

Introduction

Leptomeningeal Carcinomatosis (LMC) is a rare and late presentation of metastatic carcinomas of a wide variety. Colon malignancies make up a very small portion of these cases. A recent retrospective review by the Mayo Clinic of their leptomeningeal carcinomatosis database found only 0.05% of 17,000 cases to be related to colon cancers. Signet ring adenocarcinoma of the colon account for a small fraction of colon malignancies, approximately 0.16 per 100,000 cases.

Case Description

A 57-year-old male presented with chief complaint of progressive headaches over several weeks.

He was diagnosed with colon cancer via inguinal lymph node biopsy which favored adenocarcinoma of colorectal origin one year earlier. Subsequent colonoscopy confirmed adenocarcinoma with signet cell features. PET scan showed diffuse retroperitoneal adenopathy. He then underwent 12 cycles of chemotherapy. After therapy, imaging revealed decreased adenopathy and his Carcinoembryogenic Antigen (CEA) level was stable. Post treatment CT demonstrated no metastatic disease.

A brain MRI was ordered and was remarkable for leptomeningeal enhancement. Cerebrospinal fluid (CSF) revealed neoplastic cells. CSF and serum CEA levels were elevated. This confirmed the diagnosis of leptomeningeal carcinomatosis secondary to colon adenocarcinoma.

The decision was made to attempt palliative chemotherapy with intrathecal Methotrexate. Unfortunately, the patient's mentation continued to decline despite treatment and family decided on hospice.

Discussion

Leptomeningeal carcinomatosis (LMC) is a late manifestation of metastatic malignancy which occurs in approximately five percent of cases. Solid tumors are more likely to metastasize to the meninges than those of hematologic origin, most commonly breast and lung.

Gastrointestinal malignancies are thought to be responsible for approximately 4-14% of cases. The incidence is much rarer in colorectal carcinoma (CRC), especially with signet cells features. A recent retrospective review from the Mayo Clinic database of over 17,000 patients with primary CRC between 2000-2014 found just 10 patients (0.058%) to have leptomeningeal involvement.

Due to the rarity of CRC with LMC, there is no definitive treatment. In present literature, intrathecal chemotherapy was not performed due to rapid patient decline or simply because of the advanced disease progression at the time of diagnosis. Previous reports have discussed radiation therapy alone being used with the goal in mind of improving neurologic symptoms.

