Kidney: Papillary adenoma
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Abstract
Review on Renal papillary adenoma, with data on clinics, and the genes involved.

Keywords
Renal papillary adenoma

Identity
Other names
Renal papillary adenoma, Tubulo-papillary adenoma

Note
Papillary adenomas are benign renal tumors that are, based on the 2016 WHO classification of renal tumors, low grade papillary neoplasms that are 15mm or fewer in diameter (Moch et al., 2016). This defining size for papillary adenoma was increased from 5mm in the prior WHO classification as metastases from these tumors are not observed in lesions that are ≤15mm.

Phylum
Urinary
system: Kidney: Adult: Adenoma: Tubulopapillary adenoma

Clinics and pathology

Disease
Renal papillary adenoma

Epidemiology
Papillary adenomas are common. They have been reported in 7% of nephrectomy specimens and 10-40% of autopsy kidneys. In autopsy series, the lesions are more common in older patients (10% of patients 70 years) and in patients with end stage kidney disease. Papillary adenomas may be found more frequently in resected kidneys with papillary renal cell carcinoma, and in patients with hereditary RCC, renal vascular disease, end-stage renal disease or acquired cystic kidney disease.

Clinics
Most renal papillary adenomas are discovered incidentally at nephrectomy for another disease. However, with better imaging more tumors may be identified preoperatively. Multiple, bilateral papillary adenomas are referred to as renal adenomatosis.

Pathology
The current World Health Organization (WHO) classification of kidney tumors defines renal papillary adenomas as unencapsulated epithelial tumors lesions with a tubulo-papillary architecture
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measuring ≤ 15mm and of low nuclear grade (Eble et al., 2016). The tumors morphologically resemble PRCC with papillary to tubulopapillary architecture and CK7 expression. By definition, cytologic aypia and necrosis are absent (Fig. 1).

**Treatment**

Although very little is typically done for small renal masses <2.0 cm, a core biopsy can be obtained to confirm the diagnosis of a papillary adenoma detected by imaging. Subsequent treatment options would typically include observation and cyoaablation; surgery is less for papillary adenomas and is typically reserved for carcinomas.

**Evolution**

It has been proposed that renal papillary adenomas are precursor lesions of papillary renal cell carcinoma. In addition to the epidemiologic association with PRCC (see above), papillary adenomas and PRCC show similar immunohistochemical expression of alphamethylacyl-coenzyme A racemase (AMACR). Interestingly, papillary adenomas arising in the setting of acquired polycystic kidney disease do not show AMACR expression, suggesting a different biological mechanism for these neoplasms.

**Prognosis**

Excellent for this benign lesion. Renal papillary adenomas theoretically have no metastatic potential.

**Cytogenetics**

**Note**

Trisomy 7 and 17, and loss of the Y chromosome are common changes in papillary adenomas. There are no definitive cytogenetic differences between the small tumors classified as adenomas and PRCC.

**References**


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