

Cystic Neuroblastoma

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History

3 week old male transferred from an outside institution for a left renal mass.

Diagnosis

Cystic Neuroblastoma

Additional Clinical

Normal urinary VMA.

Discussion

During embryologic development, the fetal adrenal gland normally contains neuroblastic nodules, which are histologically indistinguishable from neuroblastoma in situ. The number of neuroblastic nodules peaks at 17–20 weeks gestation, and they subsequently mature or regress.

Data from infant screening programs support the theory that many localized adrenal masses are likely to mature or regress without becoming clinically evident.

There is a predominance of cystic neuroblastoma in fetuses. Cystic changes may indicate ongoing involution. At histology, these tumors have small aggregates of neuroblasts in the cyst wall. Cystic tumors usually have favorable biologic markers and are less likely to be chemically active as was seen in this case.

Neuroblastomas are more commonly suprarenal, making diagnosis more straightforward. Differential in this case includes cystic teratoma.

The usual sonographic appearance of an adrenal neuroblastoma is that of an echogenic or complex extrarenal mass compressing or displacing the kidney inferiorly and laterally. Most abdominal neuroblastomas have a variable echogenicity with irregular hyperechoic areas intermixed with less echogenic areas, apparently corresponding to the frequent foci of hemorrhage, necrosis, and microcalcification in these tumors.

Although cystic neuroblastoma is a rare form of neuroblastoma in the infant, it should be considered in the differential diagnosis of a cystic adrenal mass. It may appear as a complex echogenic mass or an anechoic mass by sonographic examination. Failure of a cystic suprarenal mass to resolve on follow-up examination is an indication for surgery.

Findings

Ultrasound-Very complex circumscribed round mass in the left upper quadrant with peripheral vascularity but no significant central vascularity (representing hemorrhage at surgery). Pancreatic tail and left adrenal gland above the lesion and kidney was displaced laterally.

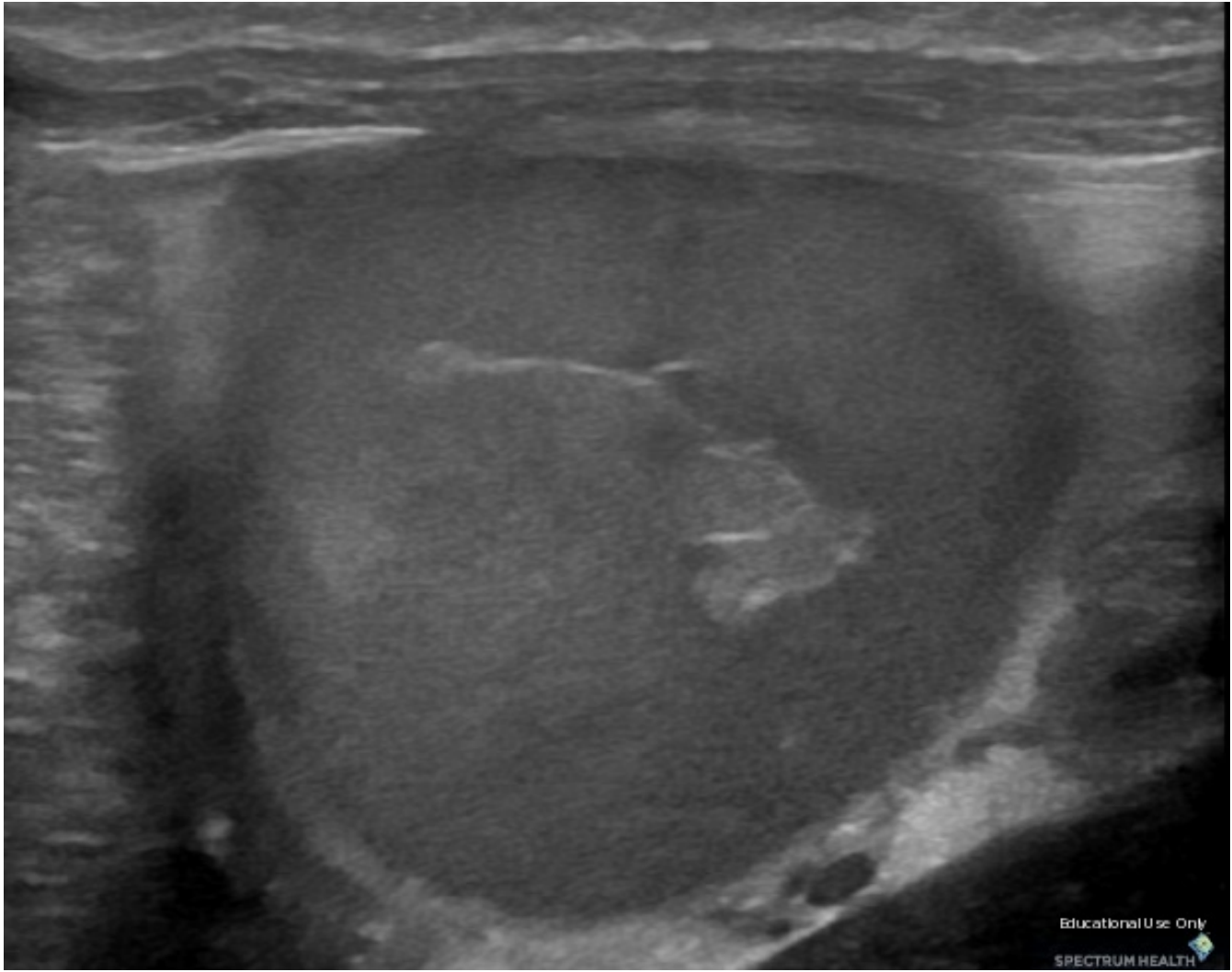
CT-Hypodense circumscribed left upper quadrant mass with displacement of the kidney and pancreatic tail. Lateral limb of left adrenal gland adjacent to the posterosuperior aspect of the mass (not shown).

