Peyronies Disease: Report of a Successful Non Surgical Treatment

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ABSTRACT

Peyronie's disease is rare localized connective tissue disorder of tunica albuginea characterized by progressive fibrosis, formation of sclerotic plaques, calcification and abnormal curvature of the erect penis. We report a case symptomatic Peyronies in a 40 year old man, who was successfully managed with Vitamin E therapy. Management of Peyronie’s disease should be individualised. Trial of medical therapy should be encouraged before considering surgical intervention.

Keywords: Peyronies disease, Vitamin E.

INTRODUCTION

Peyronie's disease is a localized connective tissue disorder affecting the tunica albuginea of the corpora cavernosa of the penis. It is characterized by a focal or multiple inflammatory reaction with progressive fibrosis, formation of sclerotic plaques, calcification and abnormal curvature of the erect penis.¹-³ It is not life-threatening but its symptoms including curvature of the penis, painful erection and the resultant functional alteration cause significant mental distress of unfulfilled sexuality.³

Although, the diagnosis is usually clinical in advanced case, various imaging methods including autophotography, plain radiograph, CT, MRI and sonography have been used to provide objective basis for planning therapy. Sonography has been the most useful, as it can localize the extent of the sclerotic plaque with greater accuracy. However, it cannot be used to distinguish reliably between active inflammatory and quiescent stages of the disease.¹,⁴ Doppler ultrasound can provide further information about the vasculature.²

The prevalence of Peyronie's disease in the developed countries among normal population is about 3.2 %.³ The condition is very rare in Nigeria probably due to patient’s reluctance for treatment. However, literature are available from other developing countries.²,⁴,⁵ This is a case report of 40 year old man diagnosed on gray scale ultrasound scan.
CASE REPORT

AA was a 40-year-old, married young man, father of 6 referred to the Urologists with a history of painful erection, inability to perform sexual intercourse and deformed erect penis for the last 3 months. No history of active or traumatic sexual intercourse prior to the presentation. The patient was not a known diabetic and does not smoke cigarettes. General physical examination was normal. However genital examination revealed a well circumscribed induration on the dorsal aspect of the penis which was marked with pen as shown in figure 1. There was also slight curvature of the flaccid penis to the left side, other parts of the genitalia and review of other systems were normal.

High resolution ultrasonography study of the penis revealed 1 cm long, thick linear echogenic focus with posterior acoustic shadow in the tunica albuginea over the left corpus cavernosum on the dorsal aspect as shown in figure 2. Erectile Doppler ultrasound was not successful due to inability of the patient to achieved erection in examination room. Eelectrolytes urea and creatinine including full blood count were normal. A clinical diagnosis of Peyronie’s disease was made.

Patient then was placed on oral vitamin E 200 mg twice a day for one month and he shows remarkable clinical and sonographic improvement six months after presentation as shown in figure 3.

**Figure 1:** Area of induration marked in the patient’s genitalia.

**Figure 2** Penile ultrasound scan of the patient showing an echogenic area with posterior shadowing along left corpus cavernosum suggestive of calcified sclerotic plaques.

**Figure 3:** Repeat penile ultrasound scan after 6 months of commencement of the therapy showing a marked reduction in thickness of the echogenic area along left corpus cavernosum.

