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Urinary tract villous adenoma in Indonesia

Sawkar Vijay Pramod[a], Sri Suryanti[b], Zola Wijayanti[a,*]

[a] Urology Department, Hasan Sadikin Hospital, University of Padjadjaran Bandung, Indonesia
[b] Anatomy Pathology Department, Hasan Sadikin Hospital, University of Padjadjaran Bandung, Indonesia

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ABSTRACT

This is the first recorded case of urinary tract villous adenoma in Indonesia. A 70-years-old man suffered from a painful left flank mass and jelly like mixed urine. He had undergone percutaneous nephrostomy yielding a jelly like substance, and a previous stone surgery. Left nephrectomy and lymph nodes dissection were performed. Intraoperative finding showed significant mucus fluxed from this enlarged kidney. Histopathological examination revealed columnar epithelium and goblet cells amongst the villiform glands. There is no standard established protocol for follow up and management. We should follow-up for a possibility of recurrence or progression.

Introduction

Villous adenomas are benign glandular neoplasms that often arise in the intestinal tract; however, rare cases have been reported of villous adenoma in the urinary tract. They can occur anywhere in the urinary tract, the most common being urinary bladder but also the urethra, urachus, prostate, and renal pelvis. Very few cases of urinary tract villous adenoma has been reported so far. We report a case of villous adenoma arising in the renal pelvis that presented with mucosuria and abdominal mass. As far as we know, this case is the first recorded case of urinary tract villous adenoma in Indonesia.

Case presentation

A 70-years-old man suffered from a painful left flank mass since 10 years ago. The mass was first small and then grew bigger until palpated in his left abdominal area. He also complained of urine mixed with white mucus since 10 years ago. He had a history of bloody urine since a year ago. Daily urine output was more or less 1500 cc/24 hours, which was cloudy and yellow.

The patient had a history of smoking for 30 years. The patient also had a history of uncontrolled hypertension. He did, however, have a history of left percutaneous nephrostomy yielding a jelly like substance which was submitted to pathology anatomy. The results were chronic nonspecific inflammation on the left kidney fluid, without malignancy. He also had a history of renal stone surgery in 2005 at Garut Hospital.

On physical examination, the kidney was palpated on the left flank. The blood panel test showed mild anemia and hypoalbuminemia. The first urinalysis showed a large amount of erythrocytes and leukocytes in the urine. The second urinalysis similarly showed a slightly reduced amount of erythrocytes and leukocytes in the urine. Ultrasonography revealed enlargement of left kidney with inhomogenous parenchyma and severely dilated pelvocalyces. Abdominal computed tomography (CT) revealed left hydronephrosis with multiple nephrolithiasis and simple cyst on the right liver lobe (Fig. 1). Left nephrectomy was performed without complications and a significant quantity of yellowish jelly-like mucus fluxed from the kidney. Perinephritic adhesion was encountered but successfully resolved. The dissected kidney measured about 27 × 28 cm. Enlarged retroperitoneal lymph nodes was found and dissected. Gross examination showed a markedly enlarged kidney with a markedly dilated pelvocaliceal system filled with abundant mucus (Fig. 2). Extensive mucin production and intestinal metaplasia were present. The dissected kidney and lymph nodes were sent for microscopic examination. The patient noted improved urination after surgery. On histopathological examination of kidney cortex, medulla, and ureter there were villous adenoma which consist of columnar epithelium and goblet cells amongst the villiform glands (Fig. 3).

Discussion

Villous adenomas are benign glandular neoplasms that can occur anywhere in the urinary tract but have been identified mainly in the urinary bladder, urethra, prostate and urachus. It is suggested that villous adenoma may arise from intestinal metaplasia of transitional epithelium after long-term irritative stimulation such as chronic inflammation, stone impaction, or chemical injury.[1,2]

* Corresponding author. Jl. Setra Murni Tengah 4 No. 36B, Sukarasa, Sukasari, Bandung, Indonesia.
E-mail address: zola.wijayanti@gmail.com (Z. Wijayanti).

