

INVERTED PAPILLOMA OF THE RENAL PELVIS ASSOCIATED WITH RENAL CELL CARCINOMA: A CASE REPORT

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Twenty-one cases of inverted papilloma of the renal pelvis have been described in the literature. A 71-year-old man was admitted to our hospital to examine a right renal mass. We diagnosed a right renal tumor on the basis of the findings from excretory urogram (IVP), computerized tomography (CT) and magnetic resonance imaging (MRI). Surgical material revealed an inverted papilloma in the renal pelvis. We report on the first case of an inverted papilloma of the renal pelvis associated with renal cell carcinoma.

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Key words: Inverted papilloma, Renal pelvis, Renal cell carcinoma

INTRODUCTION

Since Potts¹⁾ reported the first case of an inverted papilloma of the urinary bladder, more than 200 cases have been reported. Mainly, inverted papilloma occurs in the region of the urinary trigone, bladder neck and prostatic urethra. They have been rarely found in the upper urinary tract. Inverted papilloma is recognized as a benign tumor, because only 2 cases of recurrence have been recorded^{2,3)}. However, a few cases revealed malignant formation^{4,5)} and the coexistence of transitional cell carcinoma^{2,6-8)}. We report a case of an inverted papilloma of the renal pelvis associated with renal cell carcinoma.

CASE REPORT

A 71-year-old man was admitted to our hospital for examination of a renal mass that was incidentally discovered by ultrasonography (US) during screening of the upper abdomen. The patient had no other urological symptoms. US demonstrated a low echoic lesion of the right kidney. Cystoscopy showed a normal urothelium. IVP revealed distortion of the right renal pelvis. CT scan demonstrated a mass in the upper portion of the right kidney, and

this was again demonstrated by MRI. Selective arteriography showed a marked neovascularity in the identical portion of the kidney as mentioned above we diagnosed a right renal tumor.

Right nephrectomy was performed in September, 1989. The weight of the right kidney was 530 g and the size was 15.0 × 10.0 × 6.5 cm. There were two distinct tumors in the upper portion of the kidney, which measured 4.0 × 5.0 × 3.0 cm and 3.5 × 4.0 × 3.0 cm. Another grey-colored solid tumor, 4.0 × 2.5 × 1.0 cm, was observed in the renal pelvis (Fig. 1). Histological slides with hematoxylin-eosin staining demonstrated that both renal tumors in the upper portion of the kidney were occupied by cells having a clear cytoplasm and small nucleus. Pathological diagnosis was a renal cell carcinoma, pT2N0M0. Pathological diagnosis of the renal pelvic tumor was an inverted papilloma demonstrating conservation of the epithelial cells, seven or eight layers of cells with no cellular dysplasia (Fig. 2).

The postoperative course was without any complications, and the patient has been receiving medication with anti-cancer drugs. Follow-up observation for 21 months has shown no evidence of recurrence.

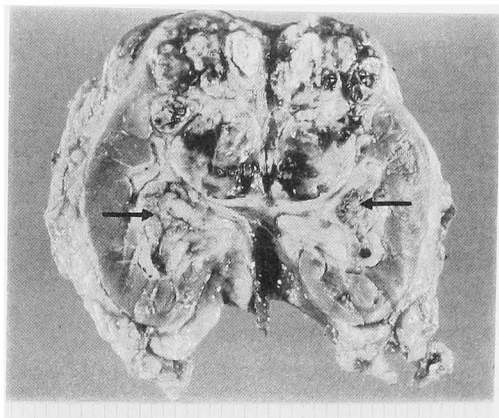


Fig. 1. Gross specimen shows two yellowish tumors of the upper portion and a grey-colored tumor of the renal pelvis (arrows).

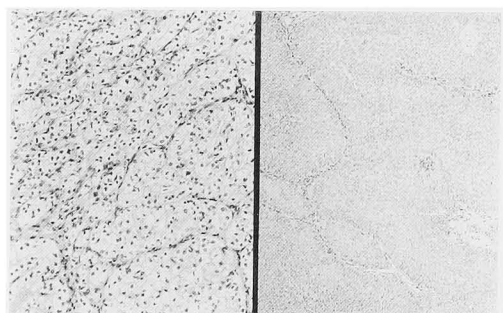


Fig. 2. Microscopic examinations show typical features of inverted papilloma (right, H&E, ×25), and renal cell carcinoma with clear cytoplasm and small nucleus (left, H&E, ×50).

DISCUSSION

More than fifty cases of inverted papilloma of the upper urinary tract have been reported previously. Since Martz⁹⁾ reported the first case in 1974, 22 cases including ours have been identified in the renal pelvis. Most of them had gross hematuria with or without flank pain. Our case had no urological symptoms and the renal pelvic tumor was incidentally discovered at nephrectomy. An inverted papilloma of the renal pelvis is usually diagnosed after surgical treatment for a renal pelvic tumor. Therefore, 11 of the 22 the cases underwent nephroureterectomy. Six of the other cases had either nephrectomy^{10,11)} or resection

of the tumor^{5,12,13)}. One was found at autopsy¹⁴⁾.

