



# An Unusual Case of Circumferential Peyronie's Disease

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## Abstract

Peyronie's disease is a rare connective tissue disorder. We report the case of a 60 year old male, who came to us with circumferential peyronie's disease plaque involving both the corpora cavernosum. He had a recurrence of Peyronie's disease which had initially presented as a single small plaque on the dorsal aspect of the penis which was surgically excised three years back. He had excruciating pain at rest and erection not relieved by medicines. He underwent surgery for removal of the entire plaque with dermal grafting which relieved his symptoms totally.

## Introduction

To our knowledge, only 2 case reports in the literature documents a Peyronie plaque involving the entire tunica albuginea of the penis. This report documents the case of a living patient with a Peyronie plaque involving the entire tunica albuginea of the penis. So, we describe this particular case for this rare presentation.

## Case Presentation

A 60-years-old male presented to us with the complaints of a hard plaque on the penis, which was gradually increasing in size and extent since past 3 years. He gives a history of a single small plaque on the dorsal aspect of the penis at the level of coronal sulcus which was excised along with circumcision 3 years back. It was confirmed to be Peyronie's disease on pathology. Now he was having a recurrence of the disease which was extending to involve both the corpora cavernosa. The patient was having pain at rest and the pain was worse on erection, not relieved by medications. Also the patient had dorsal curvature of the penis on erection. On examination, there was a thick circumferential plaque at the level of the coronal sulcus extending distally for 2 cm onto the glans dorsally and 4 cm onto the shaft of the penis dorsally with maximum width of 4 cm (Figure 1).

Sonography of the penis showed the presence of a hypoechogenic plaque with calcifications measuring 5 cm × 4 cm × 2 cm present circumferentially at the level of the coronal sulcus and extending onto the dorsal aspect of the glans and the shaft of the penis proximally (Figure 2). Doppler penis showed good peak systolic and end- diastolic flow velocity without any vascularity in the plaque. MRI of the penis showed circumferential hypodense plaque on extending upto the level of tunica albuginea (Figure 3).

The patient underwent surgery where a complete circumcising incision was taken and the entire plaque was shaved from the tunica albuginea (Figure 4, and 5). The defect was covered with a dermal graft harvested from the thigh of the patient. The patient recovered postoperatively without any complications with total alleviation of the pain.

## Discussion

Peyronie's disease (indurato penis plastica) is characterized by the formation of fibrous plaques within the tunica albuginea [1]. Fibrin deposition associated with microvascular injury may be the initial step in the formation of these plaques [2].

Almost all patients have either a well-defined plaque or an area of induration that is palpable on physical examination which 38% to 62% of the patients are unaware of. The plaque is usually located on the dorsal surface of the penis with a corresponding dorsal penile deformity. Lateral and ventral sited plaques are not as common but result in more coital difficulty, as there is a greater deviation from the natural coital angle. Our patient had a circumferential plaque involving the entire tunica albuginea of both the corpora cavernosa. Earlier only two such cases of circumferential Peyronie's disease have been reported in literature. Narita and coworkers described the autopsy finding of extensive tunica albuginea involvement by a Peyronie plaque in a man who had died of metastatic malignant thymoma [3]. Pourbagher and co-workers described the case of a living patient with a

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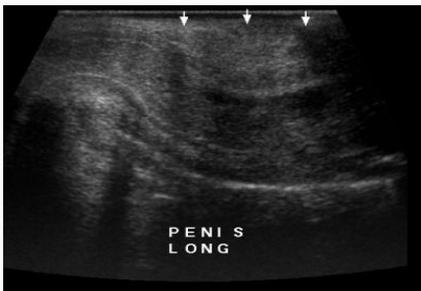
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**Figure 1:** On examination, there was a thick circumferential plaque at the level of the coronal sulcus extending distally for 2 cm onto the glans dorsally and 4 cm onto the shaft of the penis dorsally with maximum width of 4 cm.



**Figure 2:** Sonography of the penis showed the presence of a hypoechoic plaque with calcifications measuring 5 cm × 4 cm × 2 cm present circumferentially at the level of the coronal sulcus and extending onto the dorsal aspect of the glans and the shaft of the penis proximally.



**Figure 3:** MRI of the penis showed circumferential hypodense plaque on extending up to the level of tunica albuginea.

Peyronie plaque involving the entire tunica albuginea of the penis, who presented with erectile dysfunction [4].

Peyronie's disease typically presents with one of the following 4 complaints: painful erection, penile deformity or shortening during erection, presence of a plaque or induration on the shaft of the penis, or erectile dysfunction. Penile pain may be present with erection or during sexual intercourse. The pain is not severe in nature but may interfere with sexual function. In our case, the patient had a palpable circumferential plaque with dorsal curvature of the penis and pain at rest and erection.

On sonography, most Peyronie disease plaques appear as hyperechoic lesions near the margin of the corpus cavernosum and are usually located along the dorsal aspect of the penis [5]. In the early phase of the disease, a plaque may be hypoechoic. These lesions may have acoustic shadows if calcium content is high, and such shadows are detected in 33% of Peyronie disease cases. In our case, sonography of the penis showed the presence of a hyperechoic



**Figure 4:** The patient underwent surgery where a complete circumcising incision was taken.



**Figure 5:** The entire plaque was shaved from the tunica albuginea.

plaque cms present circumferentially at the level of the coronal sulcus and extending onto the dorsal aspect of the glans and the shaft of the penis proximally.

Non-surgical treatment is offered to patients with pain, plaque or deformity of less than one year. In the early stage, intralesional and topical treatments are applied in addition to conservative medical therapy. In recent years, however, extracorporeal shock wave therapy has proved effective for treating Peyronie plaques [6].

Surgical treatment should be delayed until the process becomes stabilized. Surgery is indicated in patients with stable and severe deformity of more than one year of duration and for patients who have penile shortening, narrowing or indentation, or a combination of the above that preclude normal sexual intercourse. Prior to surgery, a detailed evaluation of penile vascular and erectile function is highly recommended. In the current era, penile implants should be reserved for Peyronie's patients who have severe erectile dysfunction that does not respond to non-surgical erectile dysfunction therapy. The surgical treatments for penile curvature are classified into 3 different categories: tunical shortening procedures, tunical lengthening procedures, and prosthetic procedures. In our patient, we excised the entire circumferential plaque using a circumferential incision followed by dermal grafting with excellent post-operative results and correction of the dorsal curvature and alleviation of the pain.

In conclusion, although a better understanding of the pathophysiology of the disease is achieved recently, the best alternative to treat the patients remains a dilemma. So, early diagnosis of Peyronie's disease and treatment according to the stage and complication is necessary.

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