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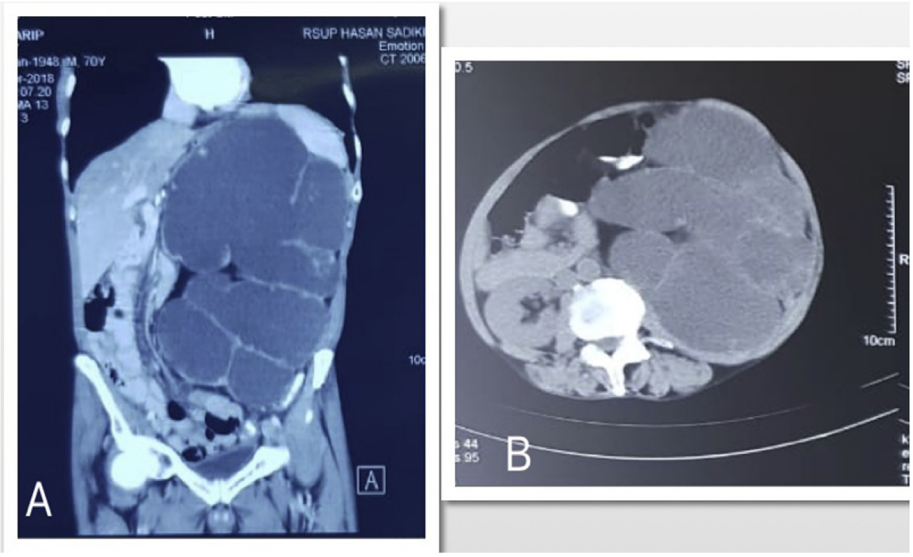

Fig. 1. Abdominal computed tomography (CT) revealed left hydronephrosis with multiple nephrolithiasis and simple cyst on the left liver lobe.

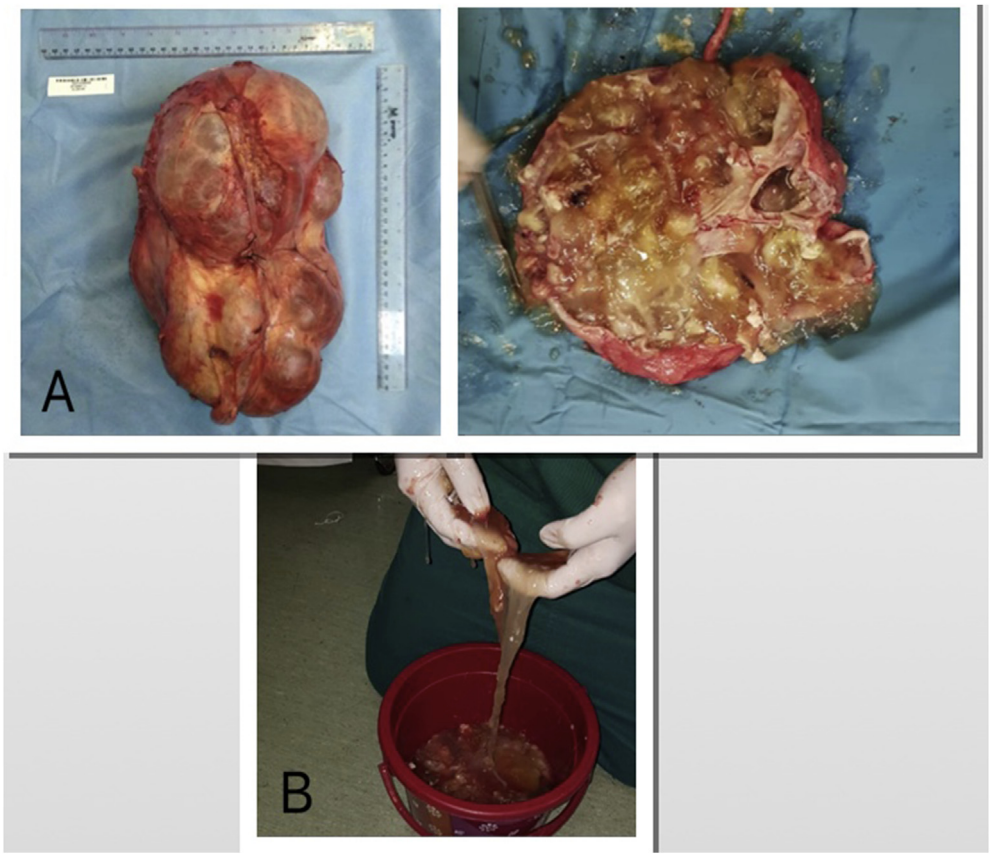

Fig. 2. A. Gross specimen: cut appearance shows abundant mucus-like material filling the dilated proximal ureter and renal pelvis; B. Left nephrectomy was performed without complications and a significant quantity of yellowish jelly-like mucus fluxed from this kidney.

