Primary Malignant Leptomeningeal Melanoma

- rare and aggressive tumor - annual incidence is approximately 1 case per 10 million people
- tumor is thought to arise from melanocytes sparsely distributed over the leptomeninges but most numerous over the anterior and lateral spinal cord, the brainstem and the base of the brain

Primary Malignant Leptomeningeal Melanoma

- Neurologic signs and symptoms at presentation may include seizures, psychiatric disturbances and signs of raised ICP, including headache, vomiting, papilledema, CN palsies and altered level of consciousness
- approx 25% of pts will have associated large or giant congenital pigmented nevus

Primary Malignant Leptomeningeal Melanoma

MR Imaging

- usually ↓SI on T1W & ↑SI on T2W
- however, free paramagnetic radicals from melanin and/or paramagnetic products from intratumoral hemorrhage can result in T1 shortening
- diffuse leptomeningeal enhancement usually seen with gadolinium

Primary Malignant Leptomeningeal Melanoma

Pathology

- two distinct pathological subtypes:
  - tumor diffusely invades the pia mater and spreads into the subarachnoid space
  - nodular disease
- as in melanoma of the skin, many tumor cells may be amelanotic