RADIOLOGICAL QUIZ

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Clinical Profile

A 30-year old male presented with headache of 6 months duration. General and neurological examination of the patient did not reveal any abnormality.

Routine laboratory investigations were within normal limits. Lateral and frontal skull radiographs (Fig 1 a & b) revealed a dense and homogenous ball like calcification.

Fig. 1a & 1b : Plain radiograph skull : frontal and lateral projections show homogeneous ball of calcification

Answer to quiz on pg. 342

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**RADIOLOGICAL DIAGNOSIS:
INTRAVENTRICULAR MENINGIOMA**

Comments

Meningiomas are the commonest benign intracranial tumours. However a small proportion become malignant usually the vascular angioblastic type. Meningioma can arise anywhere over or under the brain from arachnoid cell rests. 58% arise from cerebral convexities and parasagittal region, 5% are multiple and only 1% are intraventricular. In a large series of 100 consecutive cases of meningiomas only one was intraventricular in position [1].

Intraventricular meningiomas may remain asymptomatic or have a long quiescent period and show insidious clinical manifestations over a long period [2]. They may present with acute intraventricular haemorrhage manifesting as sudden onset of headache associated with somnolence [3] or present as transient mental impairment [2]. The symptomatology is related to its size, location and rate of growth. In paediatric age group intraventricular meningiomas are more frequent than in adults and tend to recur more frequently following surgery [4].

About 15% of meningiomas show calcification on plain skull radiograph. The calcification may be characteristically ball like, amorphous or dense and homogenous as was seen in this case (Fig-1) without any associated hyperostosis or increased meningeal vascular markings being located in the occipital horn of the lateral ventricle (Fig-2). Calcification may be speckled or nodular [1].

In this case CT Scan revealed a uniformly homogeneous calcified (630 HU) intraventricular ball like mass in the occipital horn of left lateral ventricle with well defined margins (Fig-2). On CT calcification is found in 16-20% of meningiomas due to superior resolution. If uncalcified they show slightly higher attenuation value than normal brain with uniform marked enhancement in post contrast scans. Oedema surrounding the tumour is generally absent or minimal, occasionally it may be extensive [1,2,5].

Many features of meningioma are more readily detected with MRI than CT. MRI clearly defines the extent of tumour. A rim or interface may be seen between the meningioma and the adjacent brain and constitutes one of the criteria for establishing an extradural location. On contrast enhanced MRI fre-

Fig. 2 : Cranial CT reveals a well defined oval uniformly calcified intraventricular meningioma lying in the occipital horn of left lateral ventricle.

quently a dural tail or a thin line of enhancement extending a variable distance from the tumour mass along the dural surface is seen. Small calcifications may be difficult to detect on MRI but large calcifications appear hypointense on all pulse sequences [5].

Not every patient with meningioma needs surgical resection. Surgical removal of meningioma is indicated in those patients having symptoms with increasing disability. The objective of surgery is total removal of meningioma if possible, if not, no further immediate treatment is indicated. Recurrence of meningioma is low and do not change their basic histologic characteristics. Radiation therapy has been shown to arrest the growth in some meningiomas and is being used for residual tumours left at surgery and tumour recurrence [6].

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