นิพนธ์ต้นฉบับ

Laparoscopic Radical Nephrectomy for Large Renal Tumor: Metanephric Adenofibroma

สาธิต ศิริบุญฤทธิ์ พ.บ.

บทคัดย่อ

เนื้องอกบางชนิดพบได้ไม่บ่อย และมักมีลักษณะที่ไม่สามารถแยกได้จากภาพถ่ายรังสีว่าเป็นมะเร็งหรือไม่ใช่มะเร็งโดยเฉพาะการแยกจาก Wilms' tumor ในกรณีของ Metanephric adenofibroma ก็เช่นเดียวกัน ในกรณีศึกษานี้ผู้ป่วยมาพบด้วยความผิดปกติจากภาพถ่ายรังสี ซึ่งจากการพิจารณาแล้วมีลักษณะความเสี่ยงของการเป็นมะเร็ง จึงได้ทำการผ่าตัดด้วยวิธี laparoscopic radical nephrectomy ในบทความนี้จะกล่าวถึง ประวัติ, การรักษา และลักษณะเฉพาะของโรค

Keywords: Metanephric adenofibroma, laparoscopic radical nephrectomy, large renal tumor

หน่วยศัลยกรรมระบบปัสสาวะ กองศัลยกรรม โรงพยาบาลพระมงกุฎเกล้า

Laparoscopic Radical Nephrectomy for Large Renal Tumor: Metanephric Adenofibroma

Satit Siriboonrid M.D.

Abstract

Metanephric adenofibroma is a rare benign kidney tumor. It is indistinguishable from other solid tumors, particularly Wilms' tumor. Optimum treatment has yet to be established. This case presented with abnormal radiographic investigations. Laparoscopic radical nephrectomy was done because malignancy risk from radiographic classification. This report review patient's history, treatment and characteristics of tumor.

Keywords: Metanephric adenofibroma, laparoscopic radical nephrectomy, large renal tumor

Division of Urology, Department of Surgery, Phramongkutklao hospital

A Thai woman 42 years-old came to division of urology, Phramongkutklao hospital because of abnormal finding in her whole abdominal ultrasonography reports.

Present illness: Last 1 month, she got a check-up package from private hospital that included blood test, urinalysis, chest x-ray and whole abdominal ultrasonography. Her physician reported all of investigations were normal, except ultrasonography reports. Ultrasonography found large complex cyst at lower pole of right kidney. She never had abdominal or right flank pain before. She had normal blood test and urinalysis in every yearly check up. Her body weight does not change. So, she came to our division for consultation and further management.

Past history: She was healthy woman and does not have any chronic illness.

Personal history: She had negative history of drugs, cigarette and alcohol usage. She worked in Royal Thai Army. All of her jobs were in office and does not contact to any dangerous chemical substances.

Family history: No familial diseases in her family. No history of tumors in any organs in her family.

Physical examination:

Vital sign BP.100/70 mmHg. PR.90/min RR.18/min BT.36.7°C

General appearance

A Thai woman, good conciousness, well co-operate

No pale conjunctivae, no jaundice, no lymphadenopathy

Heart and Lungs

No tachycardia, no murmur, normal breath sound

Abdomen

Mass size 11 cm. in diameter in right side of abdomen, smooth surface mass, no pulsatile sensation, well define border, firm consistency on palpation, no tenderness.

CVA

No tenderness at left side, no flank ecchymosis

Extremities

Normal stature, normal movement, no pitting edema on lower extremities

Neurologic examination

No sensory deficit, motor tone grade V all extremities

Management

After history taking and physical examination, we send this patient for further investigations. Computerized tomography whole abdomen showed 11 cm. in diameter complex cyst, thickening septa and thickening septa calcification (Bosniak classification III) located middle pole to lower pole of right kidney, no lymphadenopathy and others organ were in normal as figure 1. Serum LDH. was in normal value. We talked with this patient about all of investigation results and risk of malignancy from her renal mass. She accepted for surgery. We done intraperitoneal laparoscopic radical nephrectomy of right kidney. We used 125 minute for this procedure. Estimate blood loss was minimal. Gross specimen as figure 2. She ambulated in the evening of operation day. Drain was removed in the next morning and she had active of bowel movement. She was discharged from ward in the third day after operation. The pathological report showed biphasic stromal-epithelial tumour, with a wide range of variation in the proportions of the two components. The stromal component differs from that of congenital mesoblastic nephroma in showing nodular variation in cellularity, but closely resembles that of metanephric stromal tumour (MST). The stroma commonly shows onion-skin concentric arrangement around epithelial tubules and blood vessels. There

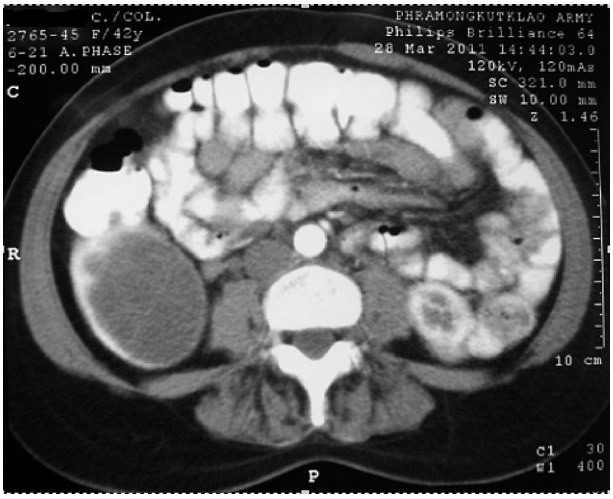

Fig 1 *This picture show large mass (Bosniak classification III) of right kidney.*

