MYXOPAPILLARY EPENDYMOMA

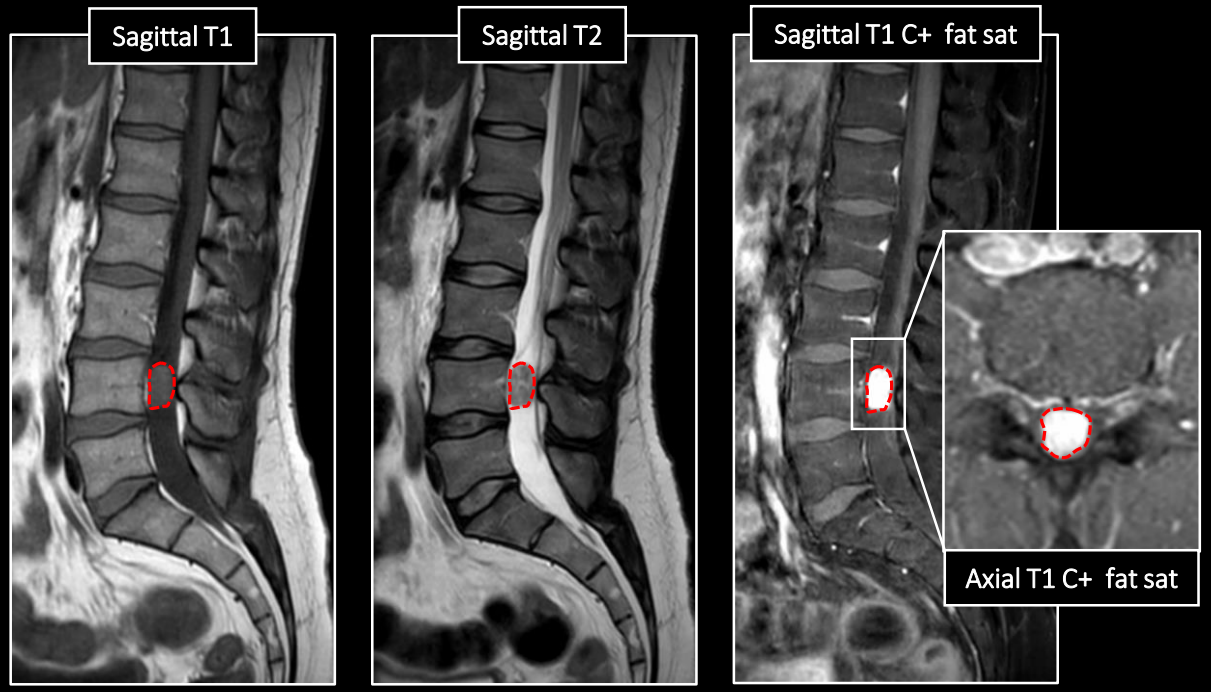
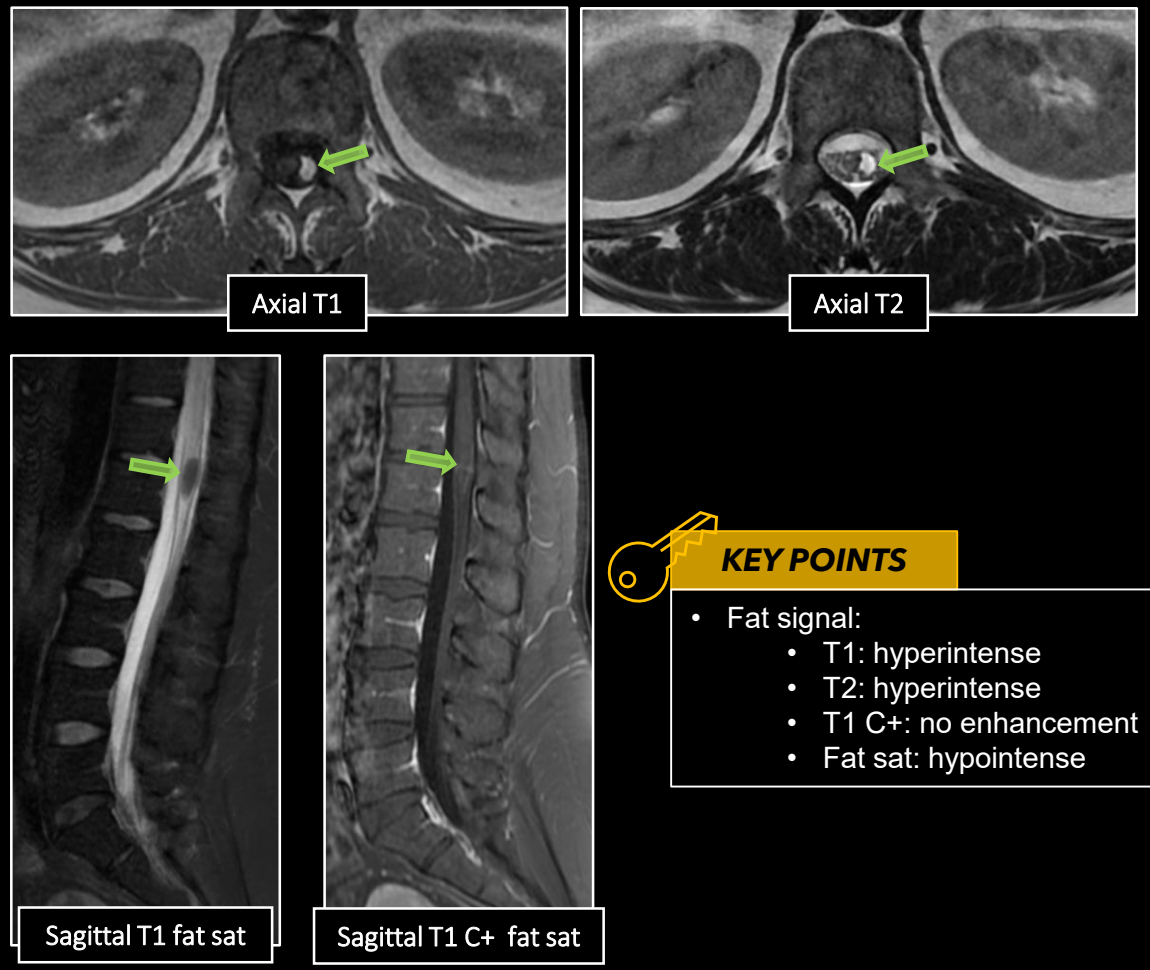