Histologically, villous adenoma of intestinal tract and urinary tract are identical. The histopathology of pure villous adenoma is quite diagnostic and is characterised by fronds lined by benign pseudostratified epithelium with nuclei polarised towards the basement membrane. Limited data has shown that lesions of pure villous adenoma have an excellent prognosis, however, those found in association with in situ or invasive adenocarcinoma, squamous cell carcinoma, and flat in situ urothelial carcinoma, sometimes are clinically more aggressive, with disease recurrence or distant metastasis.[2] This heterogeneity suggest that any lesion identified as villous adenoma must be sampled to ensure that there are no coexisting adenocarcimoa or urothelial carcinoma.

Villous adenoma is mainly a disease associated with older male patients who present with hematuria and irritative symptoms, occasionally with mucosuria. The mean age of occurrence is in the fifth decade.[3] Definitive preoperative diagnosis of villous adenoma is unlikely, as the clinical symptoms aren't typical. The patient may present with dull abdominal pain or abdominal mass, as we have seen in our patient. They may also present clinically with hematuria, irritative

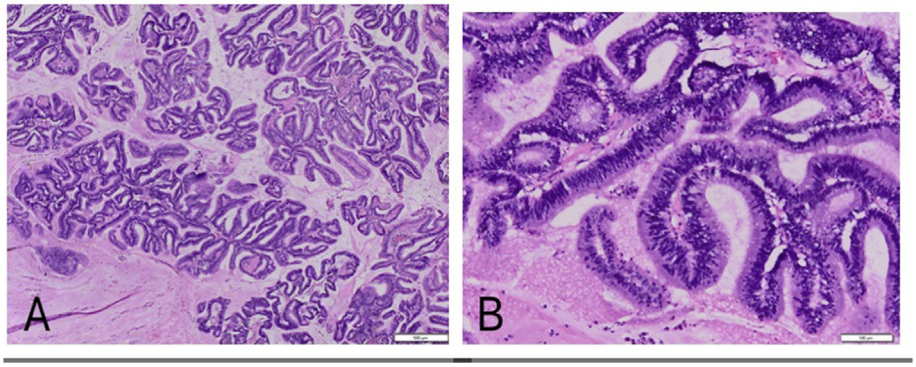

Fig. 3. A. Histopathological examination of the kidney cortex and medulla revealed villous adenoma which consist of columnar epithelium and goblet cells amongst the villiform glands; B. Pathological appearance of ureter which lined by goblet cells.

voiding symptoms, mucosuria, passage of debris in urine and storage lower urinary symptoms. Mucosuria may be an important symptom, because a villous adenoma always produces copious amount of mucus. History of renal stone treatment and stone disease at diagnosis was significantly correlated to villous adenoma. This certainly is in accordance with the dysplastic theory mentioned earlier.[4] Our patient complained mainly of voiding urine mixed with mucus. He also had a renal stone surgery 13 years ago. Imaging studies may be inconclusive. A lesion in the upper urinary tract is uncommon and difficult to find. Findings on cystoscopy and ultrasonograpy are nonspecific. The findings on CT scan and MRI are also non-specific and oftentimes suggestive of malignancy.[3]

It is important that the pathologist examine the entire specimen to exclude malignant and dysplastic changes. Intestinal-type villous adenoma of renal pelvis is a precursor of adenocarcinoma, so inadequate management may lead to serious consequences on the prognosis, especially if the patient is invasive adenocarcinoma is found.[5] Isolated pure villous adenoma have a good prognosis; however, since definitive diagnosis may only be done post-operatively, and there is never a certainty whether a lesion might develop into later adenocarcinoma, complete nephrectomy is advisable in all cases.

Conclusion

In conclusion, villous adenoma of the urinary tract are rare clinical entities which are difficult to diagnose preoperatively. Mucosuria and previous history of stone treatment may narrow down suspicion. Other clinical and imaging findings are often nonspecific. Definitive diagnosis is mainly histological. It has also been known to coexist with adenocarcinoma, so complete excision with wide margin, such as in nephrectomy, is advisable. Pure villous adenoma of urinary tract have good prognosis. This patient had a total nephrectomy with lymph node excision, therefore, we should follow-up or a possibility of recurrence or progression. Because this entity is rare, there is no standard established protocol for follow up and management.

Source of Support

None

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