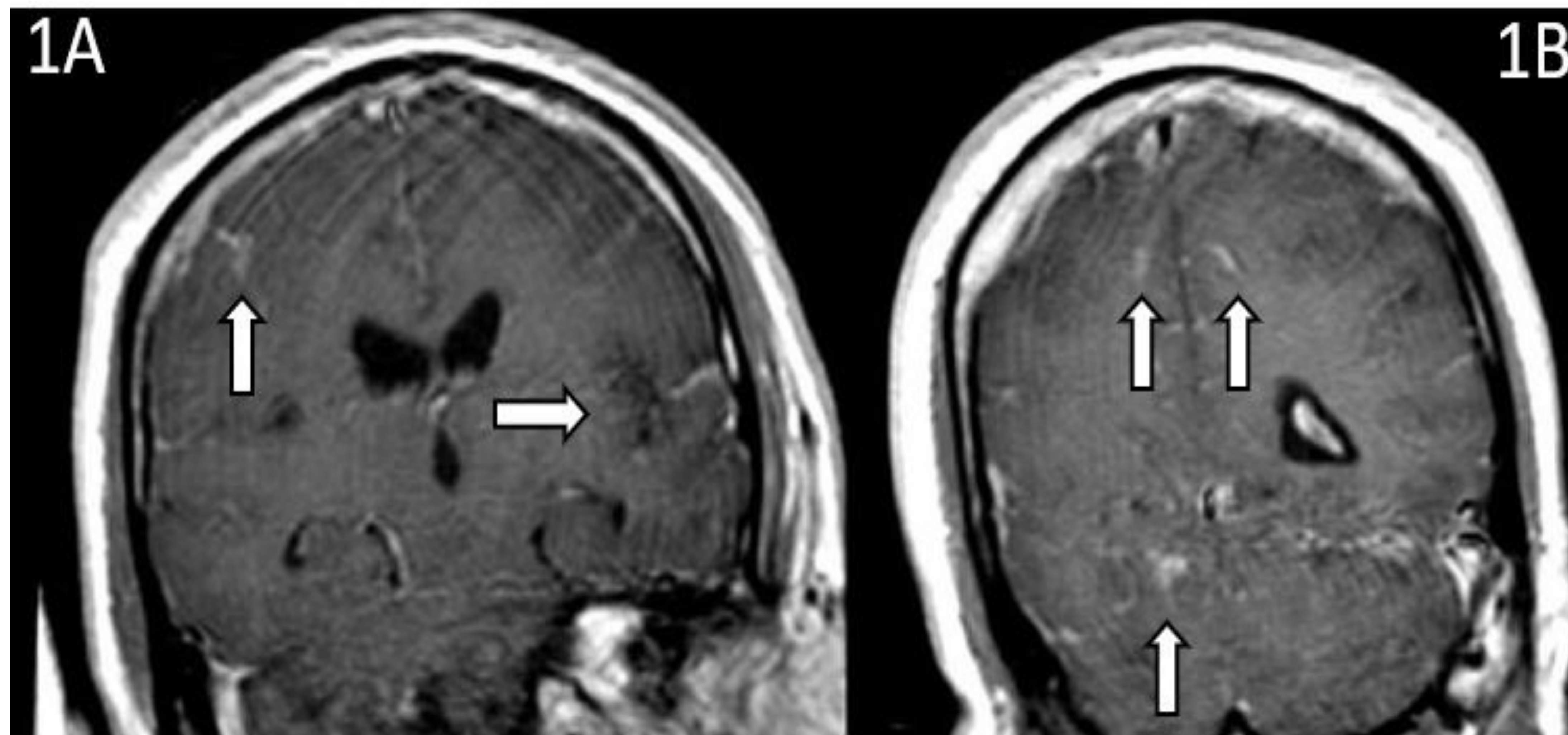


Figure 1A&B: Coronal View MRI Demonstrating Leptomeningeal Enhancement in the Cerebrum and Cerebellum

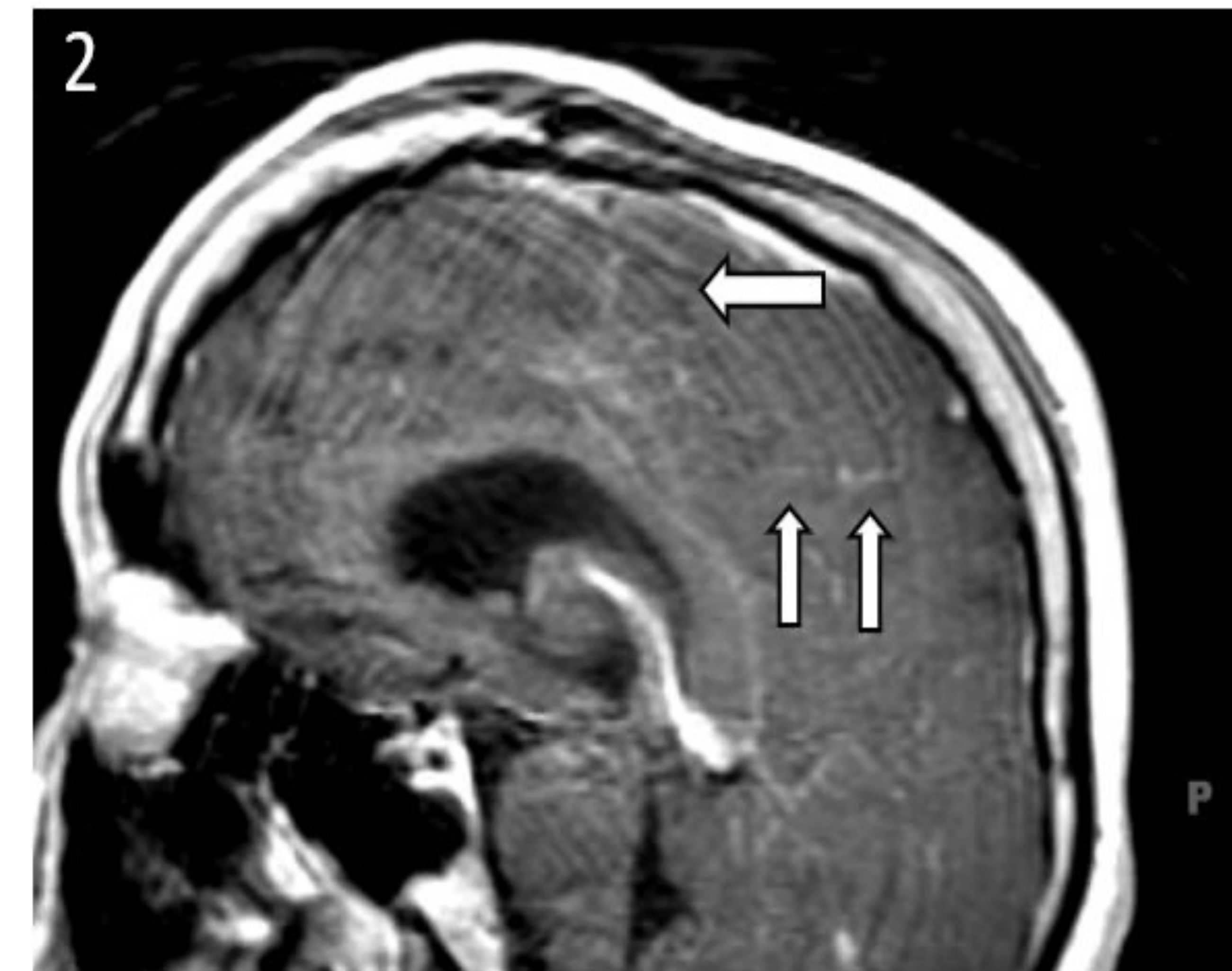


Figure 2: Sagittal MRI View Demonstrating Nodular Leptomeningeal Enhancement of the Left Cerebral Hemisphere

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