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CASUISTRY

Clinical versatility of the inflammatory pseudotumor in urology☆

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KEYWORDS
Inflammatory pseudotumor;
Myofibroblastic proliferation;
Bladder;
Renal pelvis;
Epididymis

Abstract
Objective: The inflammatory pseudotumor is a rare lesion, having benign behavior and some histological heterogeneity that appears in the genitourinary tract. A series of urogenital inflammatory pseudotumors are reviewed with emphasis on their clinicopathological and immunohistochemical characteristics.
Materials and methods: A retrospective study on the causistics treated between January 1981 and December 2010 was performed. It identified the cases of inflammatory pseudotumor with urogenital localization. The variables age, gender, symptoms, topography, treatment and anatomopathological and immunohistochemical characteristics of each case were analyzed.
Results: A total of 8 cases of the urogenital-located inflammatory pseudotumor are described. Of these, 6 were located in the bladder, one in the kidney and one in the epididymis. Mean age of the patients was 46.75 (±19.84) years. Tumor presentation symptoms were macroscopic hematuria, single symptom or accompanied by symptoms of the lower urinary tract and inguinoscrotal mass. With regard to treatment in the cases of bladder localization, transuretheral ± cystectomy were performed. In the case of kidney localization, treatment was made by means of pyelotomy and exeresis, and in the case of epididymis localization, simple exeresis was performed. The anatomopathological study showed inflammatory pseudotumor in every case, having a mesenchymal and myxoid appearance, with fusiform cells of eosinophil cytoplasm, with presence of frequent inflammatory cells. The most common immunohistochemical pattern shows positivity for the muscle-specific actin (HHF-35), vimentin and negativity for protein S-100. ALK-1 was positive in 87.5% of the cases.
Conclusion: The inflammatory pseudotumor is a condition having good prognosis which, when there is a good histopathological and immunohistochemical diagnosis, every urologist should recognize and distinguish in order to carry out as conservative a surgical treatment as possible.

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PALABRAS CLAVE
Pseudotumor inflamatorio;
Proliferación pseudosarcomatosa miofibroblástica;
Vejiga;
Pelvis renal;
Epidídimo

Versatilidad clínica del pseudotumor inflamatorio en Urología

Resumen

Objetivo: El pseudotumor inflamatorio es una lesión rara, de comportamiento benigno y cierta heterogeneidad histológica que aparece en el tracto genitourinario. Se revisan una serie de pseudotumores inflamatorios urogenitales poniendo especial énfasis en sus características clínico-patológicas e inmunohistoquímicas.

Material y métodos: Análisis retrospectivo de la casuística tratada entre enero de 1981 y diciembre de 2010 que identifica los casos de pseudotumor inflamatorio de localización urogenital. Se analizan las variables edad, sexo, clínica, topografía y tratamiento, y las características anatomopatológicas e inmunohistoquímicas de cada caso.

Resultados: Se describen un total de 8 casos de pseudotumor inflamatorio de localización urogenital, de los cuales 6 se localizaron en la vejiga, uno en el riñón y uno en el epidídimo. La edad media de los pacientes fue 46,75 (±19,84) años. Los síntomas de presentación tumoral fueron hematuria macroscópica, monosintomática o acompañada de sintomatología del tracto urinario inferior y masa inguino-escrotal. En cuanto al tratamiento en los casos de localización vesical se realizó resección transuretral ± cistectomía; el caso de localización renal se trató mediante pielotomía y exéresis y el de localización epididimaria mediante exéresis simple. El estudio anatomopatológico evidenció pseudotumor inflamatorio en todos los casos, de aspecto mesenquimal y mixoide con células fusiformes de citoplasma eosinófilo, con presencia de frecuentescélulasinflamatorias. Elpatróninmunohistoquímicomáscomúnmostró-positividadpara actina músculo-específica (HHF-35), vimentina y negatividad para proteína S-100. ALK-1 resultó positivo en el 87,5% de los casos.

Conclusión: El pseudotumor inflamatorio es una entidad de buen pronóstico que, con un buen diagnóstico histopatológico e inmunohistoquímico, todo urólogo debe conocer y distinguir para realizar un tratamiento quirúrgico tan conservador como sea posible.

Introduction

The inflammatory pseudotumor is a rare lesion, histologically composed of myofibroblastic spindle cells that are accompanied by an inflammatory infiltrate and which has its origin in the soft tissues and viscera. Because of its histologic heterogeneity, it has received many names over the past years: inflammatory pseudotumor, fibromyxoid pseudosarcoma, nodular fasciitis, pseudosarcomatous myofibroblastic proliferation, and postoperative spindle cell nodule. In addition to the important fibrosis and vascularization, limited in most cases to the lamina propria of the tissue, the pseudotumor affects on many occasions the *muscularis mucosae* of the tissues where it is located.[1,2]

The inflammatory pseudotumor of the bladder was first described by Roth in 1980[1,3,4] in a 32-year-old woman who had recurrent urinary tract infections, accompanied by episodes of hematuria associated with bladder injury. Subsequently, Nochomovitz and Oreinstein implemented in 1985 the appropriate terminology to describe bladder injury.[5] Mostofi and Price[6] characterized the lesions of the spermatic cord, describing the histopathologic similarity with the fibroxanthoma.[7] The renal inflammatory pseudotumor, an extremely rare entity within the inflammatory pseudotumors, has been described both in the pelvis and ureter and in the renal parenchyma.[8]

Among the first cases, the authors advocated a higher incidence of cases among females, although in recent cases reviewed, male predominance is objectified (3:1).[9,10] Although most cases of inflammatory pseudotumor occur in young adults, some cases have been reported in an age range of 3–89 years.[1,10]

The topographic versatility of the pseudotumor evidences that the injury occurs more frequently in lung tissue, with cases reported in various organs such as the stomach, pancreas, spleen, or central nervous system. With regard to the urinary tract, the most common location is the *fundus* of the bladder, followed by the lateral sides and back.[1] Its presentation in the bladder trigone is exceptional, and it raises the possibility that its origin is retrotrigonal by primary invasion. There have been cases of inflammatory pseudotumor in the female urethra and prostate, and even intra-and paratesticular.

Obviously, the location of the inflammatory pseudotumor conditions the presentation and the clinic, although the most frequent is the asymptomatic presentation. One third of the patients with this condition have a syndrome characterized by fever, growth retardation, weight loss, discomfort, anemia, thrombocythemia, polyclonal hyperglobulinemia, and increased sedimentation rate. This symptomatic courtship disappears once the excision of the mass is carried out, relating the reappearance of the medical profile to the recurrence of the disease.

In this paper, we reviewed the casuistry of urogenital inflammatory pseudotumor diagnosed and treated over three decades in different hospitals, the characteristics of this entity and its versatility of urologic appearance, and the various treatment options.

Materials and methods

We performed a retrospective study that includes the casuistry of three Spanish hospitals from January 1981 to