Figure 1. Male 42 years old, chronic low back pain for 10 years. Nodule in the central region of the vertebral canal, intradural (red dashed line), at the level of L4, with diffuse contrast enhancement, which laterally displaces / compresses the descending roots.

KEY POINTS

- Cap sign → hemmorrhage at the tumor margins
- T1 C+ → homogeneous enhancement
- Hemmorrhage and calcification

INTRADURAL SPINAL LIPOMA

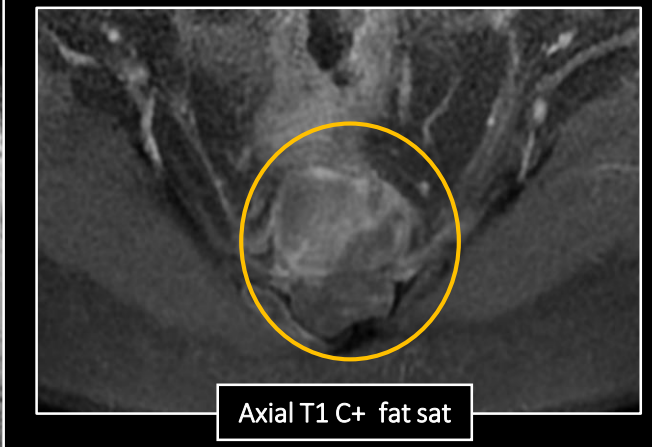


KEY POINTS

- Fat signal:
  - T1: hyperintense
  - T2: hyperintense
  - T1 C+: no enhancement
  - Fat sat: hypointense

Figure 2. Female, 45 years old, low back pain since 2013. Well-defined nodular lesion inside the spinal canal (green arrows), at the level of T12-L1, in the medullary cone / cauda equina transition, well-defined, with minimal peripheral enhancement in the middle of contrast.

