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REVIEW ARTICLE

Traumatic lesions of the posterior urethra☆

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KEYWORDS
Posterior urethra;
Urethral trauma;
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Abstract

Introduction: The posterior urethral lesions are associated with pelvis fractures in 5–10% of cases. The posterior urethra is attached to the pelvis bone by puboprostatic ligaments and the perineal membrane, which explains why disruption of the pelvic ring can injure the urethra at this level.

Objectives: To identify suspected cases of posterior urethral trauma and to perform the diagnosis and its immediate or deferred management.

Acquisition of evidence: Search in PubMed of articles related to traumatic posterior urethral lesions, written in English or Spanish. We reviewed the relevant publications including literature reviews and chapters from books related to the topic.

Synthesis of the evidence: With patients with pelvis fractures, we must always rule out posterior urethral lesions. The diagnostic examination of choice is retrograde urethrography, which, along with the severity of the condition, will determine the management in the acute phase and whether the treatment will be performed immediately or deferred. Early diagnosis and proper acute management decrease the associated complications, such as strictures, urinary incontinence and erectile dysfunction.

Conclusions: Despite the classical association between posterior urethral lesions and pelvic fractures, the management of those lesions (whether immediate or deferred) remains controversial. Thanks to the growing interest in urethral disease, there are an increasing number of studies that help us achieve better management of these lesions.

Abbreviations: PR, pelvic ring; SPC, suprapubic cystostomy; SVUC, serial voiding urethral cystography; BN, bladder neck; ED, erectile dysfunction; PF, pelvic fracture; IIEF, International Index Erectile Function; UI, urinary incontinence; PFUDD, pelvic fracture urethral disruption defect; PFUI, pelvic fracture urethral injuries; OPR, open primary realignment; EPR, endoscopic primary realignment; DU, deferred urethroplasty; RUG, retrograde urethrography; PU, posterior urethra.

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PALABRAS CLAVE
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Traumatismo uretral;
Fractura pelvis;
Uretroplastia posterior

Lesiones traumáticas de la uretra posterior

Resumen

Introducción: Las lesiones de la uretra posterior (UP) se asocian a fractura de pelvis (FP) en un 5-10%. La UP se fija a la pelvis ósea mediante los ligamentos pubo-prostáticos y la membrana perineal, esto explica que la disrupción del anillo pelviano pueda lesionar la uretra a este nivel.
Objetivos: Identificar los casos sospechosos de traumatismo de UP, cómo realizar el diagnóstico y su manejo inmediato o diferido.
Adquisición de la evidencia: Búsqueda en PubMed de artículos relacionados con lesiones traumáticas de UP, escritos tanto en inglés como en español. Se revisaron las publicaciones relevantes incluyendo revisiones de la literatura y capítulos de libros relacionados con el tema.
Síntesis de la evidencia: Ante un paciente con FP siempre hay que descartar lesión de UP. El examen diagnóstico de elección es la uretrografía retrógrada, que junto con la gravedad del paciente determinará el manejo en la fase aguda y si el tratamiento se realizará de forma inmediata o diferida. El diagnóstico precoz y un manejo agudo correcto disminuyen las complicaciones asociadas, como la estenosis, la incontinencia urinaria y la disfunción eréctil.
Conclusiones: A pesar de que la asociación de las lesiones de UP con FP es clásica, su manejo tanto inmediato como diferido sigue siendo controvertido. Gracias al interés en aumento por la enfermedad uretral, cada vez se realizan más estudios que permiten acercarnos a un mejor manejo de estas lesiones.

Introduction

The posterior urethra (PU) is closely related to the anterior arch of the pelvis bone; which is fixed by pubo-prostatic ligaments and the urogenital diaphragm. This explains why a disruption of the pelvic ring (PR) can injure the urethra at this level.

PU injuries are not a vital urgency alone. The priorities of treatment depend on the severity of the patient, hemodynamic status and associated injuries.

Ideally, the diagnosis should be made in the acute phase and should determine whether the injury is partial or complete. Then, specialists will decide if the treatment will be carried out immediately or will be delayed.

Early diagnosis and proper handling of PU injuries reduce associated complications such as urethral stricture, urinary incontinence (UI) and erectile dysfunction (ED).

The objective of this review is to identify suspected cases of PU trauma, how to perform diagnosis and provide knowledge of the techniques of immediate and delayed treatment.

Evidence acquisition

A systematic search was conducted in PubMed using keywords: posterior urethra, bulbomembranous urethra, urethral trauma, pelvic fracture, pelvic fracture urethral injuries, pelvic fracture urethral disruption defect, posterior urethral disruption, and posterior urethral realignment urethroplasty.

Articles published in English and Spanish until 2015 were considered, with emphasis on those articles published in the last 10 years. In addition to clinical series, literature reviews and book chapters relevant to the subject were included.

Evidence synthesis

The anatomy of the posterior urethra

The urethra is a tubular tube that connects the bladder to the outside and carries urine during urination. In males, moreover, it carries semen during ejaculation.

From proximal to distal, PU is subdivided into (Fig. 1):

- Pre-prostatic: from the bladder neck (BN) to the prostate. It is about 1 cm long and periurethral glands and internal urethral sphincter are found in it (smooth sphincter or involuntary sphincter).[1]
- Prostatic: it crosses through the prostate forming an angle of about 35° ventrally, emerging ahead of the prostatic apex. It is about 3–4 cm long. In its rear wall there is a longitudinal ridge with slight depressions on both sides

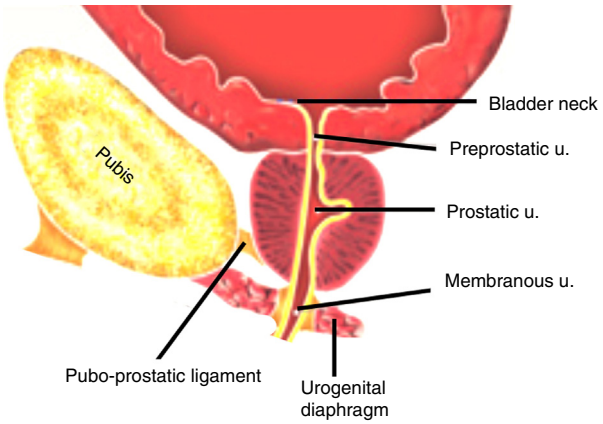

Figure 1 Posterior urethra anatomy.