

PREVENTION OF RECURRENT NEPHROGENIC ADENOMA OF THE BLADDER BY INTRAVESICAL HEPARIN THERAPY

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ABSTRACT

We report a case of recurrent nephrogenic adenoma of the bladder in a 19-year-old male patient who was successfully treated by intravesical heparin treatment. To the best of our

knowledge, this is the first report of the use of intravesical heparin in recurrent nephrogenic adenoma.

Key Words: Adenoma, heparin, intravesical instillation, nephrogenic, urinary bladder *Nobel Med 2013; 9(1): 113-114*

TEKRARLAYICI MESANE NEFROJENİK ADENOMUNUN İNTRAVEZİKAL HEPARİN İLE TEDAVİSİ

ÖZET

Makalemizde mesanede tekrarlayıcı nefrojenik adenomu bulunan 19 yaşındaki bir erkek hastanın intravezikal he-

parin uygulanması ile başarılı tedavisi sunulmaktadır. Bildiğimiz kadarıyla bu sunum tekrarlayıcı nefrojenik adenom tedavisinde intravezikal heparin kullanımı üzerine ilk bildiriştir.

Anahtar Kelimeler: Adenom, heparin, intravezikal uygulama, mesane, nefrojenik *Nobel Med 2013; 9(1): 113-114*

INTRODUCTION

Nephrogenic adenoma (NA) is a rare benign metaplastic lesion of urothelium. It usually appears multifocal in all anatomic levels of the urinary tract, being mostly in the urinary bladder (approximately 80%) and rarely in the renal pelvis. The symptoms are not specific. Lower urinary tract symptoms are found in 70% of the cases while often the patients are non-symptomatic. Hematuria is present in 40% of cases and suprapubic pain or flank pain in 15% and 5% respectively.¹

We report a case of recurrent nephrogenic adenoma in a male who was successfully treated by intravesical heparin treatment. To the best of our knowledge, this is the first case in the literature.

CASE

A 19-year-old male presented to outpatient department with a history of severe dysuria. In his past history, he

underwent left ureteroneocystostomy for vesicoureteral reflux 4 years ago. Physical examination was normal and midstream sample of urine did not show any evidence of urinary tract infection. Abdominal ultrasonography revealed no obvious etiology. Initial cystoscopy showed an exophytic tumor on the bladder dome, measuring 5 mm in largest diameter. Transurethral resection of the tumor was performed without complication. The pathology report of biopsies was consistent nephrogenic adenoma (Figure 1,2). Three months, later he was readmitted with dysuria. Cystoscopy showed multiple small papillary lesions. Small tumors were resected using cold cup biopsy forceps with cauterization. After the pathology report confirmed a nephrogenic adenoma, the patient was treated with intravesical heparin, 10,000 units in 10 ml sterile water, three times per week for 3 months. Informed consent was obtained prior to treatment. The patient was followed carefully and cystoscopy was performed at 6-month intervals. At the 1 year follow-up, he remained disease-free. →

DISCUSSION

Nephrogenic adenoma is a rare papillary lesion of the bladder associated with urothelial injury.² The etiology of the lesion is uncertain. However, it can occur as a response to genitourinary tract procedures, chronic infection, trauma, urinary calculi and immunosuppressive therapy after renal transplantation.³ Also, nephrogenic adenoma associated with analgesic abuse was reported in the literature.⁴ Many specialists believe that it derives from embryonic mesonephric tissue due to similarities to primitive renal tubules.⁵ Others believe that it constitutes an atypical response from the site of the regenerating epithelium due to stimulus or injury.⁶ Approximately 56% of macroscopic presentations are papillary, 34% are sessile, and 10% are polypoid. The similarity of papillary form with carcinoma with respect to the clinical and radiologic features needs pathological evaluation to distinguish from malignancy. Although nephrogenic adenoma is currently thought to have no malignant potential, the recurrence rate was found in 50% of cases. There is one published paper on NA in the bladder of a patient with transitional cell carcinoma of the bladder.⁷ Control cystoscopic investigations are recommended for early detection of relapses when patient's symptoms reappear.⁸

There has been only one report of medical treatment of NA in the literature. In this report, a male patient with diffuse NA was successfully treated by sodium hyaluronate.⁹ In our case, the relapse was prevented by intravesical heparin therapy, which was confirmed by cystoscopic evaluation at each 6-month interval. The mechanism of action of heparin is not clear in NA. However, heparin is widely used in interstitial cystitis (IC) that mimics the activity of the bladder's mucous lining, which may be defective in those with IC. Heparin is glycosaminoglycan analogue that has been used with anecdotal success in IC.¹⁰ We thought that heparin may play a role in the reconstitution of

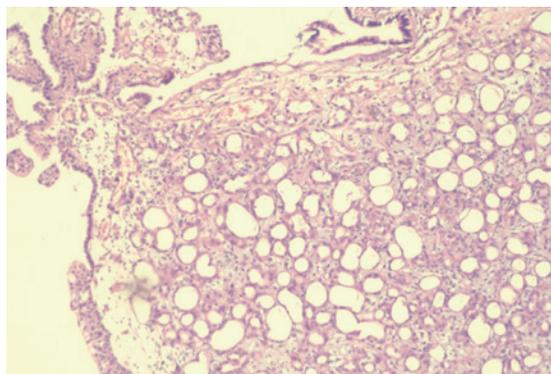


Figure 1. Polypoid lesion distanding with papillary projections at bladder surface is performed by tubular structures with dilated lumina, arranged back-to-back position in a loose stroma. Normal urothelium is remarkable at left corner (Haematoxyline-Eosin x100)

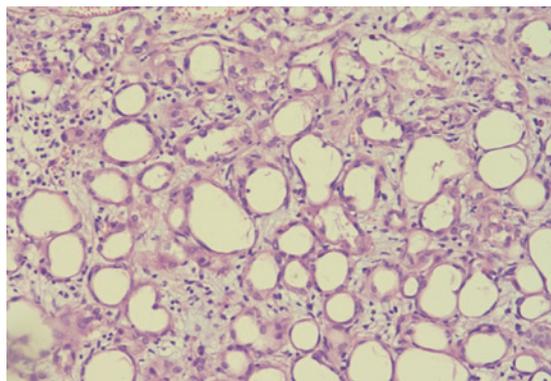


Figure 2. Gland-like formations lined by flattened epithelial cells. There are scattered lymphocytes at surrounding stroma (Haematoxyline-Eosin x200)

uroepithelium in NA because of its negative effect on chronic stimulation on uroepithelium.

CONCLUSION

To the best of our knowledge, this is the first report of the use of intravesical heparin in recurrent nephrogenic adenoma. We believe that intravesical heparin is an option to prevent the recurrence of NA although the mechanism of action is not clear. Further studies are needed to clarify the success rate of intravesical heparin in the treatment of recurrent NA.

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✓	DELIVERING DATE: 23 / 03 / 2010 • ACCEPTED DATE: 22 / 02 / 2011

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