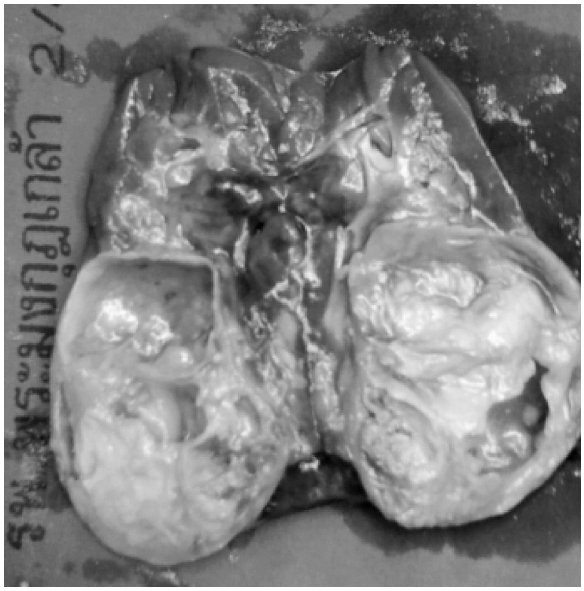

Fig 2 *Gross specimen from laparoscopic right radical nephrectomy show 11 c.m. in diameter mass at lower pole with thick septates and calcifications.*

is angiodysplasia or intra-tumoral arterioles with epithelioid transformation of medial smooth muscle as figure 3.

Discussion

Metanephric adenofibroma was initially described by Beckwith and Hennigar[1] in 1992. It is a rare benign kidney tumor and very few cases have been reported in the international literature. Its origin has been proposed to arise from nephrogenic remnants. Some authors consider it to be a mature and hyperdifferentiated form of Wilms' tumor[2]. These remnants, classified by Beckwith, are residual elements from embryological kidney development. This tumor is characterized by the proliferation of mesenchymatous cells that surround nodules of immature epithelial cells[3]. The epithelial component is histologically identical to metanephric adenoma and is similar to Wilms' tumor. Differential diagnosis is very difficult to make but it is crucial to distinguish between them for treatment purposes since metanephric adenoibroma is a benign tumor and does not require chemotherapy while Wilms' tumor is malignant and thus requires it. The management of these tumors has not yet been defined and the majority of these tumors are benign. However, meta-

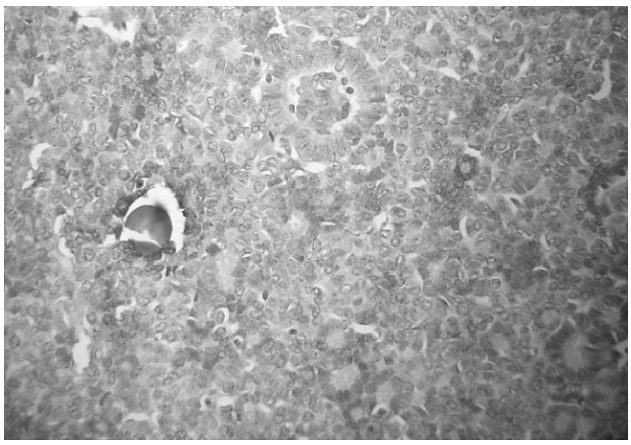

Fig 3 *Microscopic examination of specimen show biphasic stromal-epithelial tumour, with a wide range of variation in the proportions of the two components.*

nephric adenofibroma may be associated with non-embryonic malignant elements (tubulopapillary carcinoma). In published series, patients presenting with this variety have been treated with nephrectomy only and no metastasis has been reported in their follow-up[4]. Other series recommend the use of adjuvant chemotherapy and have demonstrated no recurrence[4]. When epithelial components are almost indistinguishable from Wilms' tumor, adjuvant chemotherapy (dactinomycin and vincristine) is recommended[4].

Conclusions

Metanephric adenoibroma is a benign kidney tumor and only a few cases have been reported in the international literature. It is indistinguishable in imaging studies from other solid tumors. Its diagnosis requires histopathological confirmation and the demonstration of stromal and epithelial components characteristic of this lesion. Ideal treatment has not yet been defined but the majority of patients are treated with nephrectomy with good results. Adjuvant chemotherapy may be reserved for disease that is associated with malignant elements.

เอกสารอ้างอิง

1. Hennigar RA, Beckwith JB. Nephrogenic adenofibroma. A novel kidney tumor of young people. **Am J Surg Pathol** 1992; 16(4): 325-34.
2. Pedram A. Metanephric Neoplasms: The Hyperdifferentiated, Benign End of the Wilms Tumor Spectrum? **Clin Lab Med** 2005; 25(2):379-92.
3. Shek TW, Luk IS, Peh WC. Metanephric Adenofibroma: Report of a Case and Review of the Literature. **Am J Surg Pathol** 1999; 23(6):727-33.
4. Arroyo M. The Spectrum of Metanephric Adenofibroma and Related Lesions. Clinicopathologic Study of 25 Cases From the National Wilms Tumor Study Group Pathology Center. **Am J Surg Pathol** 2001; 25(4):433-44.