Management of giant symptomatic frontal arachnoid cyst with corpus callosum agenesis in an adult resembling interhemispheric arachnoid cyst

Sir,

Symptomatic interhemispheric arachnoid cysts are extremely rare lesions seen more frequently in the elderly. Literature shows that an interhemispheric arachnoid cyst in an adult is never associated with corpus callosum

agenesis. We describe an interesting case of giant left frontal arachnoid cyst in an adult female patient with corpus callosum agenesis which mimicked as an interhemispheric arachnoid cyst due to its huge size.

A 36-year-old female patient presented with severe intractable headache along with right side hemiparesis for 10 days. Patient was drowsy with signs of increased intracranial pressure in the form of bilateral papilledema and left side abducens palsy. CT scan showed a large hypodense lesion in left frontal region with mass effect [Figure 1]. MRI features were of a large, T1 hypointense, T2 hyperintense smooth-bordered, well-defined, oval lesion in left frontal region with ipsilateral ventricular effacement and midline shift. There was no contrast enhancement and diffusion studies showed no restriction suggesting the lesion to be an arachnoid cyst [Figure 2]. Sagittal images showed agenesis of corpus callosum and the cyst extending up to the roof of third ventricle [Figure 3]. Left frontal craniotomy and complete excision of the lesion was done along with its wall. Patient became fully conscious with alleviation of headache and other neurological deficits within 2 days post-operatively. Histologic examination of the wall of cyst showed meningothelial cells confirming the diagnosis as arachnoid cyst [Figure 4].

Arachnoid cysts are rare congenital lesions accounting for only 1% of intracranial lesions. Most of them are asymptomatic and found incidentally. Nearly 70% of them are found in or around sylvian region, cerebellopontine angle, or suprasellar region. Interhemispheric location is rare and till now 14 cases of symptomatic arachnoid cysts in adult have been described in the literature.[1-5] These types of arachnoid cysts are commoner in children and are associated with corpus callosum agenesis. Differential diagnosis includes interhemispheric neuroepithelial cysts, ependymal cysts, and colloid cysts. Interhemispheric arachnoid cyst arises from the arachnoid space between two cerebral hemispheres when the corpus callosum is present. Literature has mentioned that interhemispheric cyst without agenesis of the corpus callosum in an adult is an arachnoid cyst.[6] Our case was a giant arachnoid cyst in left side frontal region with no intervening brain tissue between the lesion and the midline. Such a picture confirms the interhemispheric nature of the lesion.

Various surgical approaches can be used to manage the giant arachnoid cyst as our case such as open microsurgical excision, endoscopic fenestration, and cystoperitoneal shunt. In view of acuteness and severity of neurological deficits in our patient, we decided to go for emergency open microsurgical excision which also provided quick relief of signs and symptoms. Successful

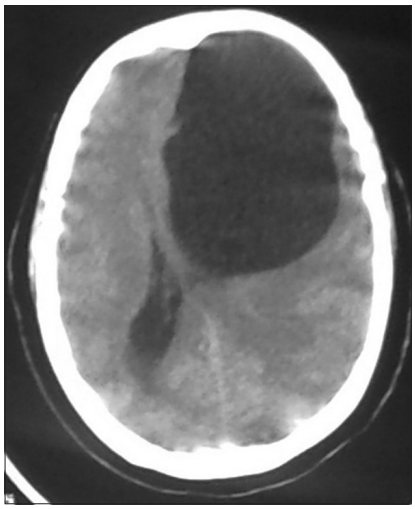

Figure 1: Contrast CT scan showing a large well-defined cyst in left frontal region with no enhancement and significant mass effect

