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Case Report / Olgu Sunumu

Ultrasonography and Color Doppler Imaging Findings of a Rare Entity: Penile Mondor's Disease

Penil Mondor Hastalığı; Ender bir Antitenin Ultrasonografi ve Renkli Doppler Görüntüleme Bulguları

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ABSTRACT

Penile Mondor's disease is defined as the thrombophlebitis of the dorsal penile vein due to various etiologies like frequent, prolonged, and severe sexual intercourse and penile trauma. It is a rare genital condition, and there is no standard therapy for this disease. In this case report, we would like to share the ultrasonography and color Doppler imaging findings of a patient diagnosed with penile Mondor's disease with our colleagues and underline the importance of this rare entity, as it is thought to be an underestimated disease by some authors in the literature.

Keywords: Mondor's disease, penis, thrombosis

ÖZ

Penil Mondor hastalığı, dorsal penil venin sık, uzun süreli ve şiddetli cinsel ilişki ve penil travma gibi nedenlere bağlı tromboflebiti olarak tanımlanmıştır. Nadir bir genital durum olup bu hastalık için standart bir tedavi bulunmamaktadır. Bu olgu sunumunda, literatürde bazı yazarların yeterince önemsenmediğini düşündüğü bir olgu olan penil Mondor hastalığı tanılı bir hastanın ultrasonografi ve renkli Doppler görüntüleme bulgularını meslektaşlarımızla paylaşmak istedik.

Anahtar Kelimeler: Mondor hastalığı, penis, tromboz

INTRODUCTION

Mondor's disease defined as the thrombophlebitis of the superficial veins has been named after a French surgeon, Henri Mondor, in late 1930. He described this entity in the superficial veins of the chest wall.[1] Braun-Falco[2] reported the first superficial dorsal vein of the penis in the context of generalized superficial thrombophlebitis in the literature. In 1958, isolated dorsal penile superficial vein thrombosis, known as penile Mondor's disease (PMD), was first reported by Helm and Hodge.[3] Penile Mondor's disease is a benign and a self-limiting process, characterized by the acute presentation of pain and induration of the dorsal surface of the penis. Mostly, physical examination is effective and sufficient, but color Doppler ultrasonography is often carried out to confirm the diagnosis and for further investigation.[3] Herein, we present the ultrasonographic findings of a 35-year-old man with dorsal penile vein thrombosis.

CASE PRESENTATION

A 35-year-old man was referred from urology to radiology department of our hospital in order to be evaluated by ultrasonographic examination. He has a history of gradually decreasing swelling in the penile shaft, mild discomfort during erection, and itching over the dorsal surface of the penis for 2 months. The patient denied any penile trauma or vigorous sexual behavior before the swelling process. He had a varicocele operation for the left hemiscrotal region 13 years ago, and he had no other history of any previous surgery. The patient had no urethral discharge or dysuria in this 2-month period.

During the ultrasonographic examination, there was no significant local, diffuse, or cord-like swelling on the inspection; however, the patient declared that the swelling was decreasing and there was a marked cord-like appearance

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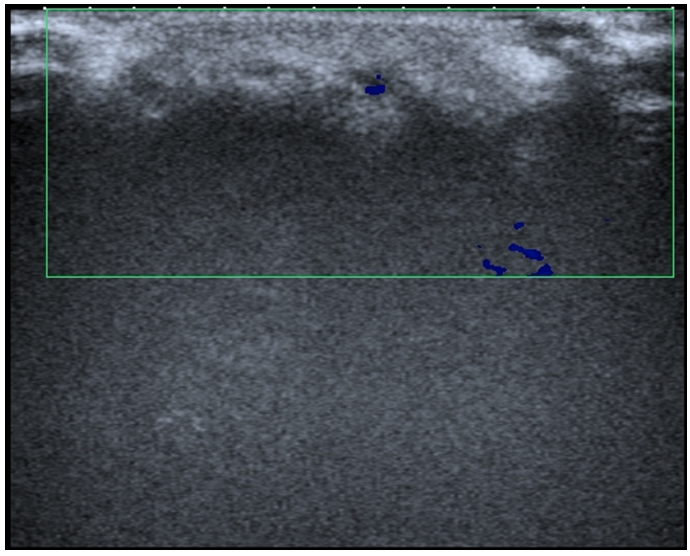

Figure 1. Color Doppler image shows blood flow in the middle penile segment of the superficial dorsal penile vein.

