

# Villous adenoma of the renal pelvis and ureter

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## ABSTRACT

Villous adenoma originating in the urinary tract is a rare condition. Mucus-filled kidney (muconephrosis), one of the manifestations of this condition, occurs due to intestinal type of metaplastic changes occurring in the urothelium. This condition is commonly associated with urolithiasis and/or chronic infection. Concomitant adenocarcinomatous changes in the urothelium may be present along with this and unless a careful search is made to identify this, this serious condition may be overlooked leading to an inappropriate follow-up and dire consequences. We are reporting the third case of muconephrosis due to villous adenomatous changes of the renal pelvis and ureter.

**Key words:** Muconephrosis, villous adenoma

## INTRODUCTION

Villous adenomas are rare tumors involving the urinary tract. Urinary bladder is most often involved. So far only two cases of villous adenoma of the upper urinary tract have been reported in the English literature.<sup>[1,2]</sup> About 33% of cases involving the bladder have associated adenocarcinoma as well.<sup>[3]</sup> As the clinical presentation is that of a recurrent urinary tract infection, a preoperative diagnosis of this condition is unlikely to be made.

## CASE REPORT

This 52-year-old man presented with recent onset of left abdominal pain and a mass in the left upper abdomen. There was no fever, vomiting or lower urinary tract symptoms. There was history of left ureterolithotomy done 9 years back. Examination revealed a large tender mass in the left loin. Urinalysis showed pyuria and culture grew *Escherichia coli*.

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Figure 1: Grossly hydronephrotic kidney

Serum creatinine was 1.6 mg/dl and blood urea 60 mg/dl. Ultrasonography, CT scan and MRI of the abdomen showed gross hydronephrosis of the left kidney and a small stone in the left kidney on CT scan. Left nephrectomy was done. Cut section showed markedly dilated pelvicaliceal system, mucoid nodules and mucus material in the pelvicaliceal system [Figure 1]. There was a small tumor of about 5mms in the upper part of the ureter as well. Histopathological examination showed diffuse intestinal metaplasia of renal pelvis with multiple villous adenoma. Moderate dysplasia of the epithelium without invasion was present [Figures 2 and 3]. At follow-up at 1 year, the patient remained asymptomatic.

## DISCUSSION

Urinary tract villous adenomas are uncommon tumors. These have been mostly described in the urinary bladder and

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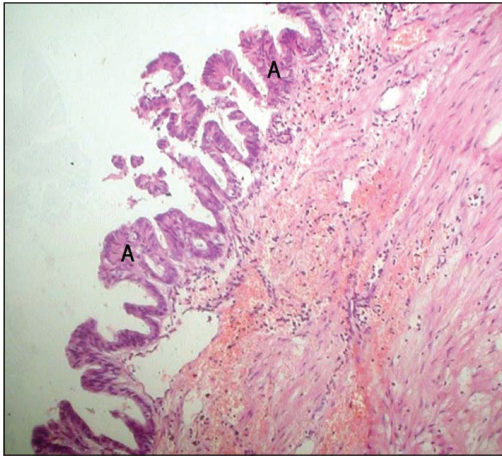


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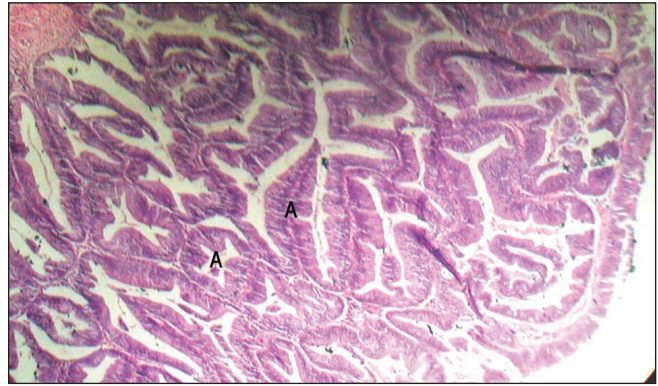
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**Figure 2:** Renal pelvis lined by colonic-type mucosa

uncommonly in the urethra, prostate, vagina and vulva.<sup>[3]</sup> So far, only two cases involving the upper urinary tract have been described in the English literature. Chronic irritation due to a calculus or infection leads to intestinal metaplasia of the urothelium and mucus production. As there is some obstruction usually, mucosuria may not be present. Cystitis glandularis and enteric type of epithelium are considered precursors of these changes. Our specimen showed only diffuse intestinal metaplasia of renal pelvis with villous adenoma of the pelvicaliceal system and a solitary adenoma of the upper ureter. Histopathological examination of the specimen showed villous adenoma with presence of basally located nuclei of simple mucus tall, columnar epithelium and goblet cells amongst the villiform glands. Like other villous adenomas, urinary tract villous adenomas also are CK20 and CEA positive. CK7 positivity is found in about 50% of urinary tract tumors.<sup>[3]</sup>

The term muconephrosis was first used by Park and



**Figure 3:** Ureteric villous adenoma showing tubulovillous structure.

associates to describe a case of renal pelvic villous adenoma with mucus-filled kidney. A local extension from intestinal adenocarcinoma should be ruled out in all these patients. Whenever a diagnosis of villous adenoma is made, it behooves the pathologist to make a thorough sampling of a lesion to diagnose a coexisting adenocarcinoma and extension of tumor from nearby structures.

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