**DISCUSSION**

Peyronie’s disease was first described in 1743 by the French physician François de La Peyronie, but the aetiology has still remained obscure. The most
widely accepted hypothesis is that it is initiated by trauma to the erect penis, with consecutive aberrant wound healing and scar formation.\textsuperscript{1-3} Other possible aetiological conditions include hormonal dysfunction, metabolic disorders (diabetes, gout), autoimmune states, cigarette smoking and a general fibroplastic disposition.\textsuperscript{4,5} The prevalence of Peyronie's disease increases with age and the highest incidence occur between ages of 40 and 60 years.\textsuperscript{3} Interestingly the incidence among impotent patients is about 20 %.\textsuperscript{2,3} Our patient is within the high risk age, but no history of impotency was noted. Clinically, patients with Peyronie’s disease usually present with painful erection, abnormal penile curvature, erectile failure and hard well-demarcated plaques in the region of the tunica albuginea enclosing the corpora cavernosa.\textsuperscript{3} Histological studies suggest that Peyronie’s disease usually begins as a vasculitis in the connective tissue sleeve between the corpus cavernosum and the tunica albuginea. This manifests with perivascular lymphoplasmatic cellular infiltration, perivascular edema, fibrinous exudates, fibrosis, sclerosis, hyalinization and, occasionally, calcified connective tissue plaques adjacent to the tunica albuginea and encroaching on the corpus cavernosum. The change can persist or disappear gradually.\textsuperscript{1-4} Peyronie's disease may be investigated by various radiologic procedures such as plain radiography, xeroradiography, cavernosography, computed tomography and magnetic resonance imaging. These are either insensitive or may demonstrate only calcified areas, or are very invasive, expensive or time-consuming procedures. However, ultrasound scans is highly sensitive (39 – 100%), not invasive and it can localise and show the extent of sclerotic plaques (disease) with great accuracy, making it the investigation of choice.\textsuperscript{2} But it cannot be used to distinguish reliably between active inflammatory and quiescent stages of the disease.\textsuperscript{1,2} The sonographic findings include; a hyperechoic area with posterior acoustic shadow in the cavernous bodies in 86% of patients, while in 7 % no sonographic abnormality despite having palpable plaque.\textsuperscript{1,2} Hypoechoic area surrounding the central echogenic area signified active disease.\textsuperscript{1} Doppler colour flow mapping after injection of antispasmodic drugs (papavarine) in erect penis usually reveals involvement of the deep dorsal vein within the plaque in 40% percent of patients.\textsuperscript{2} The cavernous artery inflow was considered insufficient when peak flow velocities and blood flow volume values of less than 25cm/sec and 10 ml/min respectively, while end diastolic velocities of greater than 10cm/sec and resistance index of less than 0.75 are suggestive of Corporal Veno-occlusive dysfunction.\textsuperscript{6,7} The colour Doppler imaging usually contributes remarkably to the understanding of vascular dysfunction and it has been suggested that this information is crucial for decision making concerning appropriate treatment.\textsuperscript{7} Treatment of Peyronie's disease is variable ranging from conservative by assuring the patient alone (particularly in asymptomatic cases), medications such as Oral vitamin 200-300mg/day, Colchicine, or potassium aminobenzoate. Intralesional injections of steroids or Calcium channel blockers like verapamil can yield good response in some cases.\textsuperscript{8} The index patient responded remarkably with vitamin E. This drug is virtually free of side effects with very good patients’ tolerance. The mechanism of action of vitamin E is its ability to scavange free radicals like Reactive Oxygen Species (ROS). ROS is the main factor known that leads to the pathologic hallmarks of Peyronie’s disease (ie, increased collagen deposition, disorganization of the newly deposited collagen)\textsuperscript{8}. Surgical treatment options should be reserved for cases of failed medical therapy. These options include plication techniques on the Turnica albuginea at the convex side opposite to deformed site with plaque, excision of the plaque and
grafting (with autologous or cadaveric turnica albuginea, Temporalis fascia, etc.) or a combination of the techniques. Surgical complications include increased risk of erectile dysfunction and haematoma formation, hence surgery should be tried in selected cases.

Recent advances in the management of peyronie’s disease include the role of serum Interlukin 6 and serum Pentraxin 3 as early markers in diagnosis of Peyronie’s disease when high in concentration\(^9\). Also role of stem cell therapy as updated the treatment of peyronie’s disease\(^10\).

In conclusion, peyronies disease affecting the turnica albuginea, may be symptomatic and can affect function of the penis. Each case should be individualised, and treatment options should start from the simple to the complex option. Our patient responded remarkably to Vitamin E as a simple treatment option.

REFERENCES