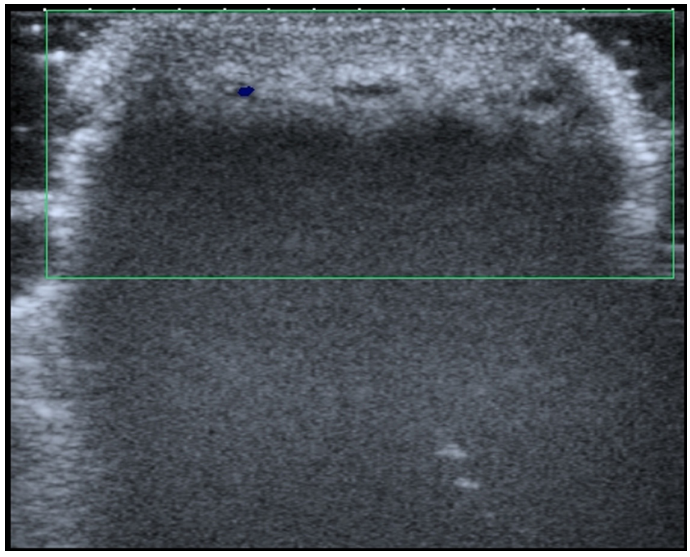

Figure 2. Gray-scale image confirms that the middle penile segment of the superficial dorsal penile vein was compressible with compression maneuver using the ultrasound probe.

on the dorsal penile shaft. There was no occlusion in the distal and middle parts of the dorsal penile vein, the vein was compressible with probe maneuvers, and the color Doppler image showed the blood flow in the vein lumen in these venous segments (Figure 1, 2). The dorsal surface of the middle segment of the penile shaft, which the patient has described swelling in the past, appeared normal on the inspection, and the dorsal penile vein segments were not occluded in this region either. The proximal part of the dorsal penile vein was higher in calibration, and partial thrombosis was monitored with gray-scale ultrasound and color Doppler findings. The blood flow was observed with low velocity, and echogenic thrombus material

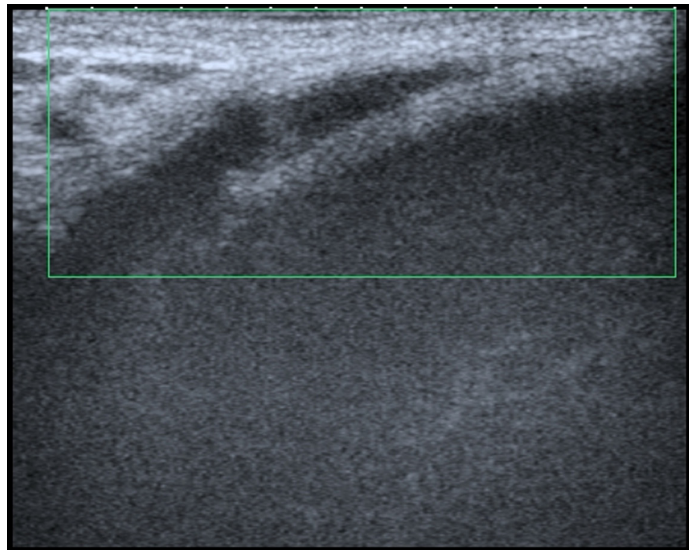

Figure 3. Color Doppler image reveals no color coding in the proximal penile segment of the superficial dorsal penile vein, but real-time gray-scale images (not shown) revealed a very slow blood flow in this venous segment.

could have easily been located with ultrasonography in the proximal part of the dorsal penile vein (Figures 3-6). There was no visible plaque in the tunical surface, consistent with Peyronie's plaque, and there were no findings of fibrosis in the penile shaft in the ultrasound examination (Figure 7).

