

Wilms' tumor: is computed tomography specific to detect lymph node metastasis?

Tumor de Wilms: a tomografia é específica para detectar metástase linfonodal?

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Wilms' tumor is the malignant abdominal tumor most commonly found in children, with a prevalence of one case per 1000 inhabitants⁽¹⁾. This tumor may be hereditary or sporadic in nature, and has a renal origin, although rarely may be extrarenal. It may be multifocal, uni- or bilateral. The most clinical presentation is the presence of an asymptomatic abdominal mass of insidious growth. Secondary arterial hypertension may be observed in up to 25% of the patients, as a result from increased rennin levels.

Currently, therapeutic advances have allowed a successful treatment of such tumors in approximately 90% of cases⁽²⁾. Over the last 30 years, the significant improvement in the prognosis has occurred particularly because of innumerable randomized, multicentric trials in association with a multidisciplinary management to improve the outcomes in cases of children's cancer⁽³⁾. One of the main contributing factors for an earlier diagnosis and for a more accurate staging has been the aid provided by imaging methods, such as computed tomography (CT), Doppler ultrasonography (US) and magnetic resonance imaging (MRI).

The main objectives of imaging methods in Wilms' tumor staging are the following: 1) to identify the tumor origin; 2) to evaluate the tumor extent; 3) to evaluate the involvement of the renal vascular pedicle; 4) to detect regional lymph node metastasis; 5) to detect the presence of bilateral Wilms' tumors; 6) to detect the presence of distant metastasis.

Specifically in relation to lymph nodes involvement, previous studies have demonstrated that CT presents low specificity and low positive predictive value in the identification of metastatic lymph node involvement, which affects the staging and, consequently, the therapeutic approach^(4,5). In the present issue of **Radiologia Brasileira** the reader will find an interesting study presented by Silva et al.⁽⁶⁾ approaching the local staging of Wilms' tumor by CT as well as its accuracy in the detection of lymph node metastasis. In such a study, the authors conclude that CT has low specificity and low positive predictive value in the detection of metastasis.

On the other hand, the absence of visible lymph nodes practically rules out lymph node involvement.

This is due to the fact that the detection of abdominal lymph nodes in both female and male, asymptomatic children of all ages is a common, nonspecific finding and should be evaluated only in an appropriate clinical context⁽⁷⁾. The identification of abdominal lymph nodes at CT, their dimensions and meaning in the pediatric population have been discussed by several studies. Lymph nodes measuring 5–10 mm in their smallest diameter are frequently found at abdominal CT in healthy children⁽⁸⁾.

The use of FDG-PET does not add any information to conventional CT in the staging of patients with Wilms' tumor, in the evaluation of their response to preoperative chemotherapy as well as in their clinical follow-up⁽⁹⁾. Such method is useful to rule out the presence of residual disease once a first-line treatment is completed and in the pretherapeutic staging in cases of disease recurrence. Additionally, it seems that there is a good correlation between the standard uptake value and histological differentiation⁽⁹⁾.

Finally, in the investigation of pediatric patients with Wilms' tumor, the radiologist must be attentive to the fact that lymph nodes detected at imaging studies do not correspond to metastatic lymph node involvement. In the cases where abdominal lymph nodes are not identified, metastatic lymph node involvement is improbable.

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