The nature of inverted papilloma is considered to be that of a benign tumor. However, even if a pelvic tumor can be examined by biopsy under ureteroscopy, it is difficult to conclude that the tumor is an inverted papilloma. A biopsy specimen alone is not sufficient for distinguishing an inverted papilloma from an inverted type transitional cell carcinoma (TCC) or a combination of an inverted papilloma and TCC. There have been two reports of recurrent inverted papilloma^{2,3)}. In addition there have been nine cases of inverted papilloma with concomitant urothelial cancer^{3-7,15)}. These cases had malignant urothelial lesions at sites independent from the inverted papilloma, but in four^{4-6,15)} of them carcinomas also occurred in the same lesion as the inverted papilloma. In the present case, inverted papilloma of the renal pelvis seems to be associated with renal cell carcinoma by coincidence. In any event, until now there has been no report on the coexistence of an inverted papilloma of the renal pelvis and renal cell carcinomas.

Silverstein¹⁵⁾ previously reported a patient with inverted papilloma of the left ureter after right nephrectomy for right renal cell carcinoma. Grainger⁸⁾ demonstrated urothelial carcinoma in a portion of the ureteral inverted papilloma coexisting with a small renal cell carcinoma. We report the first case of an inverted papilloma of the renal pelvis associated with renal cell carcinoma.

REFERENCES

- 1) Potts IF and Hirst E: Inverted papilloma of the bladder. *J Urol* **90**: 175-176, 1963
- 2) Demeester LJ, Farrow GM and Utz DC: Inverted papillomas of the urinary bladder. *Cancer* **36**: 505-513, 1975
- 3) Schultz RE and Boyle DE: Inverted papilloma of renal pelvis associated with contralateral ureteral malignancy and bladder recurrence. *J Urol* **139**: 111-113, 1988
- 4) Uyama T and Moriwaki S: Inverted papilloma with malignant change of renal pelvis. *Urology* **17**: 200-201, 1981
- 5) Lausten GS, Anagnoataki L and Thomsen

- OF: Inverted papilloma of the upper urinary tract. *Eur Urol* **10**: 67-70, 1984
- 6) Lazarevic B and Garret R: Inverted papilloma and papillary transitional cell carcinoma of urinary bladder report of four cases of inverted papilloma, one showing papillary malignant transformation and review of the literature. *Cancer* **42**: 1904-1907, 1978
 - 7) Anderstrom C, Johanson S and Pettersson S: Inverted papilloma of the urinary tract. *J Urol* **127**: 1132-1134, 1982
 - 8) Grainger R, Gikas GP and Grossman HB: Urothelial carcinoma occurring with an inverted papilloma of the ureter. *J Urol* **143**: 802-804, 1990
 - 9) Matz LR, Wishart VA and Goodman MA: Inverted urothelial papilloma. *Pathology* **6**: 37-44, 1974
 - 10) Assor D: Inverted papilloma of the renal pelvis. *J Urol* **116**: 654, 1976
 - 11) Theoret G, Paquin F, Schick E, et al.: Inverted papilloma of urinary tract. *Urology* **16**: 149-151, 1980
 - 12) Schulze S, Holm-Nielsen A and Ravn V: Inverted papilloma of upper urinary tract. *Urology* **28**: 58-61, 1986
 - 13) Yamaguchi K, Yanagi S, Ito H, et al.: Inverted papilloma of renal pelvis associated with transitional cell carcinoma of the bladder. *Urol Int* **43**: 302-304, 1988
 - 14) Stower MJ, Maciver AG, Gingell JC, et al.: Inverted papilloma of the ureter with malignant change. *Br J Urol* **65**: 13-16, 1990
 - 15) Silverstein SV and Carlton CE: Inverted papilloma of ureter. *Urology* **17**: 160-162, 1981
 - 16) Cameron KM and Lupton CH: Inverted papilloma of the lower urinary tract. *Br J Urol* **48**: 567-577, 1976
 - 17) Palvo DHB: Inverted papilloma of the urinary tract. *Scand J Urol Nephrol* **19**: 299-302, 1985
 - 18) Watters G, Grant A, Wiley S, et al.: Inverted papilloma of the upper urinary tract. *Br J Urol* **55**: 176-179, 1983
 - 19) Aubert J, Dore B, Villemonteix P, et al.: Inverted papilloma of upper urinary tract. *Eur Urol* **15**: 150-152, 1988
 - 20) Bassi P, Piazza R, Aragona F, et al.: Inverted papilloma of the pelvis. *Urol Int* **46**: 73-76, 1991
 - 21) Arrufat JM, Vera-Roman JM, Casas V, et al.: Papilloma invertido de ureter. *Acta Urol Esp* **7**: 225-228, 1983
 - 22) Kunze E, Schauer A and Schmitt M: Histology and histogenesis of two different types of inverted urothelial papillomas. *Cancer* **51**: 348-358, 1983
 - 23) Taylor FM and Arroyo JG: Inverted papilloma of the renal pelvis: Cytologic features of ureteral washings. *Acta Cytol* **30**: 166-168, 1986
 - 24) Kyriakos M and Royce RK: Multiple simultaneous papillomas of the upper urinary tract: A case report with a review and renal pelvic inverted papillomas. *Cancer* **63**: 386-380, 1989

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和文抄録

腎細胞癌に合併した腎盂 Inverted papilloma の1例

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腎腫瘍の精査目的にて来院した71歳男性。IVP, CT, MRIにて右腎腫瘍と診断し右腎摘出術施行し

た。病理所見は、腎細胞癌と腎盂 inverted papillomaとの合併であった。腎盂 inverted papillomaについて若干の文献的考察を加えて報告した。

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