To avoid a long-term sequel on sexual function, the patient had been advised to abstain from sexual activity until resolution of the findings. Anti-inflammatory drug therapy was initiated, and the patient has been scheduled

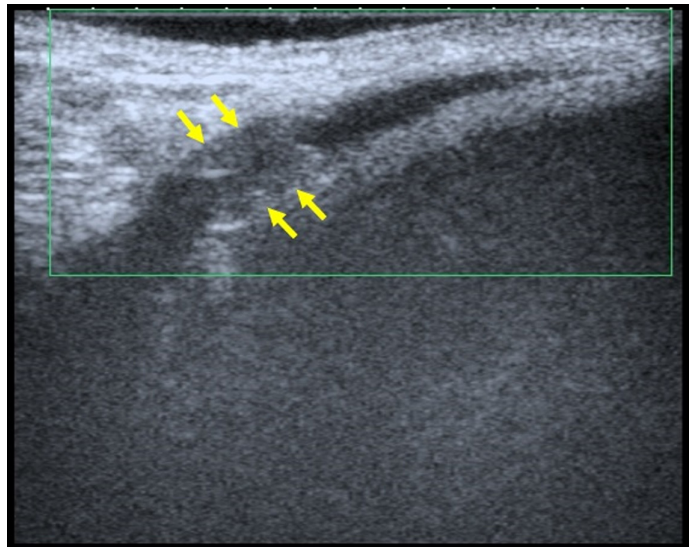

Figure 4. The thrombosis in the short segment of the superficial dorsal penile vein is clearly depicted in this color Doppler image (arrows).

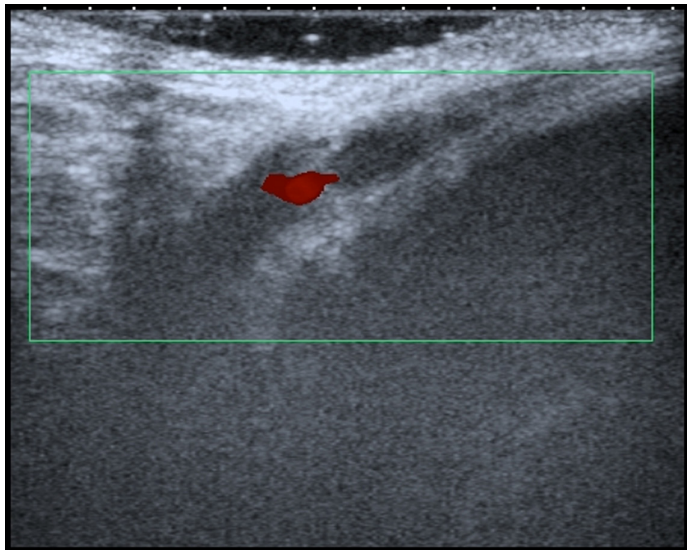

Figure 5. With the augmentation maneuver, the blood flow could be depicted in the lumen of the thrombotic venous segment of the superficial dorsal penile vein.

for a clinical and radiological follow-up with ultrasound examination after 2 weeks.

DISCUSSION

Penile Mondor's disease is a rare genital condition and an under-recognized disease.[3,4] Only 53 PMD case reports can be found until 2013[1] and <100 cases have been reported until 2017 in the literature.[4] Frequent, prolonged, and severe sexual intercourse and penile trauma play an important role in the etiology of PMD.[2,3] In addition, sexually transmitted diseases, thrombophilia, varicocelectomy, orchiopexy, surgery of inguinal hernia, Behçet's disease, use of intracavernous drugs, body-building exercises, cancer in the pelvic region, migratory phlebitis due to paraneoplastic syndromes, tendency to thrombosis,

