

## Wilms' tumor

Published on 20.11.2000

**DOI:** 10.1594/EURORAD/CASE.702

**ISSN:** 1563-4086

**Section:** Paediatric radiology

**Imaging Technique:** CT

Case Type: Clinical Cases

**Authors:** R. Brillo, R. Iannaccone, A. Casati, M. Pacilli,  
D. A. Cozzi

**Patient:** 2 years, female

### Clinical History:

Abdominal mass

### Imaging Findings:

Patient was admitted to hospital with an abdominal mass. An abdominal plain radiograph, US study and multidetector spiral CT scan were performed.

### Discussion:

Abdominal plain radiograph and US study demonstrated the presence of a massive tumour in the upper pole of the left kidney, suggesting a diagnosis of Wilms' tumor (WT) subsequently confirmed by histological examination performed on renal biopsy). Preoperative chemotherapy reduced the neoplasm maximum diameter from 17 to 10 cm. Subsequent spiral CT examination showed no evidence of metastases and no infiltration of hilar vessels (Fig. 1 a-c). A partial nephrectomy was performed (even though only 10% of the affected kidney could be saved) (Fig. 2 a-b). Follow up is normal at 9 months. WT is the most common pediatric neoplasm of the urinary tract, with an annual incidence of 7-8 cases per million children. This tumor is particularly frequent between 1 and 5 years of age (mean age at diagnosis 3.5 years). WT is usually unilateral (approximately 8% is bilateral and synchronous). The most common initial finding is the presence of an abdominal mass (83%) in an otherwise healthy child. Other common clinical manifestations include: abdominal pain, fever, and weight loss. Microscopic hematuria is found in 25% of patients. US is usually the initial imaging modality of choice and defines the location of the tumor and local invasion. Abdominal CT or MRI are more sensitive than US for assessing local spread and distal extent disease (thus providing essential information for appropriate surgical treatment). The role of radiography vs. CT for finding pulmonary metastases is still controversial.

**Differential Diagnosis List:** Wilms' tumor of the left kidney

**Final Diagnosis:** Wilms' tumor of the left kidney

### References:

D'Angio GJ.

Wilms' tumor.

J Urol 1979; 122: 795. (PMID: [229278](#))

Reiman TA, Siegel MJ, Shackelford GD.

Wilms' tumor in children: abdominal CT and US evaluation.

Radiology 1986; 160: 501-505. (PMID: [3014599](#))

Cushing B, Slovis TL.

Imaging of Wilms' tumor: what is important!

Urol Radiol 1992; 14: 241-251. (PMID: [1335188](#))

Gow KW, Roberts IF, Jamieson DH, Bray H, Magee JF, Murphy JJ.

Local staging of Wilms' tumor - computerized tomography correlation with histological findings.

J Pediatr Surg 2000; 35: 677-679. (PMID: [10813321](#))