CHORDOMA

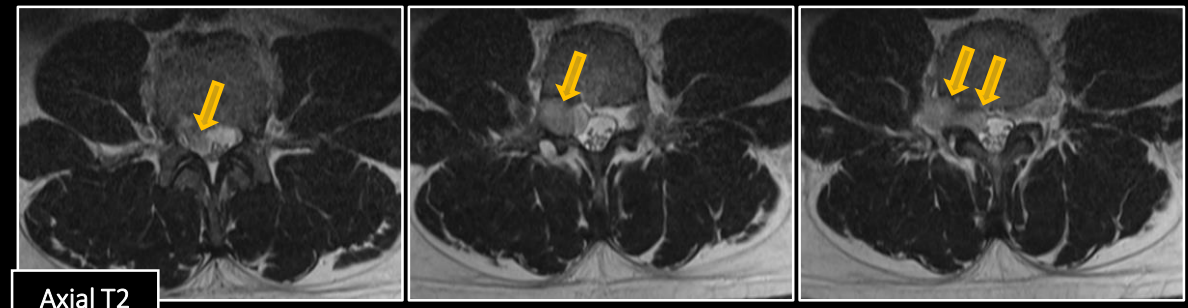


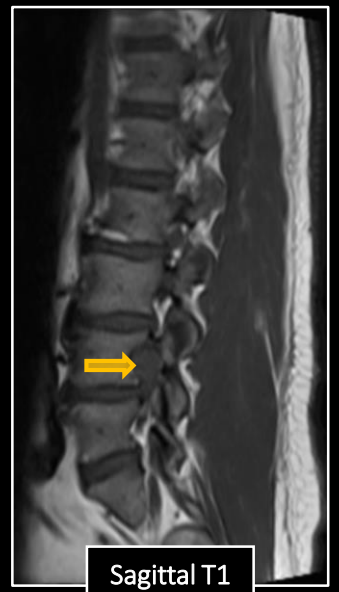
KEY POINTS

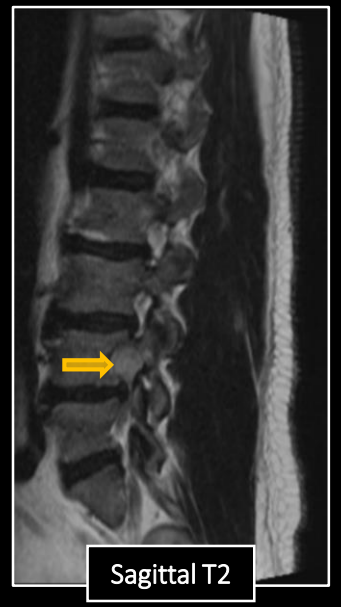
- Centrally located
- Destructive lytic lesion
- Soft tissue mass
- T1 C+ → heterogeneous enhancement
- Hemmorrhage
- Calcification (sequestra of the normal bone)

Figure 3. Female 45 years old, coccidine. Heterogeneous bone lesion, centered on the sacral body of S5 (yellow circle), infiltrating S4 and the first coccygeal part, with an extra-osseous soft tissue component infiltrating the presacral region with some points of contact with the high rectum, and right posterolateral where it makes contact with some muscle fibers of the gluteus maximus. The lesion obliterates the entire breadth of the sacral canal and partially the bilateral S4-S5 foramina. It shows some areas of high signal on T1 that could correspond to areas of bleeding.

SCHWANNOMA







KEY POINTS

- Split-fat sign
- Target sing
- T1 C+: intense enhancement
- Bone remodeling
- Cystic and fatty degeneration

Figure 4. Male 54 years old, low back pain for 6 months. Expansive fusiform lesion (yellow arrows) with well-defined limits in the foraminal and extra foraminal segment of the right emerging root of L4, determining enlargement and chronic remodeling of the respective foramen, without rupture of the cortical bone and without signs of aggressiveness.

