History
4 year old female with history of constipation.

Diagnosis
Alveolar Rhabdomyosarcoma-Pelvis

Discussion
Rhabdomyosarcoma is the most common soft tissue sarcoma in childhood. Its clinical, biological and pathological characteristics vary considerably. Rhabdomyosarcoma is almost exclusively a pediatric malignancy with two age peaks 2 – 6 years (usually head and neck and genitourinary tract sites) and 15 – 19 years (usually extremity, trunk, and paratesticular sites). Rhabdomyosarcoma derives from primitive mesenchymal cells which demonstrate muscle differentiation on histological, immunochemical or electron microscopic evaluation. There are four histological types in decreasing order of frequency: embryonal, alveolar, undifferentiated and botryoidal. The alveolar type tends to affect the extremities and have a poor prognosis. Rhabdomyosarcomas of the trunk present most often as a painless mass. Rhabdomyosarcoma most commonly spreads to regional lymph nodes and less commonly to the lung, bone and bone marrow. Rhabdomyosarcoma and other soft tissue sarcomas have been shown to be FDG avid and consequently useful for initial diagnosis and staging as well as in the detection of recurrent disease.

Findings
US-Heterogeneous pelvic mass with occasional calcifications encasing the right iliac artery.
CT-Mixed density presacral mass with leftward deviation of the urinary bladder and encasement of the right iliac artery but no overt foraminal or intraspinal involvement.
NM-Markedly FDG avid neoplasm with rightsided pulmonary metastases.

Reference
Junewick JJ, Shreve P. PET-CT in Pediatric Malignancies in Clinical PET-CT in Radiology, Springer 2010.
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