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REVIEW ARTICLE

Diagnosis and treatment of urethral recurrence after radical cystectomy in the male☆

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KEYWORDS
Cystectomy;
Urethra;
Recurrence;
Urothelial carcinoma;
Diagnosis;
Treatment

Abstract
Context: From 4 to 6% of males subjected to radical cystectomy due to urothelial carcinoma will have urethral recurrence (UR) during the follow-up.
Objective: To analyze the diagnosis, treatment and course of the patients with UR following a cystectomy.
Acquiring of evidence: Analysis of original articles and reviews related with the diagnosis, treatment, and course of patients subjected to radical cystectomy and who develop UR. The articles were obtained from a search in PubMed.
Synthesis of evidence: Most of the UR appear during the first 3 years of the cystectomy. Approximately 50% of the URs of contemporary series were diagnosed through urethral cytology, the patient being asymptomatic. The urethrectomy is the treatment of choice in patients with UR and cutaneous diversion. In patients with orthotopic bladder replacement (OBR): (1) the treatment of the intraurethral BCG can be useful in patients with carcinoma in situ (CIS), (2) papillary type conservative treatment in UR has contradictory results, and (3) when the uretrectomy is necessary, the ileal duct or conversion of the OBR in a continent urinary derivation can be used.
Conclusions: Urethral cytology is a test having high sensitivity and can contribute to the diagnosis of UR in the earliest stages. In patients with OBR, the diagnosis of a UR is a therapeutic challenge. The bladder tumor, urethral recurrence, and presence of an upper urinary tract tumor in 25% of the cases may be a cause of death in these patients.

PALABRAS CLAVE
Cistectomía;
Uretra;
Recidiva;
Carcinoma urotelial;
Diagnóstico;
Tratamiento

Diagnóstico y tratamiento de la recidiva uretral después de cistectomía radical en el varón

Resumen
Contexto: Entre un 4-6% de los varones sometidos a cistectomía radical por carcinoma urotelial presentarán recidiva uretral (RU) durante el seguimiento.
Objetivo: Analizar el diagnóstico, tratamiento y evolución de los pacientes con RU después de cistectomía.

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Adquisición de evidencia: Análisis de artículos originales y de revisión, relacionados con el diagnóstico, tratamiento y evolución de pacientes sometidos a cistectomía radical y que desarrollan RU. Artículos obtenidos de la búsqueda en PubMed.
Síntesis de evidencia: La mayoría de las RU aparecen en los 3 primeros años después de la cistectomía. Cerca del 50% de las RU de series contemporáneas se diagnosticaron a través de citología uretral, estando el paciente asintomático. La uretrectomía es el tratamiento de elección en pacientes con RU y derivación cutánea. En pacientes con sustitución vesical ortotópica (SVO): 1) el tratamiento con BCG intrauretral puede ser útil en pacientes con carcinoma in situ (CIS); 2) el tratamiento conservador en RU de tipo papilar presenta resultados contradictorios, y 3) en caso de ser necesaria la uretrectomía, puede optarse por un conducto ileal o por la conversión de la SVO en una derivación urinaria continente.
Conclusiones: La citología uretral es una prueba con una elevada sensibilidad y puede contribuir al diagnóstico de RU en estadios más tempranos. En pacientes con SVO, el diagnóstico de una RU supone un reto terapéutico. El tumor vesical, la recidiva uretral, y la presencia de un tumor de vía urinaria alta en un 25% de los casos, pueden ser causa de fallecimiento en estos pacientes.

Introduction

Radical cystectomy with lymphadenectomy is the treatment of choice for muscle-invasive urothelial carcinomas and in non-muscle invasive bladder tumors (NMIBT) at risk of progression.[1,2] Contemporary series show that between 4 and 6% of patients undergoing cystectomy will have urethral recurrence (UR) during the follow-up.[3,4] The involvement by urothelial prostate tumor, and the presence of factors related to multifocality, such as previous history of NMIBT, presence of NMIBT in cystectomy piece, diffuse CIS, multiple tumor, and tumor of the upper urinary tract, have been associated with the appearance of UR after cystectomy.[3–5]

The UR can be diagnosed after the onset of symptoms or by urethral cytology. Despite its high sensitivity, some authors question the usefulness of urethral cytology in the follow-up after cystectomy.[1] Urethrectomy is the treatment of choice in patients with UR and cutaneous urinary diversion. In patients with orthotopic bladder replacement (OBR), the diagnosis of a UR is a therapeutic challenge for the urologist. There exists limited information in the literature on how to respond to a UR in a patient with OBR, and what the evolution of these patients is. In this context, we analyze how the diagnosis of UR is performed, which the best treatment is and what this evolutions is.

Diagnosis of urethral recurrence

About 40% of urethral recurrences appear in the year after the cystectomy. Overall, most of them are diagnosed during the first 3 years, although recurrences have been reported beyond 5–10 years.[4,6–9] It can be diagnosed by the appearance of symptoms or during routine post-cystectomy follow-up if urethral cytology is used routinely (Table 1). The most common symptoms associated with UR are: urethrorrhagia, purulent urethral discharge, appearance of a urethral mass, and changes in urinary habits in patients with OBR. The diagnosis after the onset of diagnosis has classically been associated with urethral tumors in more advanced stage.[5,10]

The usefulness of urethral cytology in the follow-up after cystectomy is controversial. On the one hand, it is a simple, well tolerated, minimally invasive, with high sensitivity (78–94%) exploration.[4,7] It is an exploration with proven usefulness in clinical practice because about 50% of the URs in contemporary series were diagnosed by urethral cytology, the patient being asymptomatic.

In the series by the Fundació Puigvert, 10 out of 13 URs diagnosed by cytology were superficial (pTis, PTa), and 11 out of the 17 clinically diagnosed were infiltrating (pT1–pT4).[4] Giannarini et al., in patients with OBR, diagnosed 21 out of 24 URs by urethral cytology. The survival of patients with this diagnosis was slightly higher than that of those clinically diagnosed. In fact, cytology allowed for the early detection of 12 cases with urethral CIS that were treated conservatively. Possibly, the high sensitivity of urethral cytology contributes to the diagnosis of UR in earlier stages.[9] On the other hand, the Guidelines of the EAU 2011 question the performance of urethral cytology, due to the failure to objectify greater survival in patients with UR diagnosed by cytology, compared to those diagnosed by symptoms.[1,7,11] In general, these studies have the disadvantage of the scarce number of patients to be able to make important recommendations, and admitted that they kept using the routine urethral cytology.[7]

In the final survival of patients with UR, other factors such as bladder tumor itself are involved, and in about 20% of the cases, the appearance of an upper tract tumor.[4] Therefore, it is very difficult to properly assess the impact of the use of cytology on survival.

The urethral cytology sample is obtained by inserting a poorly lubricated 14Fr Nelaton probe to the membranous urethra. In the event that the patient has an OBR, they are instructed to contract the sphincter and perineal muscles to subsequently carry out two 50 cm^3 saline irrigations, as the probe is withdrawn.[12] If there is palpable urethral mass or solid urethral injury, it is advisable to perform a urethral and abdominal and pelvic MRI for better local staging.[5]