

PEYRONIE'S DISEASE AND ERECTILE DYSFUNCTION- A CASE REPORT

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ABSTRACT

BACKGROUND

Peyronie's Disease (PD) is an acquired connective tissue disorder of the tunica albuginea of the corpus cavernosum characterised by excessive fibrosis and plaque formation. PD can result in significant physical and psychological morbidity as it may prevent intercourse and cause adverse impacts on partner relationships. The exact aetiology and pathophysiology remain unclear and many misconceptions about the disease associations, course and treatment exist.

KEYWORDS

Erectile Dysfunction, Peyronie's Disease, Corpus Cavernosum, Tunica Albuginea.

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BACKGROUND

Peyronie's Disease (PD) is characterised by deposition of fibrous plaque in the tunica albuginea of corpus cavernosum, which can be accompanied by pain on penile erection, penile deformity or penile lump, difficulty in penetrative sexual intercourse and erectile dysfunction (ED).^{1,2}

Erectile dysfunction that in most patients precedes the disease itself and posttraumatic painful erection are important features of the disease.

CASE REPORT

A 22-year-old man presented with complaint of painful erection, shortening and curvature of penile shaft from a week's duration.

There was history of trauma two months back to the penile shaft and no previous history of penile or perineal surgery. He had no urethral instrumentation or catheterisation in the past and his urinary stream was normal.

Imaging USG-

- USG was done using 7.5MHz linear array transducer for both gray scale and Doppler imaging.
- On USG examination, there was a focal thickening of tunica albuginea involving dorsal aspect of penis just proximal to glans penis.