LIPOMA OF THE FILUM TERMINALE

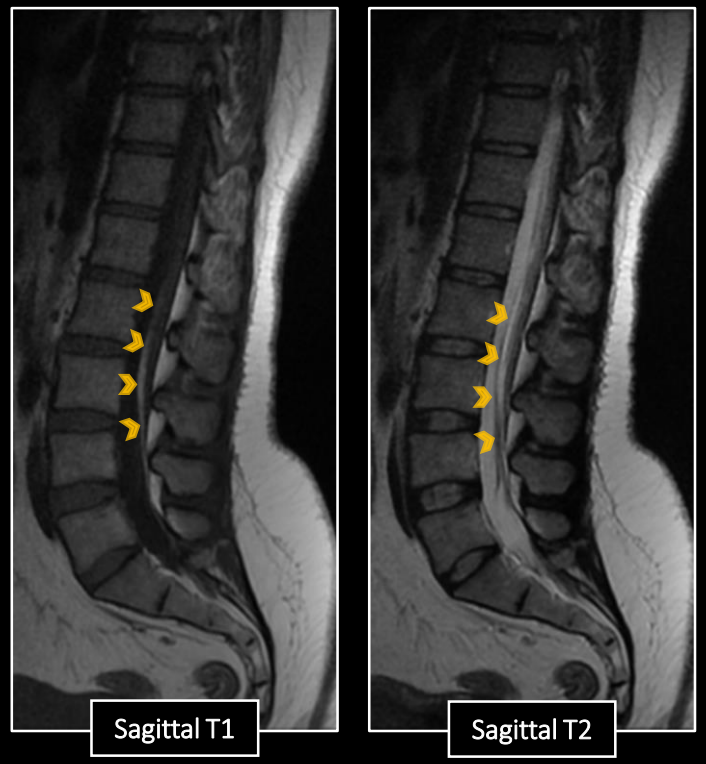
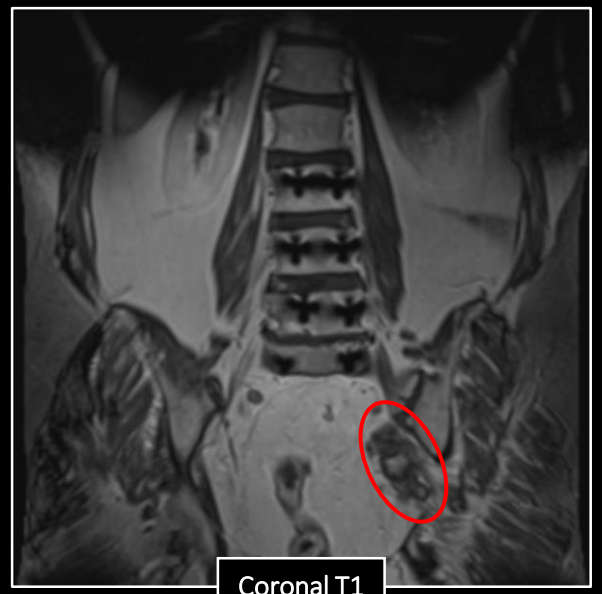


Figure 5. Female 38 years old, low back pain. Elongated lipoma of terminale filum (yellow arrowheads) at the level of L2-L3 and extending inferiorly to the level of L4-L5.

KEY POINTS

- Fat signal:
  - T1: hyperintense
  - T2: hyperintense
  - T1 C+: no enhancement
  - Fat sat: hypointense