Reference

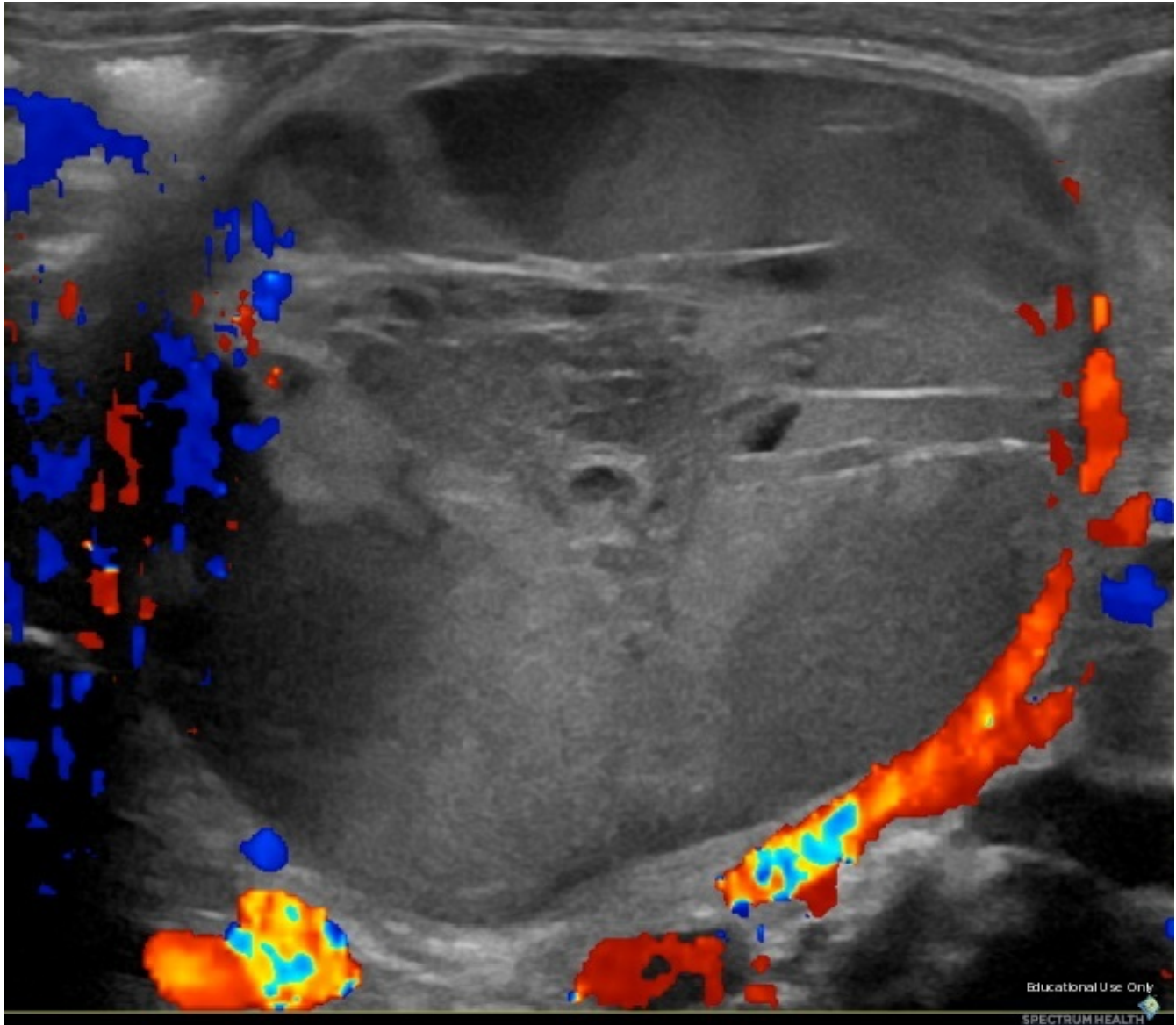
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