similar to patient 4 in the present series. The possibility of a cavernous artery injury was the main concern in the present series. When injury is unilateral, this may not impair sexual function, particularly in the sexually active patient. CDUS demonstrated no interruption along the cavernous arterial course in any of the patients.

Subjects who have a positive erectile response to pharmacological stimulation with normal blood flow parameters on a CDUS, are thought to have a normal vascular system for achieving adequate erection.[15] A dynamic peak systolic velocity greater than 30 cm/s implies good arterial inflow into the penis.[15] An end diastolic velocity greater than the 7 cm/s threshold level is generally considered to be indicative of venous leakage.[16] Taking these parameters into account, a single patient was found to have a venous leakage. However, despite sexual intercourse being unaffected, the penile rigidity was described by the patient as 'slightly decreased' following the operation. No vascular abnormality could be detected by CDUS in a further patient who claimed complete erectal failure despite early surgical repair. Although psychogenic factors may play a significant role in this category, the exact mechanism underlying the latter condition is not fully understood.

An argument in favour of immediate surgical management of penile fracture is the relative high incidence of acquired Peyronie's disease reported with conservative treatment.[1] CDUS ruled out any early fibrotic or inflammatory reaction surrounding the monofilament suture material.

In conclusion, we found no evidence of arteriogenic impotence in four patients with major penile fracture and thus would advocate early simple repair without any microsurgical exploration of the cavernosal arteries.

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Editorial Comment

The one essential issue missing in this article is what is the time delay between occurrence of penile-fracture and consultation in the urological emergency room. This is one of the most crucial points concerning the indication for surgical or conservative management.

I agree with the authors that in acute penile fractures, fractures not older than 12–24 h, surgical repair promises the most favourable outcome and the patients will be more likely to preserve potency than after conservative management. This is confirmed in the present four case reports.

Unfortunately many patients seek help after a time delay of one to several days and, in these cases, a so-called immediate surgical repair will not necessarily be reasonable nor advisable. In these

delayed penile fractures according to my experience, cavernosography will be helpful to decide between surgical and conservative treatment. In those cases where the cavernosography reveals an extravasation of the contrast medium indicating that the tear of the tunica albuginea is not yet healed, a surgical repair should be performed, and in the others a conservative management will be sufficient provided that the penile hematoma is not very extensive. Although scarring with manifestation of Peyronie's disease and penile curvature may occur in some of those conservatively managed cases resulting in a delayed corporoplasty, in more than half of these delayed and, therefore, conservatively treated patients no further surgical procedures will be needed. Finally, I am not surprised that the color Doppler evaluation of the patients were normal, as I have never seen in the more than 80 penile fractures cases I have treated that the duplex- or color Doppler evaluation in the follow-up of these patients showed any impairment of the deep penile arteries. In contrast to the preservation of cavernous arteries' integrity, a considerable number of patients with a history of penile fracture will develop a venoocclusive dysfunction.

HC Porst

Reply

Professor Porst personal experience of a considerable occurrence of veno-occlusive disfunction following penile fracture repair is in agreement with our findings. However, it must be emphasized that the majority of reports in the literature are markedly in contrast with these conclusions.

All the four patients mentioned in our paper presented to casualty within a couple of hours from the trauma as the sudden loss of erection, the cracking sound as well as the rapid onset of haematoma prompted them to seek immediate aid. We agree with Porst that cavernosogram must be taken into consideration when a considerable time between the trauma and the medical review has elapsed.

P Gontero