PLEXIFORM NEUROFIBROMA



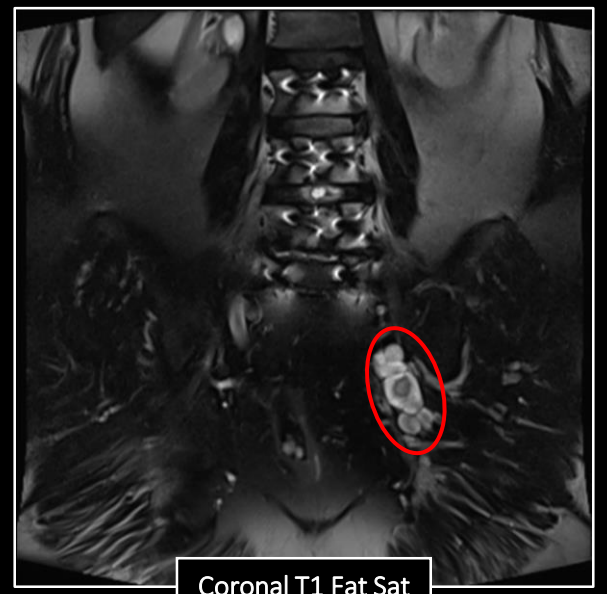
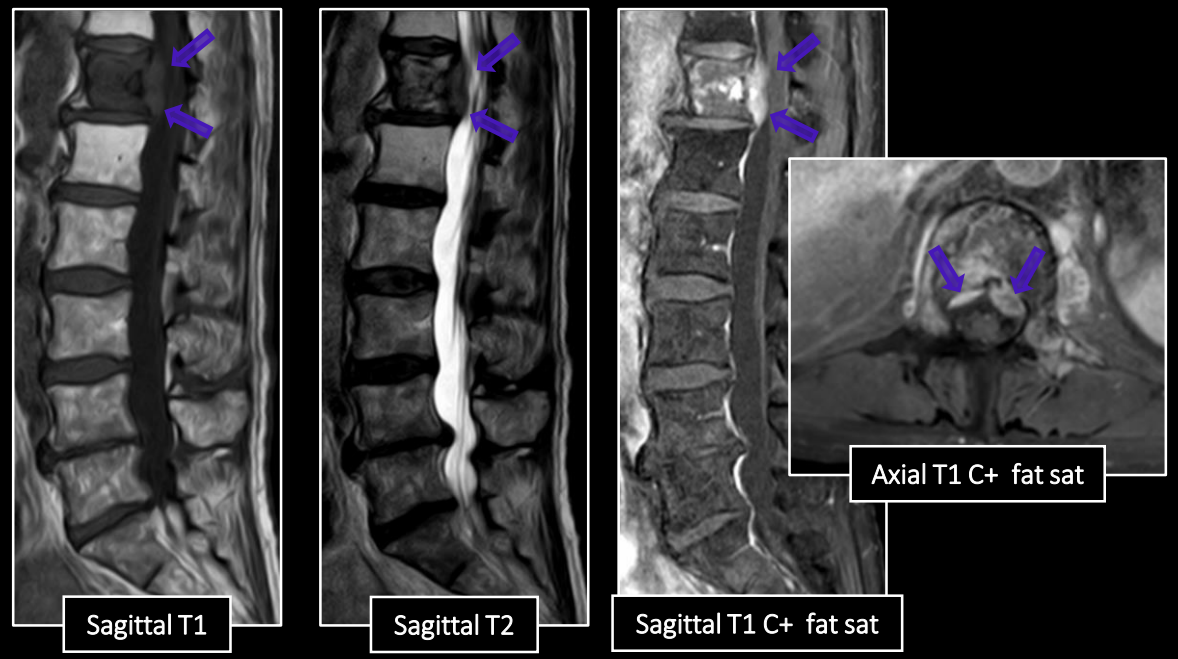


Figure 6. Female, 76 years old, finding a nodule in the lumbar region on MRI Abdomen. Elongated nodular formations with a fusiform appearance along the course of the left S1 root (red circle), close to the inner margin of the greater sciatic foramen, in contact with the other roots of the sciatic nerve, causing a slight displacement of the nerve. Areas of low signal are observed in the center of the lesions, sometimes with "target" characteristics.

KEY POINTS

- Target sign
- NF1

METASTASES



KEY POINTS

- T1: hypointense
- T1 C+: ↑enhancement
- Aggressive features:
  - Soft tissue extension
  - Cortical involement
  - Pathologic fracture
  - Pain

Figure 7. *Male, 72 years old, lung cancer.* Expansive formation in the medullary of vertebra T12, extending to the medullary of the posterior elements. Shows signs of aggressiveness with areas of cortical irregularity and extension to paraspinal soft tissues, more prominent on the left, with extensive contact with the proximal segment of the left psoas muscle and posterior paravertebral musculature. It also presents extra-osseous extension to the anterior and left lateral region of the vertebral canal, imprinting the dural sac (purple arrows).

