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Case Report

# Squamous papilloma of the renal pelvis mimicking transitional cell carcinoma

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## ABSTRACT

Squamous papilloma of the renal pelvis is an extremely rare entity. To the best of our knowledge, no case has been reported till date. A 45-year-old female presented to us with flank pain for two months. She had undergone left-sided percutaneous nephrolithotomy three years ago. Preoperative evaluation suggested the presence of a transitional cell tumor arising from the left renal pelvis. Diethylene-triamine-pentaacetic acid renogram showed a non-functional left kidney. She underwent left nephroureterectomy. Histopathology showed squamous papilloma of the renal pelvis. Subsequent follow-ups have been uneventful.

**Keywords:** Nephrolithiasis; papilloma; squamous cell neoplasm; transitional cell carcinoma.

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## Introduction

Papilloma is an exophytic lesion consisting of a delicate fibrovascular core covered by an epithelial layer. Urinary tract papillomas are commonly seen in the bladder.[1] Papilloma of the renal pelvis is uncommon with less than 100 cases have been reported till date, and all of them were transitional cell (urothelial) variety. We report a case of squamous papilloma of the renal pelvis that has never been reported in the literature.

## Case presentation

A 45-year-old female presented with a complaint of dull aching flank pain for two months. She had undergone percutaneous nephrolithotomy on the ipsilateral side three years ago for nephrolithiasis.

Clinical examination was normal. Ultrasonography of abdomen and pelvis revealed left hydronephrosis with thinned out cortex and a soft tissue mass in the left renal pelvis. Computed tomography scan confirmed the sonography findings (Figure 1). Diethylene-triamine-pentaacetic acid (DTPA) renogram revealed the presence of a non-functional left kidney with the normal right kidney. The provisional diagnosis of transitional cell carcinoma arising from the left renal pelvis was made based on clinical and radiological findings. After the informed written consent was obtained, she underwent left nephroureterectomy with retroperitoneal lymph node dissection at the same time.

Intraoperatively, a 6 x 5 x 4 cm sized tumor was found occupying the left kidney with thinned out renal parenchyma (Figure 2). Histopathology showed papillary growth consisting of hyperkeratotic squamous epithelium suggestive of squamous papilloma. There was no mitosis or atypia (Figure 3). Lymph nodes showed findings of chronic lymphadenitis. Postoperative period was uneventful. She was discharged home on the seventh postoperative day. Subsequent follow-ups up to three years were uneventful. Informed consent was obtained from the patient for the publication of case report.

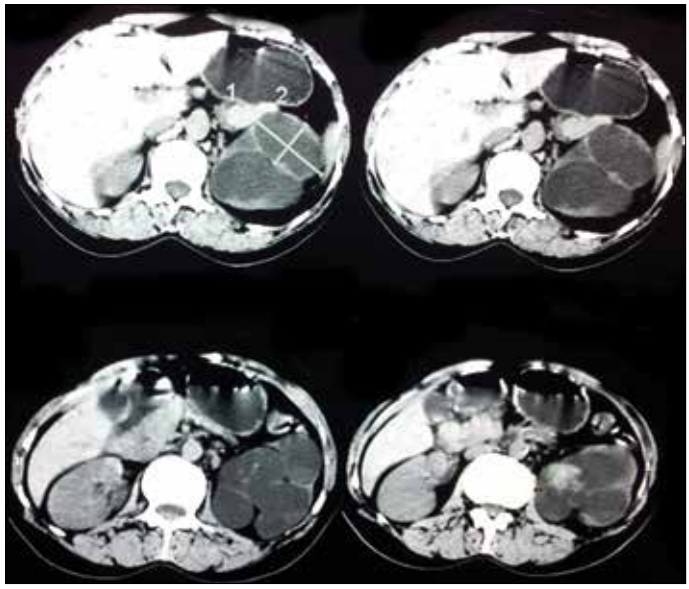

Figure 1. Contrast-Enhanced Computed Tomography of the abdomen and pelvis showing a hypodense enhancing lesion occupying left kidney

