

Clinical Management of High-Flow Priapism and Penile Mondor's Disease Following Transrectal Prostate Biopsy

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Submitted January 11, 2010 - Accepted for Publication March 11, 2010

ABSTRACT

Transrectal ultrasound-guided biopsy is considered a safe procedure that can be performed in an outpatient setting. However, occasional major complications can occur. The present 53-year-old patient had a transrectal prostate biopsy because of persistently high prostate-specific antigen levels. The histologic examination reported the absence of cancer. Two weeks later, he presented with high-flow priapism and penile Mondor's disease that was characterized by penile superficial dorsal vein thrombosis. There was a palpable rope-like induration on the dorsal surface of the penile shaft. Diagnosis of the 2 concurrent disorders required complex radiological investigation that included magnetic resonance angiography, which is presented in detail in a companion paper. The present report contains a description of the conservative treatment simultaneously adopted for the posttraumatic priapism and the penile vein thrombosis. There was a progressive decrease in the induration, with a final complete resolution and preservation of full erections at 3 months.

INTRODUCTION

Transrectal ultrasound (TRUS) guided biopsy is the standard diagnostic procedure for detecting prostate cancer. It is considered a safe procedure that can be performed in an outpatient setting. TRUS-guided prostate needle biopsy has become one of the most common procedures in the daily practice of urologists [1].

Complications are occasionally encountered, and they are classified into 2 types. Minor complications include hematospermia (36.3%), hematuria (14.5%), rectal bleeding for less than 2 days (2.3%), or epididymitis (0.2%). Major complications include fever over 38°C/100.4°F (0.8%), acute prostatitis (3.8%), sepsis (0.3%), rectal bleeding requiring surgical intervention or persisting for more than 2 days (0.6%), urinary retention (0.2%), low urinary tract symptoms such

as difficulty voiding (1.9%), urgency (0.65%), or vasovagal syncope (0.05%) [2-4]. The present authors report a case of concurrent high-flow priapism and penile Mondor's disease that appeared after a TRUS-guided prostate biopsy and was effectively treated by a conservative approach. This report is companion to an article published recently [5] that describes the unique radiographic aspects of this case.

CASE REPORT

A 53-year-old Caucasian male was admitted to the emergency department. He had a high-flow painless priapism and the simultaneous onset of a longitudinal induration on the dorsal penile surface.

The patient had unremarkable medical and surgical histories, with the exception of a prior transrectal prostate biopsy that

KEYWORDS: Transrectal prostate biopsy; Penile Mondor's disease; Priapism; Complication

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CITATION: *UroToday Int J.* 2010 Apr;3(2). doi:10.3834/uij.1944-5784.2010.04.14

Abbreviations and Acronyms

MRA = magnetic resonance angiography
TRUS = transrectal ultrasound

was performed 2 weeks earlier at another medical center. The biopsy was ordered because of a suspicion of prostate cancer due to elevated prostate-specific antigen (PSA) levels. The histologic examination reported the absence of cancer. His family history yielded no additional helpful information.

The patient complained only of mild discomfort and persistent painless erection, which is consistent with high-flow priapism. He stated that penile dorsal induration began the day after he underwent the prostate biopsy, but he waited 2 weeks to go to the emergency department because he was confident that the condition would resolve on its own.

Evaluation

Physical examination revealed a palpable rope-like induration on the dorsal surface of the penile shaft. It was perceived as starting from the gland base and extending to the penile base. The overlying skin was intact and with no erythema (Figure 1). The induration corresponded to the penile superficial dorsal vein. It appeared poorly compressible, minimally tender, and without evidence of edema, cellulitis, or local lymphangitis or lymphadenopathy in the groin regions.

The patient had no significant voiding symptoms or fever. A blood cell count and complete hemocoagulative screening were normal.

A penile pulsed- and colour-doppler ultrasonography can be used to confirm the presence of echogenic content within the superficial dorsal vein, in the absence of any flow signals [6]. This test was used to diagnose a high-flow priapism sustained by a bulbourethral arteriovenous fistula. It confirmed the data obtained by a hemogasanalysis on blood retrieved through a penile cavernous puncture.

Management and Follow-up Evaluations

A conservative approach was used to treat the patient's high-flow priapism. He used daily cold packs, as described by Ficarra et al [7]. After 3 days, he had a spontaneous resolution of the priapism, but the asymptomatic induration persisted due to Mondor's disease.

Two days later, the patient underwent a pelvipерineal magnetic resonance angiography (MRA) to better investigate the real extension of penile superficial dorsal vein thrombosis [5]. Clinically, the thrombosis was broadening the pubic symphysis. The MRA demonstrated the absence of any expansive process involving the pelvis (Figure 2) or residual causative vascular lesion of high-flow priapism. The image clearly identified the enduring signs of Mondor's disease involving the penile

Figure 1. Palpable Cord-like Induration on the Dorsal Surface of the Penile Shaft (arrows).

doi: 10.3834/uij.1944-5784.2010.04.14f1



Note the enduring high-flow priapism.

superficial dorsal vein, as shown in Figure 2 and Figure 3.