HEMANGIOMA

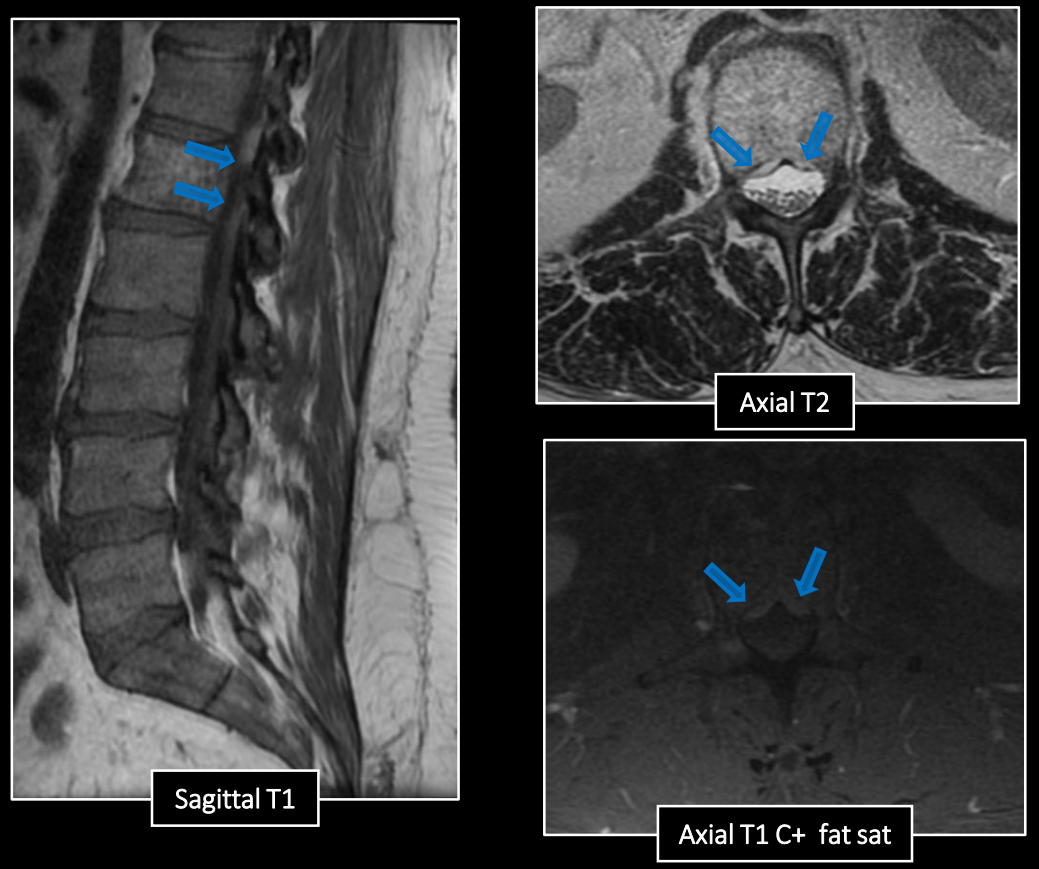
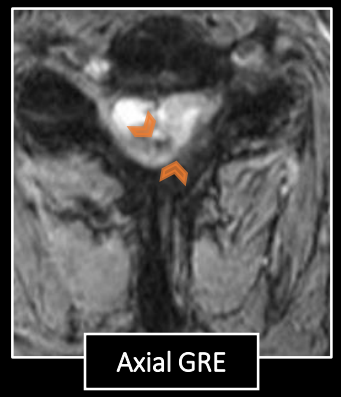


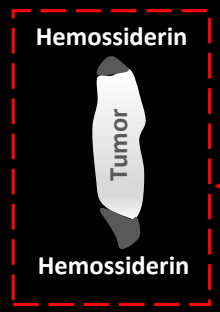
Figure 8. Male 49 years old, low back pain. Intramedullary lesion in the L1 vertebral body (blue arrows) that exhibits fat foci inside, suggestive of hemangioma, which determines thinning of the posterior cortical bone associated with a small soft tissue component in the epidural space.

KEY POINTS

- Typical → lipid-rich
- Atypical: → lipid-poor
- T1 C+: ↑enhancement

EPENDYMOMA





KEY POINTS

- 30% of intramedullary pediatric tumors
- Central in the spinal canal → sensory symptoms
- Polar cysts
- NF2
- CT: canal enlargement, scoliosis, remodeling
- MRI: halo of low T2 signal at the edges of the lesion ("cap sign") → hemosiderin deposition secondary to intratumoral hemorrhage

Figure 9. Male 63 years old with neck pain and subjective upper extremity weakness. Expansive lesion compromising the spinal cord with infiltrative characteristics and irregular and elongated nodular morphology, heterogeneous enhancement and with some intrinsic cystic areas and mainly in the right anterolateral periphery (yellow arrowheads). Multiple foci of hemosiderin deposition are associated (orange arrowheads), inferring previous hemorrhage. We also highlight foci of high signal on T1 in the most distal position of the lesion, which suggest more recent hemorrhagic foci (green arrows).

ASTROCYTOMA

KEY POINTS

- 60% of intramedullary pediatric tumors
- Associated with intratumoral and polar cysts
- Eccentric
- Longitudinal extension < 4 vertebral bodies
- NF1
- CT: enlargement and remodeling of the vertebral bodies
- MRI: irregular enhancement

Figure 10. Female 11 years old, progressive paresthesia of the extremities. Intradural and intramedullary tumor lesion with an expansive appearance (blue dashed line) and without evident gadolinium enhancement, with discrete ectasia of the central ependymal canal cranially to the lesion.