

Staging of the Neuroblastomas by Computed Tomography and Magnetic Resonance Imaging

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Abstract

Neuroblastoma is the most frequent solid extra-cranial malignant tumor in children. A proper staging of the disease allows the selection of the appropriate treatment, including the surgical approach. The present review aims to discuss and illustrate the role of computed tomography (CT) and magnetic resonance (MRI) in the differential diagnosis of the retroperitoneal or mediastinal masses, prior discovered by ultrasound or X-ray examination. Furthermore, it is discussed the role of CT and MRI for staging the patients with a histological proof of neuroblastoma. CT scan is very useful to detect and characterize the thoracic and abdominal tumors and organ metastases, with a special quality in detecting structural microcalcifications. MRI is sensitive for cranio-spinal primary tumors, marrow-bone metastases and mediastinal or pelvic primary or secondary tumors. In conclusion, CT and MRI imaging are mandatory diagnostic tools in staging neuroblastomas, finding the optimal moment for the surgical treatment and establish the risk categories of the children.

Key words: neuroblastoma, staging, computed tomography, magnetic resonance