Mesoblastic nephroma, also known as fetal mesenchymal hamartoma or leiomyomatous hamartoma, is predominantly seen in infancy. It is a rare tumor in children, only accounts for about 5% of all renal tumors in childhood. In adulthood, it’s even rarer. According to the literature, there were only 23 cases of adult mesoblastic nephroma were reported till 1999. Herein we present an adult with mesoblastic nephroma, which shows heterogeneous echogenicity in abdominal sonography. Computed tomography revealed almost homogeneous attenuation on unenhanced series and enhanced heterogeneity after intravenous contrast medium injection.

CASE REPORT

A 26 year-old male was quite healthy before. He came to our hospital for physical check-up. In routine abdominal sonography, a left renal mass with heterogenous echogenesity was found incidentally. Urine examinations and serum electrolytes all showed within normal limit. Computed tomography (CT) revealed a well circumscribed mass lesion measuring about 10 cm in diameter arising from lateral aspect of left kidney. The tumor appeared nearly homogeneous attenuation on unenhanced series and enhanced heterogeneity after intravenous contrast medium injection (Fig. 1). There was prominent mass effect with medial displacement of the left kidney. Neither enlarged lymph node nor venous invasion was present.

Under the impression of malignant tumor of left kidney, radical nephrectomy was performed. Pathological examination revealed a well-demarcated tumor measuring 12 × 8 × 6 cm in size at the lower pole of the left renal cortex. Grossly, the visible tumor tissue was yellowish-gray in color and elastic-firm in consistency with focal myxoid change. Microscopically, the tumor consisted of abundant collagen fibers with myxoid change and some mature smooth muscle bundles (Fig. 2). No obvious nuclear pleomorphism or active mitoses were found. The lining cells of tubular or cystic structures revealed positive reactivity of cytokeratin. The endothelial cells of variable vessels showed positive staining of factor VIII. The stromal cells revealed negative reactivity for HMB45. No obvious lipomatous component and immature myocytes (HMB45+) were found. Thus, the pathological diagnosis was adult mesoblastic nephroma. After operation, the patient was quite well and followed-up regularly in our outpatient department without evidence of local recurrence or distant metastasis.
DISCUSSION

Mesoblastic nephroma, also known as fetal mesenchymal hamartoma or leiomyomatous hamartoma, is first described in 1967 by Bolande as a distinctive tumor of the kidney, which is composed predominantly of spindled mesenchymal cells of fibroblastic or myofibroblastic lineage admixed with a small number of tubules usually seen at periphery of kidney [1]. After the initial report, a cellular or atypical variant; characterized by focal hemorrhage, necrosis, stromal hypercellularity and a high mitotic index, was described [2]. It is the most common benign renal tumor in the first few months of life in infant and, indeed, is uncommon among patients older than 1 year old of age though. There is no predilection in race or gender in infancy type [3]. It accounts for about only 5% of all renal tumors in childhood, even more rare in adult [2]. The first adult case is reported in 1973 by Block and associates in a 31 years old women [4]. Up to 1998, only 22 adult cases were reported in literature [2]. Adding the other case reported on 1999, 23 cases were reported in literature till now [5]. These 23 cases of adult mesoblastic nephroma range in age from 19 to 78 years old (right: left = 11:12). Unlike the mesoblastic nephroma occurred in infant, most of the adult cases are female (21 females, 2 males). Fever, flank pain, abdominal pain, palpable mass and gross or microscopic hematuria were noted in some of the cases. Although there is little documentation of the imaging appearances of adult mesoblastic nephroma, there has been a brief review of the CT features. Most of these tumors appear as solid masses with homogeneous attenuation on unenhanced series. The tumor tends to enhance heterogeneously after injection of intravenous contrast medium [6]. The MRI appearances of this tumor in adulthood have not been widely reported. According to Ashley M. Groves and associates, heterogeneous signal intensity on T2-weighted image and more uniform in signal intensity on T1-weighted image was reported [6].

Mesoblastic nephroma is suggested a benign

Figure 1. a. Non-enhanced CT scan shows a well-circumscribed isodense mass lesion a arising from lateral aspect of left kidney. b. In delayed phase CT scan, no obvious delay enhancement or contrast pooling in the tumor.

Figure 2. The tumor consists of abundant collagen fibers with myxoid change and some mature smooth muscle bundles (H.E. stain, 200X).
tumor that can be treated successfully by complete surgical removal [2]. The prognosis after complete surgical removal is excellent. Adjunctive chemotherapy and radiation therapy are both unwarranted and may result in unnecessary morbidity [3]. According to the literature, one reported case that has local recurrence and invading the liver 21 years later after removing the tumor [7]. Distant metastases have been reported in some infants, whereas none is reported yet in adult ones. The differential diagnosis should include RCC, angiomyolipoma, adult Wilms’ tumor and nephrogenic fibroadenoma.

**CONCLUSION**

We reported a very rare case of adult type mesoblastic nephroma, which is difficult to diagnose before pre-operatively due to its rarity. The major differential diagnosis is renal cell carcinoma, which is difficult to be differentiated based on image features.

**REFERENCES**

成人中胚層腎瘤：一病例報告

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中胚層腎瘤，或者被稱為胎兒間葉缺陷瘤或是平滑肌缺陷瘤，主要發現在幼兒時期。在孩童時期是個少見的腫瘤，佔所有孩童腎臟腫瘤約佔百分之五的比例。在成年人更為罕見。根據過去的文獻，到西元1999年只有23個病例報導。我們報告一位成年中胚層腎瘤病例。在超音波下顯示非均勻性超音波密度。未打顯影劑的電腦斷層表現為幾乎均勻的腫瘤。打顯影劑之後電腦斷層則是呈現不均勻的增強。