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LETTER

Calcifying Pseudotumor of the Cervical Spine

A 68-year-old man who had pain extending down his left arm for 4 weeks was referred to us after neurologic findings consistent with a C-8 radiculopathy were obtained. Magnetic resonance (MR) examination of the cervical spine demonstrated a 1-cm, oval, left lateral extradural mass at the level of C-7. The nerve root exit zone at the C-7-T-1 (C-8 root) level was obstructed. The signal intensity of the mass equaled that of the spinal cord centrally with a margin of slightly increased signal on T1-weighted pulse sequences (Fig 1). Intravenous gadolinium injection resulted in minimal peripheral enhancement. On T2-weighted studies the lesion's signal intensity was diffusely increased relative to cerebrospinal fluid; there was a thin low-signal-intensity rim (Fig 2). A computed tomographic (CT) myelogram demonstrated that the mass had central low attenuation with a thin rim of peripheral calcification which was separate from the contrast material in the spinal canal (Fig 3).

At surgery, an extraaxial, extradural tumor was removed. It was pearly white and tightly adherent to the dura. As the mass was being freed, a liquid center was identified. The patient recovered with return of normal strength.

The pathologist reported that the lesion was composed of fine centers of calcification, surrounded by palisading of histiocytes and multinucleated giant cells. This is consistent with prior reports of calcifying pseudotumor (1). The pathologic finding of epithelioid cells with liquefaction centrally was also described in the prior cases. The lesion most likely represents a reactive granuloma, though an embryonic cell rest would have a similar pathologic and imaging appearance.

Of similar cases (1, 2), most involved the skull; neither of these two cervical lesions presented with neurologic findings, as in the present case. The constellation of MR and CT findings of a peripherally calcified extradural mass,

slightly higher signal intensity centrally on T1-weighted images, and diffuse high signal on T2-weighted images might point to the diagnosis of calcifying pseudotumor.

The lesion's MR appearance is unusual for an extradural mass, inasmuch as all the common extradural tumors are typically solid and exhibit prominent intravenous gadolinium enhancement. A calcified synovial cyst, itself very rare in the cervical spine (3), is the major alternative to be considered in the differential diagnosis. It would be expected to be associated with a degenerated facet joint. A cyst caused by a parasite also might have a similar appearance.

The MR and CT findings of calcifying pseudotumor—an extradural mass with a thin rim of calcium, surrounding a low-density core, with MR evidence of a proteinaceous liquid center—should enable the diagnosis to be made before operation. The lesion is benign, and surgery can be curative.

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Fig. 1. T1-weighted (600/30/2 [repetition time/echo time/excitations]) MR image demonstrating intradural mass with a low signal centrally and a slightly higher signal intensity rim.

Fig. 2. T2-weighted (2000/80/2) MR image demonstrating high-signal-intensity center with thin rim of low signal.

Fig. 3. CT myelogram demonstrating the calcified rim with a central area of water attenuation.