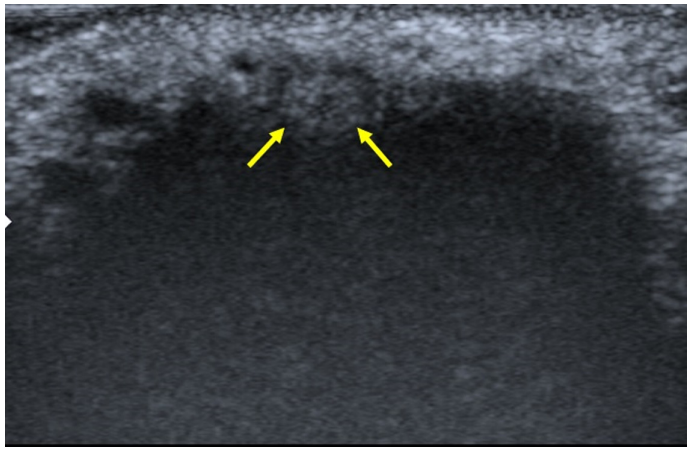

Figure 6. In the gray-scale ultrasound image, the echogenic thrombus material was visible in the superficial dorsal penile vein lumen (arrows).

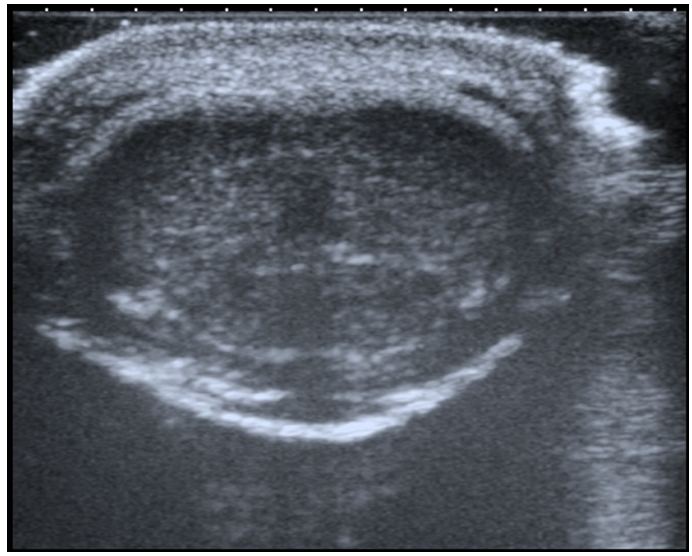

Figure 7. No tunical plaque or fibrosis was visible around 2 cavernous bodies and corpus spongiosum with gray-scale ultrasound imaging.

intravenous drug abuse and venous occlusion caused by filled bladder are other etiological factors of this disease.[1,5-8] Our patient had a history of varicocele surgery in the past, but the time period between the diagnosis of PMD and the previous surgery was quite long.

Patients with PMD present with cord-like or rope-like thickening and progressive pain especially on the dorsum of the penis, which is exacerbated by erection and sometimes erythema or edema on the dorsal penile surface.[3,9,10] Our patient described a swelling (in the beginning period of the disease process), especially on the dorsal penile shaft, and he mentioned about the mild pain aggravated by penile erection. In addition, he described band-like hardenings on the dorsal surface of the penis which could be palpable before. However, the patient was presumably not at the beginning of the disease process, and these symptoms were substantially relieved or regressed during the ultrasonographic examination.

As differential diagnosis, Peyronie's disease and sclerosing lymphangitis should be kept in mind, which might present with similar symptoms.[1] Penile ultrasound examination showed no abnormalities in the tunica albuginea, corpus spongiosum, and in both corpus cavernosum in our case.

Gray-scale and color Doppler ultrasonography play a very important role in the diagnosis of PMD. Ultrasound examination with a linear-type transducer of the dorsal surface of the penis will easily reveal the luminal thrombosis of the dorsal penile vein and the blood flow in the lumen. Not only the superficial veins but also the infrastructure of the penis should be examined to reveal the signs of the differential diagnosis of the disease.

In many cases, PMD is expected to recover within 4-6 weeks.[1] There is no standard therapy for PMD, and the benefits of anticoagulation therapy remain controversial.[11] Surgical therapy (thrombectomy and resection of the superficial penile vein) is applied in the patients refractory to the medical treatment.[1]

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