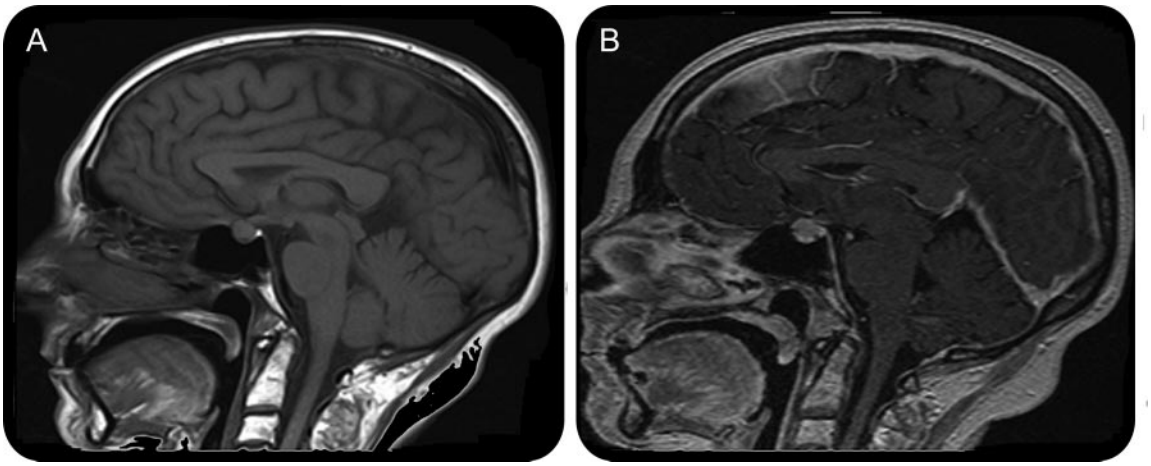
Pachymeningeal enhancement in baroreflex failure syndrome

Figure MRI brain



MRI brain T1 sagittal views without (A) and with (B) gadolinium showing notable pachymeningeal enhancement. Carcinomatosis was a consideration, but normal neurologic examination and 8 symptom-free years after initial cancer diagnosis suggest this is unlikely. Repeat brain MRI (not shown) 10 months later showed no change in enhancement.

A 64-year-old woman developed baroreceptor reflex failure 3 years following radiation to the neck for metastatic squamous cell carcinoma. Blood pressures (BP) ranged from 70/40 to 240/140 mm Hg. MRI of brain demonstrated pachymeningeal enhancement (figure). The patient declined lumbar puncture. Baroreceptor denervation may occur after neck radiotherapy, bilateral carotid body resection, and bilateral carotid endarterectomy.[1] Dramatic fluctuations in the patient's BP cause changes in cerebral blood volume, CSF volume, and cerebral venous pressure, resulting in pachymeningeal enhancement. The Monro-Kellie hypothesis supports this: the sum of volumes of brain, CSF, and intracranial blood is constant; an increase in one causes decrease in the remaining two.[2]

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