Intracranial plasma cell granuloma

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We report two rare cases of primary intracranial plasma cell granuloma. The tumors probably arose from the dura and involved the cerebral parenchyma. These patients presented with clinical features of raised intracranial pressure and there was focal neurological deficit. The management issues are discussed.

Key Words: Inflammatory pseudotumor, plasma cell granuloma

Introduction

Plasma cell granuloma (PCG) is a rare form of idiopathic inflammatory pseudotumor, characterized by a benign proliferation consisting predominantly of plasma cells and reticuloendothelial elements. Very few cases of primary PCG of the central nervous system are reported. We describe two cases of primary intracranial PCG and briefly discuss the literature on the subject.

Case Reports

Case 1

A 48-year-old lady was admitted with history of progressively worsening headache for one month. She had bilateral early papilledema and no other focal neurological deficit. A CT scan revealed an isodense non-enhancing diffuse left temporal lesion causing mass effect. T1-weighted MRI revealed a diffuse hypointense lesion and T2-weighted MRI revealed a hyperintense lesion in the left temporal lobe. The lesion showed heterogeneous contrast enhancement (Figure 1). She underwent left temporal craniotomy and excision of the lesion. The lesion was dura-based and infiltrated the underlying brain. The brain...
Figure 1: MRI scan of the brain-axial: On Gadolinium injection, the dura of the middle cranial fossa enhanced brightly and appeared markedly thickened and the enhancing lesion was entering into the parenchyma of the temporal lobe.

Figure 2: Contrast cranial CT scan showed left temporo-parietal extraparenchymal concavo-convex, isodense lesion with minimal enhancement causing mass effect.

was edematous. Histopathological examination showed chronic inflammatory infiltration of the dura, mainly with plasma cells and a few lymphocytes and histiocytes. A few Russell bodies were present. Her investigations for plasma cell dyscrasias were negative. At 36 months follow-up the patient was asymptomatic.

Case 2

A 30-year-old woman presented with worsening headache and memory disturbance for 2 weeks. For one day she had altered sensorium. She had bilateral papilledema and right hemiparesis. A CT scan showed left temporo-parietal extraparenchymal and minimally enhancing isodense lesion with perilesional edema (Figure 2). A preoperative diagnosis of subacute subdural hematoma was considered and an emergency left parietal burr hole was done. The dura was markedly thickened and no blood clot was seen. The following day the patient underwent a left temporo-parietal craniotomy. The dura was markedly thickened, nodular and avascular. The lesion arose from the dura and was inseparable from the cortex. A subtotal excision of the lesion was done. Histopathological examination showed the dura to be infiltrated by aggregates of plasma cells with many Russell bodies, lymphocytes and histiocytes. Her investigations for plasma cell dyscrasias were negative. CT scan at 12 month follow-up showed no recurrence of the lesion.

Discussion

The term “plasma cell granuloma” is used to describe a localized benign proliferation of mature plasma cells. Only a few cases of primary PCG of the central nervous system have been reported. Plasma cell granulomas are known to arise from the meninges, sella, choroid plexus, fourth ventricle, and hypothalamic region. Radiologically, the differential diagnosis of PCG includes plaque meningioma and granulomas. Similarly, it should be differentiated histologically from plasmacytoma and meningioma with plasma cell infiltrate. Solitary intracranial plasmacytoma is a rare neoplastic lesion characterized by typical monoclonal plasma cells. Horten et al reported cases, which revealed mixed populations of proliferating meningotheelial cells together with plasma cells and lymphocytes.

Surgical excision is the primary treatment for the intracranial PCG both to confirm the diagnosis and to reduce the raised intracranial tension. Most of the cases reported in the literature were preoperatively believed to be meningiomas. In patients with subtotal excision of the lesion, steroid and radiation therapy may be used as PCG are known to recur following subtotal excision. These patients require long-term follow-up not only for detecting recurrence but also to understand the natural history.

References

Intramedullary cysticercosis

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A 42-year-old soldier, a known case of cerebral parenchymal neurocysticercosis presented with insidious onset gradually progressive weakness of both lower limbs for six months. Investigations revealed an intramedullary cyst in the cervicodorsal region. Following surgical excision of an intramedullary cysticercus cyst, the patient showed recovery in his neurological deficits.

Key Words: Intramedullary tumor, cysticercosis

Introduction

Intramedullary cysticercosis is a rare manifestation of neurocysticercosis. We report a case and briefly review the literature on this subject.

Case Report

A 42-year-old man had a generalized seizure 2 years back. He was investigated with computerized tomography (CT) scan of brain and was diagnosed to have cerebral neurocysticercosis. He was treated with albendazole (15mg / kg body weight) for four weeks in addition to anticonvulsant drugs. He now presented with history of insidious onset, gradually progressive weakness of the lower limbs of six months duration. The weakness started with the right leg. For one month he had urinary hesitancy. At the time of presentation he could walk only with support. Neurological evaluation revealed spastic Grade 4 paraparesis and the sensory level was at T3 dermatome. MRI of the cervicodorsal spine revealed an intramedullary cystic lesion at C7-T1, which was hypointense in T1-weighted images and hyperintense in T2-weighted images (Figure 1) and did not enhance after gadolinium contrast administration. A few cysts in the cervical musculature were also noted. MRI of brain revealed some persisting parenchymal cysts. The patient was subjected to C7 to D2 laminectomy. The spinal cord was enlarged at this level and through right dorsal root entry zone myelotomy, a well-circumscribed grayish white cyst was seen under the operating microscope and was completely removed. The postoperative period was uneventful. Histological examination showed cyst wall thrown into folds enclosing body cavity of the parasite. At places scolex and hooklets could be identified thus confirming the diagnosis of cysticercus. No calcareal corpuscles or pericystic inflammation was seen. He was given another course of albendazole (15 mg/kg body weight) for four weeks. He gradually improved and at 3-months follow-up, except for brisk deep tendon reflexes in the lower limbs, had no other deficit. Postoperative MRI confirmed the complete resolution of cystic lesion.

Discussion

Cysticercosis is a common infestation of the central nervous system. Spinal involvement is rare and varies from 0.7 to 5.85%. Spinal forms have been identified in the vertebral, extradural, intradural and intramedullary regions. Intramedullary cysticercosis is very uncommon and only 45 cases have been reported so far. Migration of the cysticercus through the ventriculo-ependymal pathway and hematogenous dissemination have been identified to be the possible pathogenetic mechanisms. The higher incidence in the thoracic spinal cord is possibly related to the high blood...