Haemorrhagic arachnoid cyst
Published on 12.01.2004

DOI: 10.1594/EURORAD/CASE.2099
ISSN: 1563-4086
Section: Neuroradiology
Imaging Technique: CT, MR
Case Type: Clinical Cases
Authors: Goulimari R, Papadopoulou P, Dimitriadis S, Maraggaki E, Saridakis I
Patient: 65 years, male

Clinical History:

The patient presented in the emergency department after mild head trauma as a result of a car accident.

Imaging Findings:

The patient presented in the emergency department after mild head trauma as a result of a car accident. Computed tomography revealed a hyperdense lesion, clearly marginated, in the pole of the right temporal lobe and an ipsilateral subdural hygroma. Ipsilateral thinning of bony structures was also observed. The lesion was diagnosed as an arachnoid cyst with haemorrhagic content. MRI confirmed the diagnosis. It revealed an extra-axial lesion in the right temporal lobe with intensely high signal in all pulse sequences (T1-weighted, T2-weighted, and FLAIR). The signal was inhomogeneous on T1-weighted images because of blood breakdown products. An evolving chronic subdural haematoma which was thought to represent secondary cyst rapture was observed fronto-parietally on the right. Before this event the cyst had been asymptomatic and unrecognised.

Discussion:

Arachnoid cysts are benign, congenital, intra-arachnoid, space-occupying lesions that are filled with clear CSF-like fluid. Arachnoid cysts represent 1% of all nontraumatic intracranial masses. They occur in all age groups with a 75% predilection for children and have a 3:1 male to female ratio. Arachnoid cysts are closed cavities between the arachnoid and pia matter, which arise as congenital malformations. It is proposed that their development is associated with meningeal misdevelopment. They are frequently found in the basal and interhemispheric cisterns but the most frequent sites are the Sylvian fissures and temporal fossae. The cysts are filled with liquid analogous to CSF and they grow slowly over months and years before they become, if ever, clinically manifest with epileptic seizures, cranial deformation or signs of increased intracranial pressure. However, they can become acutely symptomatic because of haemorrhage and cyst enlargement. Haemorrhage into an arachnoid cyst may be spontaneous or follow minor trauma with rupture of intracystic or bridging vessels. Arachnoid cysts may be associated with intracystic, acute subdural, chronic subdural or subarachnoid haemorrhage. It has been reported that sometimes haemorrhage may be the result of intra-arachnoid rupture of an aneurysm. The range of presenting symptoms is wide and many symptoms are “soft” and negligible. Diagnosis is important since if the cyst or the haemorrhage displays mass effect, surgery is required. Magnetic resonance imaging is the most useful imaging modality in the visualisation of an arachnoid cyst's complications. Uncomplicated arachnoid cysts display a signal similar to CSF in all pulse sequences while complicated arachnoid cysts display mixed signal intensities because of blood breakdown products. Computed
Tomography scans are still frequently used to visualise an arachnoid cyst and subsequent subdural haematoma. **Differential Diagnosis List:** Haemorrhagic arachnoid cyst

**Final Diagnosis:** Haemorrhagic arachnoid cyst

**References:**


Description: Hyperdense, well-marginated lesion in the right temporal pole. Origin:
**Description:** Bone window. Thinning of bony structures of the cranial vault on the side of the lesion.

**Origin:**
Description: T1-weighted image in the axial plane. The lesion displays heterogeneous high signal intensity. Chronic subdural haematoma is seen on the right. Origin:
Description: FLAIR image in the coronal plane. Intensely high signal of the lesion is seen. In the vicinity of the lesion the chronic subdural haematoma is also seen with high signal intensity. Origin:

Description: T2-weighted image in the axial plane. The lesion displays intensely high signal as does the chronic subdural haematoma in the right frontal lobe. Origin: