Erectile dysfunction caused by an idiopathic fistula shunting cavernosal blood away from the penis

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History
A male patient aged 37 presented with rapid onset of erectile dysfunction over the past 12 months. The patient had history of mixed connective tissue disease and Raynaud’s phenomenon. His symptoms were only restricted to the fingers in the form of pain, blanching and ulceration, however were under control. His was on hydroxychloroquine.

The patient had been previously treated with PDE5I’s and Caverject up to 40mcg and failed to respond.

The patient was referred to our unit for penile implant surgery.

Examination
General examination showed normal secondary sexual characters and genital examination was normal.

Investigations
Haematological investigations including FBS, Lipid profile, Testosterone and Prolactin were normal.

A Rigiscan test showed poor quality of nocturnal erections with reduced rigidity.

A penile duplex study with 20ug Caverject showed an erection with 50% rigidity. There was good arterial inflow with Peak systolic velocities (PSV) of 68, 72cm/sec on the right and left cavernosal arteries respectively. However there was significant forward diastolic flow of 19, 24cm/sec respectively.

Scanning at mid penile shaft level showed a communication between both cavernosal arteries and an abnormal blood vessel sitting in the midline between the
corpus spongiosum and the corpora cavernosa. This vessel had a continuous forward flow of 38 cm/sec.

When compression was applied to the vessel, the patient achieved a rigid erection with high PSV’s and reverse flow during diastole denoting a competent veno-occlusive mechanism.

**Treatment**

The case was discussed in the MDT meeting and it was decided that it would not be possible to radiologically embolise the fistula and that surgical ligation is needed.

The surgical procedure involved penile degloving and mobilization of the urethra off the corpora at mid shaft level. The vessel was identified, divided and ligated.

The patient was seen 2 weeks postoperatively and reported achieving good morning erections. The patient resumed normal sexual activity without the help of PDE5I’s after 6 weeks postoperatively. He was seen after 6 months for follow up and was still achieving good erections without the help of PDE5I’s and able to penetrate his partner.

A penile duplex was done and it showed a good response to caverject with normal peak systolic velocities and flow reversal during diastole.

**Discussion**

This patient was referred for penile implant surgery as he had failed all conservative lines of therapy, yet when he was fully investigated in a specialist unit, a correctable cause for erectile dysfunction was identified.

The fistula caused shunting of cavernosal blood away from the distal penis causing weak erection. The patient reported that previously he had normal erections with rapid deterioration over the past 12 months; however, there was no history of any penile trauma or surgery to cause this fistula.

There is a close association between connective tissue disease and erectile dysfunction, however the erectile dysfunction is arteriogenic due to arteriosclerosis.
Penile duplex in such cases shows reduced PSV’s, which is not the case for this patient. 

Although the cause of the fistula was not identified yet surgical treatment achieved complete cure.

References