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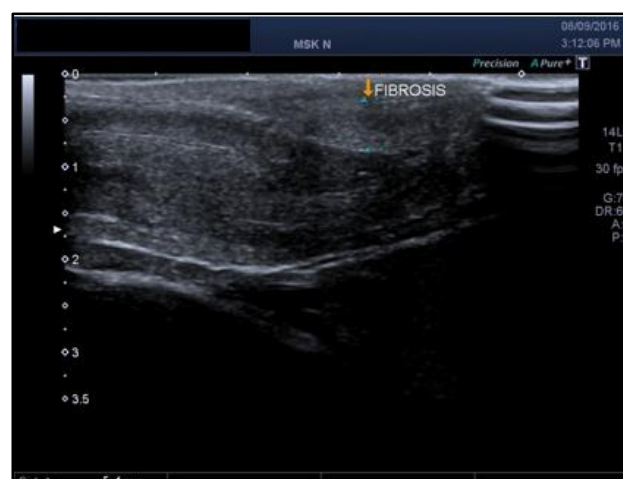
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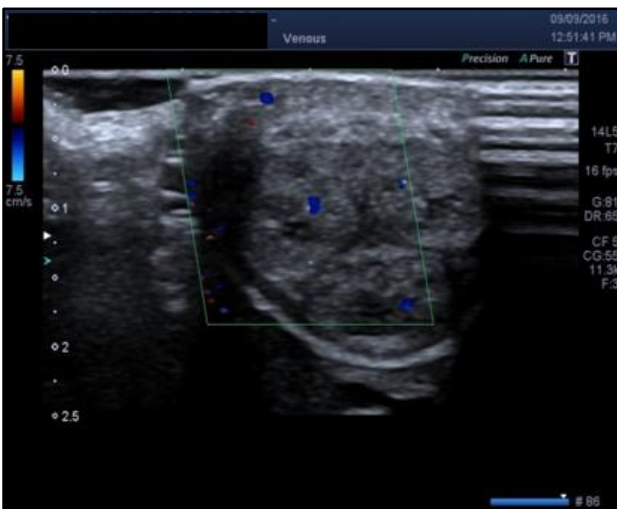
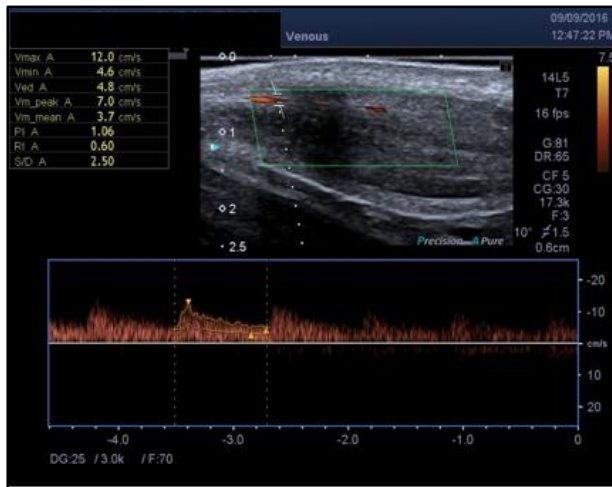
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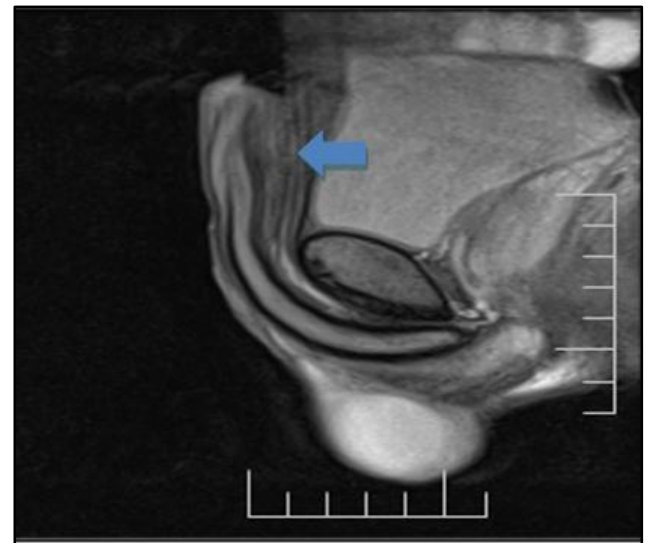
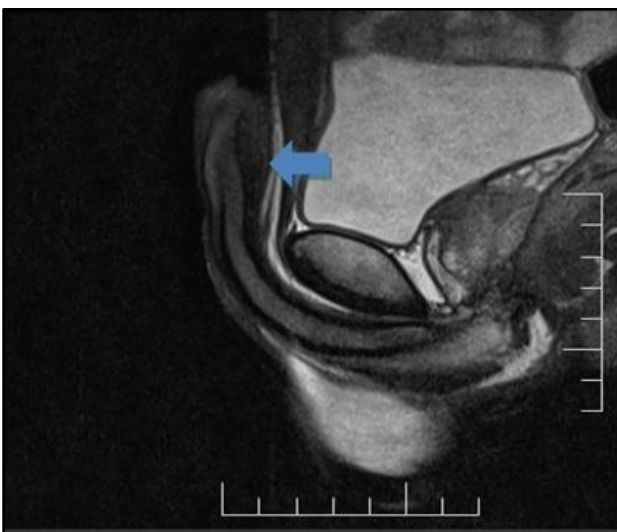
- On Doppler examination, the fibrotic scar tissue appears to be encasing the superficial dorsal vein and artery.