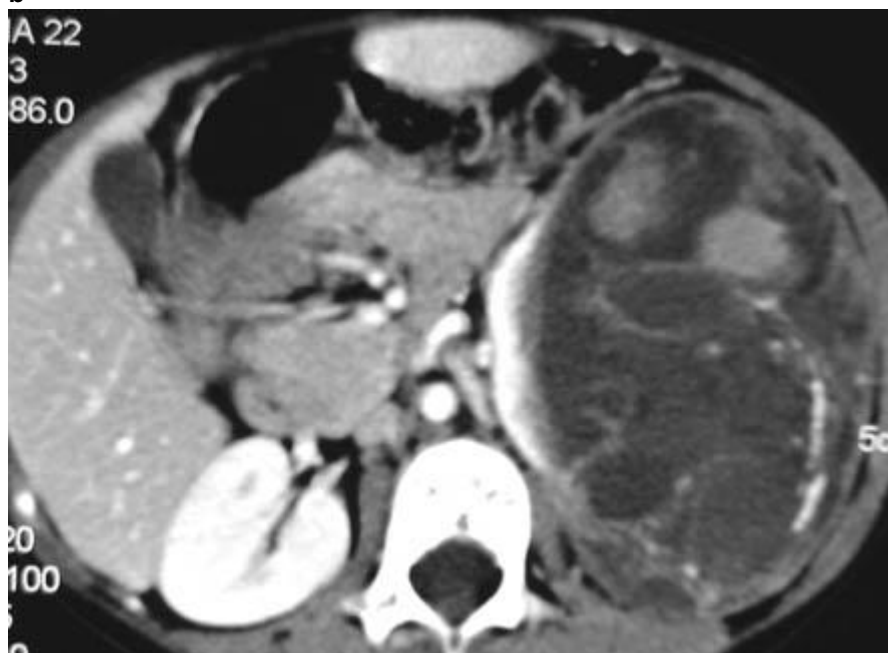
**Figure 1**

a



**Description:** Contrast enhanced CT showing a heterogeneous mass arising from the left kidney: the mass compresses but does not infiltrate hilum vessels (a-b). **Origin:**

b



**Description:** Contrast enhanced CT showing a heterogeneous mass arising from the left kidney: the mass compresses but does not infiltrate hilum vessels (a-b). **Origin:**

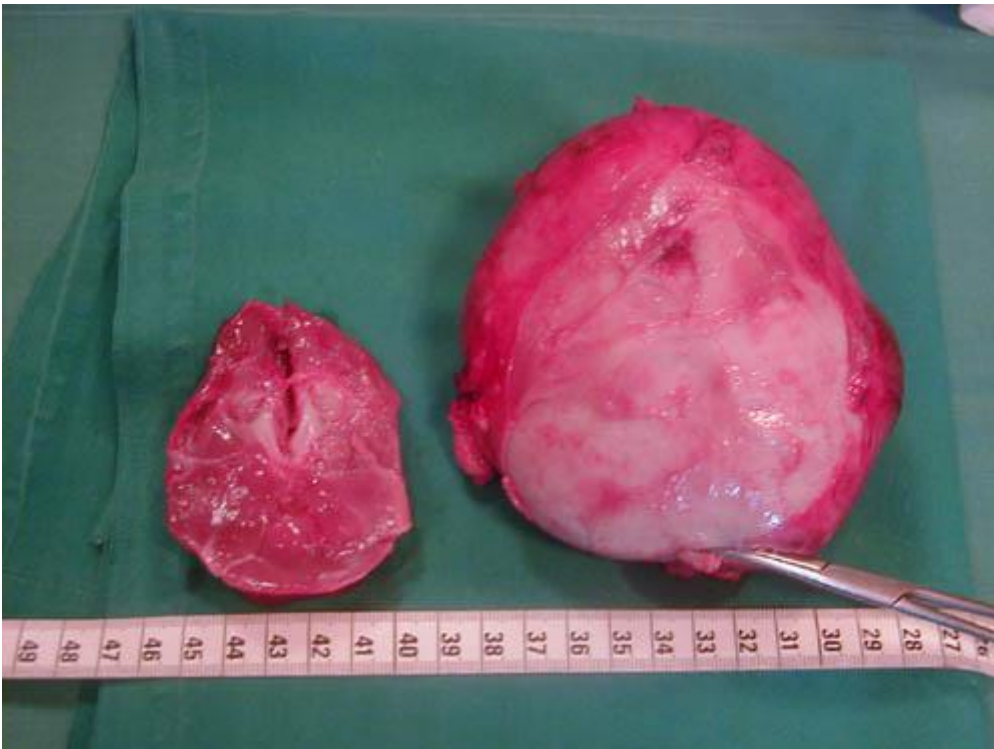
**Figure 2**

**a**



**Description:** Intraoperative view of the neoplasm. **Origin:**

**b**



**Description:** Wilms' tumor view after resection. **Origin:**