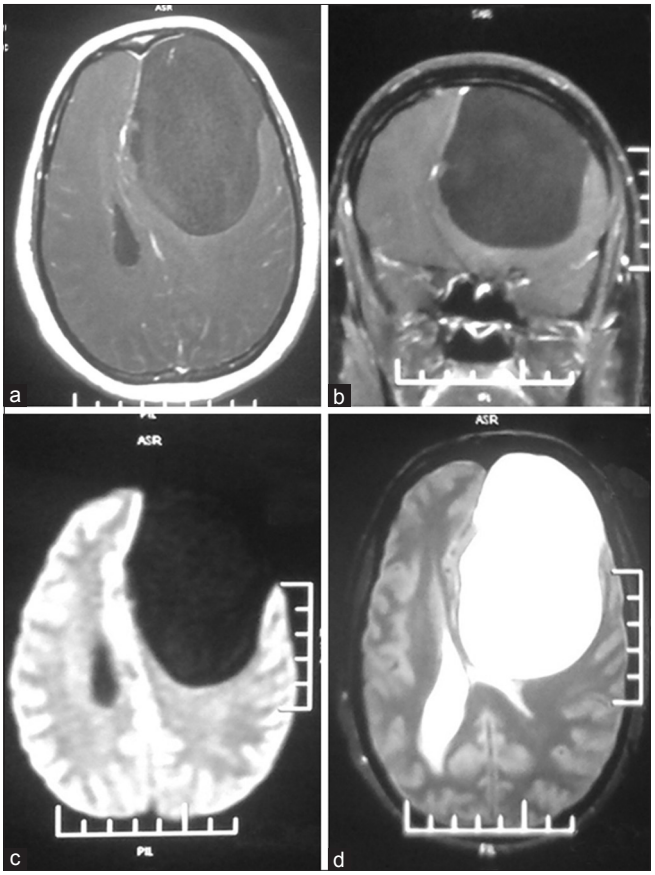

Figure 2: (a) Axial contrast MRI showing the lesion; (b) Coronal image; (c) Diffusion-weighted image with no restriction and (d) T2-weighted image showing gross hyperintensity

cystoperitoneal shunting for symptomatic arachnoid cyst has also been described in the literature, but it would have decreased the size of such a giant cyst in the present case over a period of time.

Symptomatic giant arachnoid cysts in adults are rare

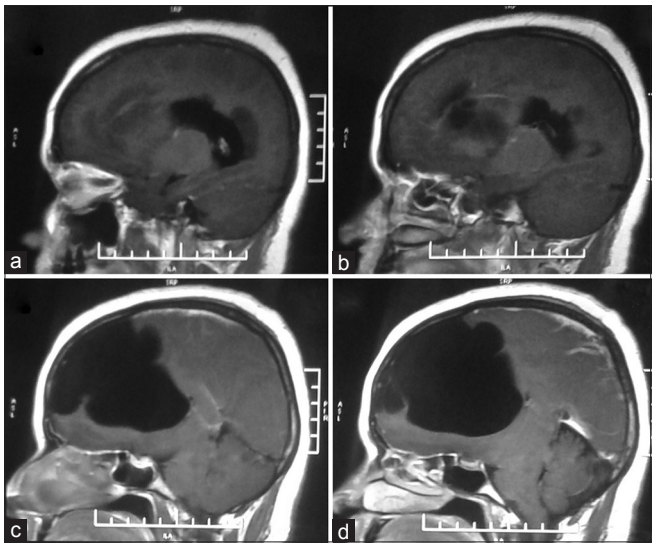

Figure 3: Sagittal image showing absence of corpus callosum with cyst arising from roof of third ventricle

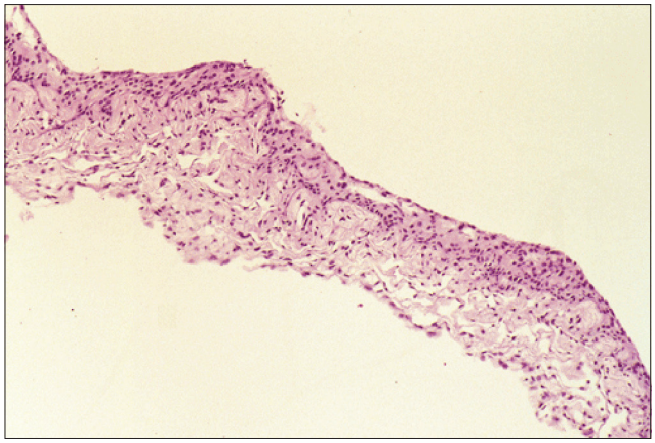

Figure 4: Histopathology showing meningothelial cells lining the wall of the cyst

and needs to be differentiated from other cystic lesions as well as the interhemispheric variety when located in parasagittal region histologically. Our case was significant in that it was associated rare corpus callosal agenesis with symptoms and signs of impending herniation which promted us to do an emergency decompressive excision of the cyst.

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