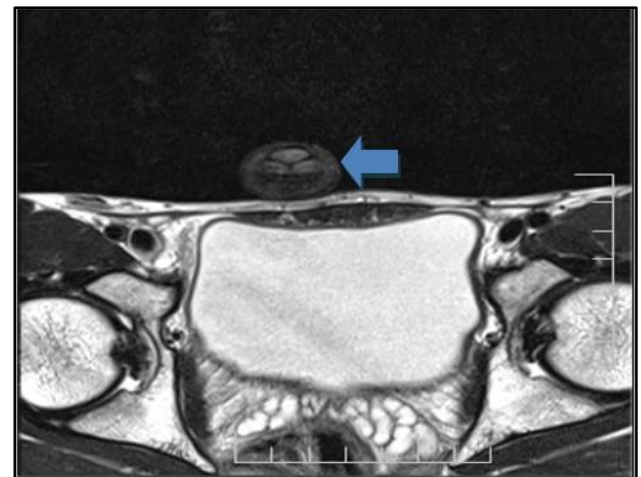
MRI

MRI - T1WI, T2WI and STIR sagittal, axial and coronal planes were obtained. On MR imaging, there was a thickened irregular low signal intensity areas noted in the tunica albuginea.

MRI - STIR and T2WI in sagittal section showed thickened albuginea of penis in its dorsal aspect.



MRI axial T2WI showed thickened albuginea of penis in its dorsal aspect.



- Investigation of choice-MRI is the technique of choice for planning therapy and for evaluating the response to conservative therapy.

DISCUSSION

- Francois de la Peyronie described Peyronie's disease also known as plastic induration of the penis and penile fibromatosis in 1743. Erectile dysfunction that in most patients precedes the disease itself and posttraumatic painful erection are important features of the disease.³
- This pathologic condition is characterised by formation of fibrous tissue plaques within the tunica albuginea causing deformity and shortening of the penis.
- The incidence of Peyronie's disease is 0.3%-1.3%.
- Diagnosis of PD is essentially clinical. However, further investigation may be required to demonstrate the fibrous plaque at the tunica albuginea and assess.
- Penile vasculature using Doppler ultrasound, especially when there is associated ED.^{4,5} Penile ultrasound demonstrates the plaque as focal

thickening of tunica albuginea -A hyperechoic region, which cast an acoustic shadow when calcified.⁴

- Magnetic resonance imaging gives a better penile image resolution, especially with plaque at the penile base; however, its major drawback is the poor demonstration of calcified plaque compared to ultrasonography.⁴

Treatment

The disease has two distinct stages. The acute stage is characterised by pain and disease may progress during this stage. Nonsurgical managements at this stage aim to alleviate pain and stabilise the disease. Results for nonsurgical treatment are often conflicting. The chronic stage occurs in 6 to 12 months later where pain disappears and the deformity stabilises. Surgical treatment is reserved for significant deformity or with inability to penetrative intercourse. The choice of the surgical technique depends on the length of the penis, degree of deformity, erectile function, patients' expectations and surgeon's preference.^{3,6}

Medical Therapy Options for Peyronie's Disease

- Systemic - Vitamin E, Potaba, colchicine, tamoxifen and acetyl-L-carnitine.
- Intralesional - Verapamil, collagenase and interferons.
- Extracorporeal shockwave therapy.

Surgical Therapy - Surgical treatment is usually indicated at the chronic phase in patients with severe PD preventing intromission, failed medical therapy and for cosmetic reasons.⁷ Such surgical procedures include plaque excision with plication (Nesbit), plaque excision with grafting and penile prosthesis implantation.

The goal of surgical therapy is simply to make the two sides of the penis equal in size. Either lengthening the shorter side or shortening the longer side can accomplish this.

Plication techniques -Tunical shortening procedures are performed on the convex aspect of the penis opposite the location of greatest deformity.

Graft-based techniques - Plication techniques are limited in their ability to straighten a severely bent penis secondary to the subsequent shortening they cause.

CONCLUSION

With advancements in the management of ED, more patients are likely to present to physicians for the treatment. A high index of suspicion on the possible coexistence of PD in patients with ED will help in the diagnosis and improve the outcome of treatment. Nonsurgical treatments are indicated for the acute phase to alleviate pain and stabilise the curvature and deformity among which intralesional injection of Collagenase clostridium seem the most effective. Surgical treatment is considered for stabilised disease for patients with severe deformities.^{3,6}

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