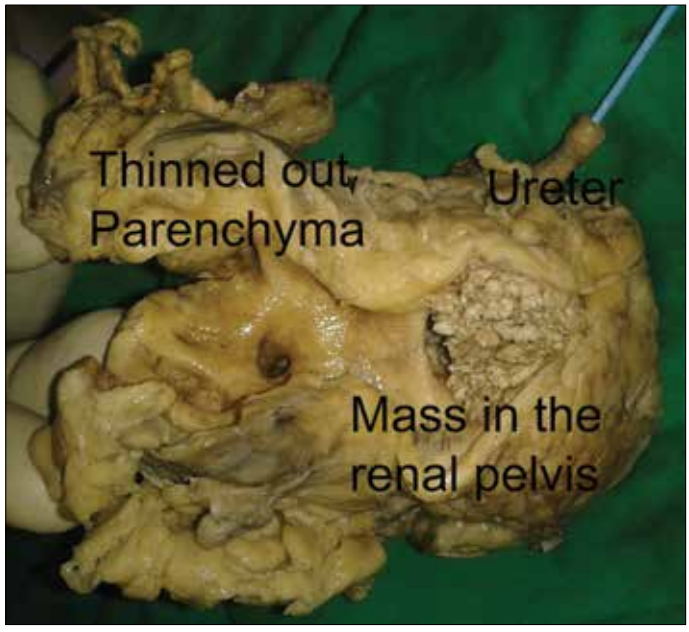


Figure 2. Left nephroureterectomy specimen showing an exophytic lesion occupying the renal pelvis

## Discussion

Urinary tract papilloma is a papillary tumor with a fine fibrovascular stalk supporting an epithelial layer with normal thickness and cytology. The fibrovascular stalk consists of a central axis of connective tissue, blood vessels, and lymphatics. The surface of the tumor is covered with transitional or squamous epithelium.[1,2]

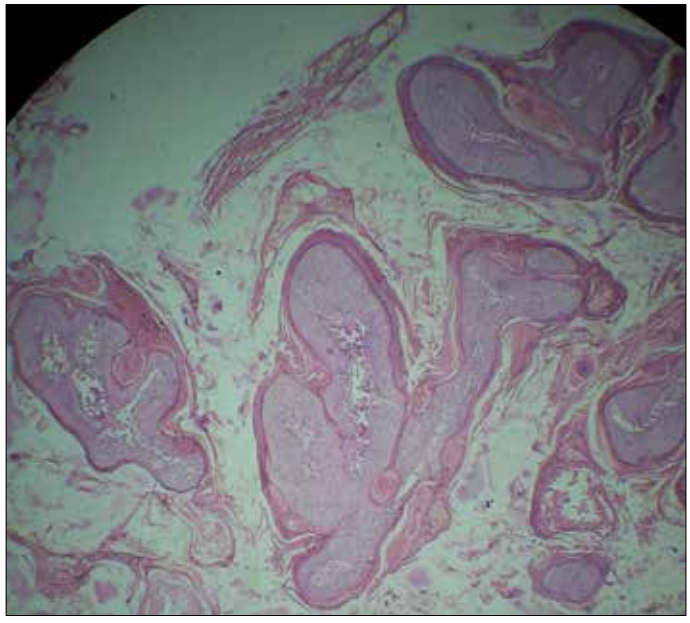

Figure 3. Histopathology showing papillary growth lined by squamous epithelium

Squamous papilloma is a squamous counterpart of urothelial papilloma. They can be seen at any age, but most commonly seen in elderly women.[2] Squamous papilloma of bladder and ureter has been reported, but the involvement of renal pelvis hasn't been reported in the literature till date.

The most common presentation of urinary tract papilloma is hematuria. Other presentations include pain and a palpable mass.[3] The lesions are solid, usually firm, but may be soft if there is a large, central, fatty component. The surface may be grooved or deeply fissured and may be associated with pigmentation and keratosis. They are noninvasive and not indurated unless there is associated inflammation or ulceration, in which case they may be mistaken for malignant lesions.[3] They can cause pressure necrosis of the kidney as happened in our case.

Squamous papilloma differs from transitional cell (urothelial) papilloma in many aspects. They are not related to human papillomavirus, unlike urothelial papilloma. They rarely recur, but urothelial papilloma is known for its recurrence. Squamous papilloma does not show cellular atypia or any evidence of stromal invasion.[2] Squamous papilloma of renal pelvis is always benign while transitional cell papilloma of renal pelvis is more malignant than their corresponding tumors of the bladder.[4]

They can be differentiated from malignant tumors only by histopathology. Though they can be treated by simple excision, most of them undergo nephroureterectomy as they are indistinguishable from malignant tumors based on the results of their clini-

cal presentation and investigations. Our patient presented with radiological features suggestive of transitional cell carcinoma and her ipsilateral kidney wasn't functional. Hence nephroureterectomy was carried out.

In conclusion, squamous cell papilloma of the renal pelvis is a rare entity and can mimic malignancy. They are almost always benign, and they rarely recur.

**Informed Consent:** Informed consent was obtained from the patient for the publication of case report.

**Peer-review:** Externally peer-reviewed.

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**Conflict of Interest:** Authors have no conflicts of interest to declare.

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