The authors treated the residual sequelae by advising the patient to abstain from sexual intercourse until there was a complete regression of signs. He was also asked to start supportive care by taking oral nonsteroidal anti-inflammatory drugs (NSAIDs) for 10 days.

The patient was evaluated 1 month and 3 months after the initial admission. There was a progressive decrease in the induration, with a final complete resolution and preservation of full erections at 3 months.

DISCUSSION

Penile Mondor's disease is a thrombophlebitis of the penile superficial dorsal vein. It is a self-limiting entity that is a consequence of predisposing underlying conditions such as thrombophilia, pelvic neoplasms (especially in the bladder or prostate), overdistended bladder, or local or remote infections. The disorder may also be due to vigorous sexual intercourse, use of clamps and sexual vacuum-devices, injection of illegal substances into the penile superficial dorsal vein, or genital trauma (eg, 'penile fracture'). This peculiar and infrequent urological disease has an incidence that is probably underestimated [8].

Figure 2. Magnetic Resonance Angiography (Sagittal Pelvipерineal View) Showing No Neoplastic Masses Within the Pelvis.

doi: 10.3834/uij.1944-5784.2010.04.14f2

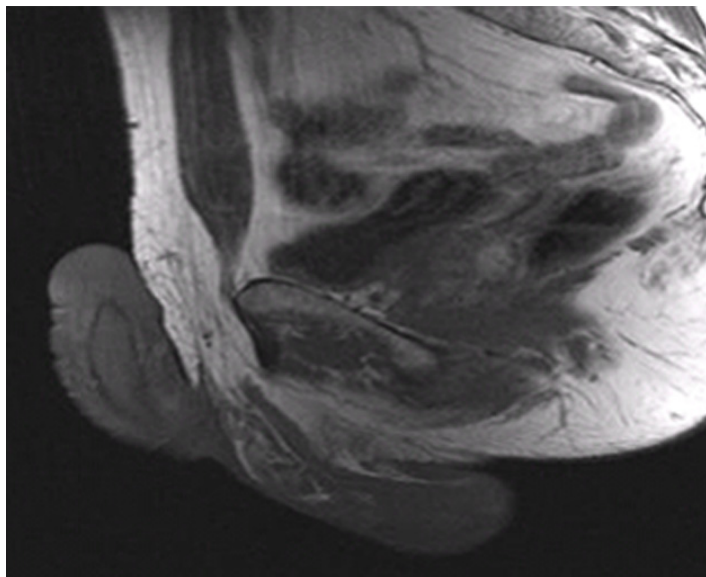
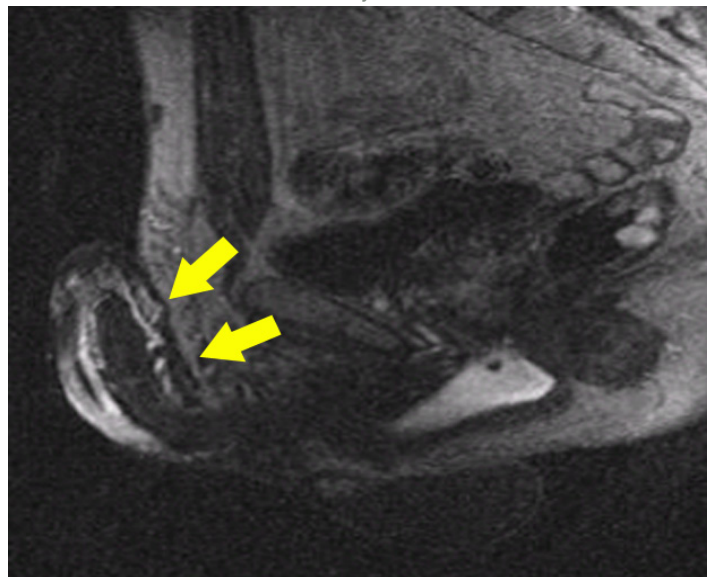


Figure 3. Three Dimensional, Fast Gradient-Echo, Dynamic Magnetic Resonance Angiography (Late-phase Subtraction of the Image), Showing a Filling Defect of the Penile Superficial Dorsal Vein (arrows) Due to Thrombosis.

doi: 10.3834/uij.1944-5784.2010.04.14f3



The penile Mondor's disease in the present report was of uncertain pathogenesis. It is mandatory to achieve a correct diagnosis prior to treatment so that other possible causes that may create and maintain the patient's symptoms may be ruled out [9]. Diagnosis requires carefully chosen tests, and the highly informative MRA is recommended.

Penile Mondor's disease is a benign condition. Many approaches are suggested in the literature to treat it. The least invasive approaches include refraining from sexual intercourse until there is complete resolution, addition of antiphlogistics, or use of a local dressing with a heparin ointment. More invasive approaches include a thrombectomy or a partial resection of the penile superficial dorsal vein in patients with a persistent cord-like induration. In most cases, the condition will self-resolve by thrombus reabsorption in 4 to 6 weeks. There was a previous report of resolution by vein recanalization within 9 weeks [10]. Use of antibiotics and anticoagulant drugs is generally not recommended [11].

CONCLUSION

The present patient had 2 overlapping complications from TRUS-guided biopsy: post-traumatic priapism and penile Mondor's disease. Both were successfully treated with a conservative approach.

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