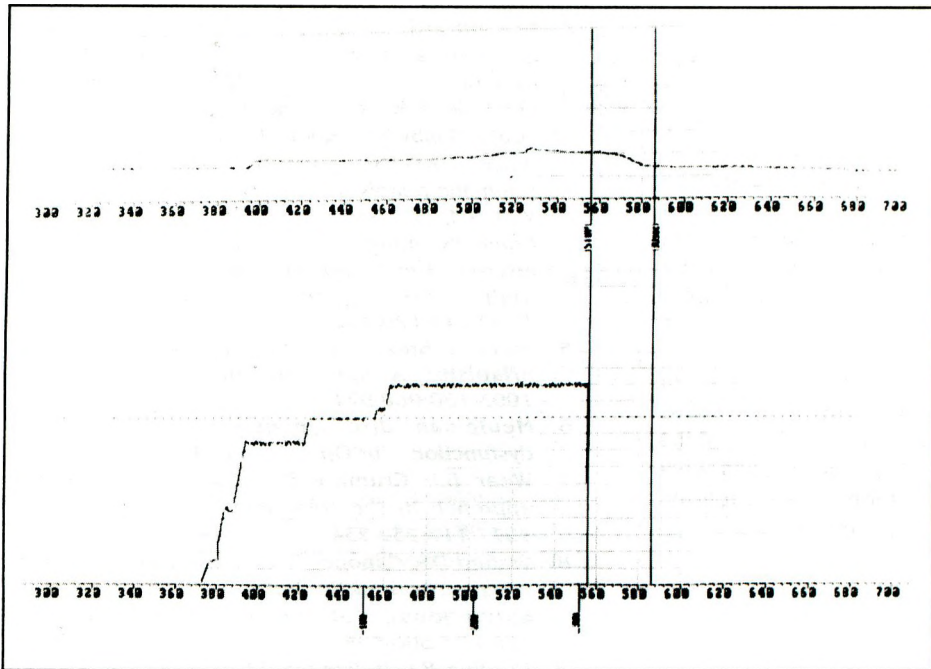


Fig. 3:
Pharmacocavernosometry shows no elevation of the pressure within the corpus cavernosum with induction flow of 120 ml/min.

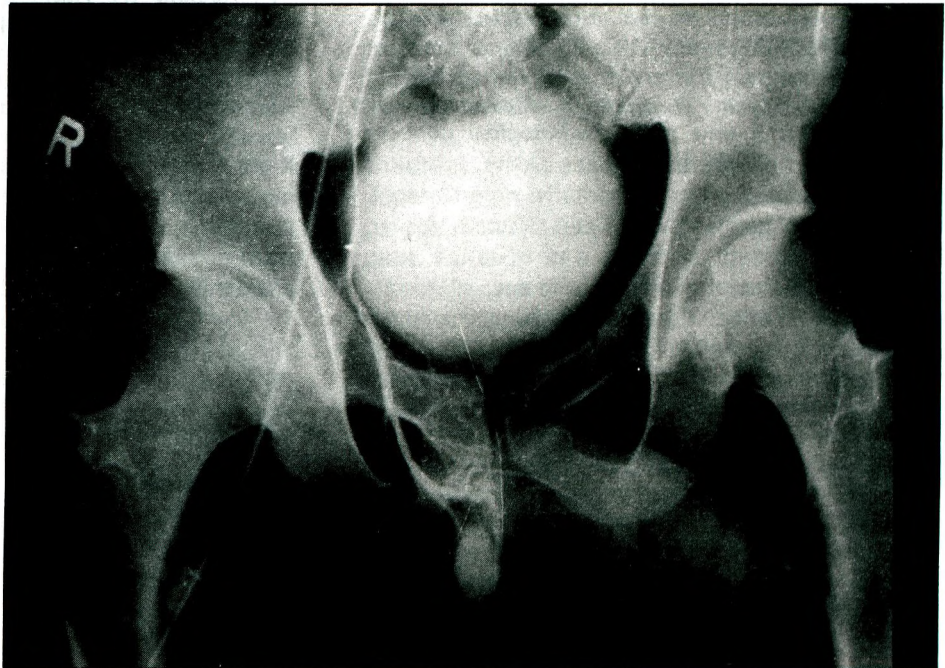


Fig. 4:
Selective pudendal arteriography shows cavernosocavernosin fistula

DISCUSSION

High flow priapism, a rare event when compared veno-occlusive priapism, is a new perspective of an old pathology. High flow priapism often occurs after a trauma to the penis or perineal area (3,7-9); but in a case it happened during self-injection after an abrupt and inadvertent movement of the needle, while the

needle was still in the corpus cavernosum (4). Most probably the pathophysiology of this condition is unregulated arterial inflow. It enters directly to the lacunar spaces of corpus cavernosum and distends these spaces. In the absence of normal control, compression of the subtunical venules against the tunica albuginea does not occur, and this induces unlimited venous outflow with an arterial high inflow

(4). We also documented this in our case, high flow priapism occurred also after a perineal trauma and the patient had a high flow priapism with high out flow. On duplex ultrasound "pre-injection" velocity was 40 cm/min. on right cavernous artery, and 38 cm/min. on left cavernous artery; on cavernosometry it was not possible to achieve rigid erection with a flow of 120 ml/min. It is also possible to document arterial high flow in corpus cavernosum by determination of PO₂ level in blood drawn from corpus cavernosum.

Angiography is probably the most useful method for diagnosis of vascular pathologies, and in these cases with high-flow priapism, it also allows resolution of the problem by embolization (7,8,10). Some cases were also treated by means of ligation of the ruptured branch of the cavernous artery in an open procedure(5,9).

As a conclusion we want to call attention to arterial high flow priapism. When a painless erection occurs after a trauma, high-flow priapism should be suspected, and its treatment is different from veno-occlusive priapism.

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