Clinical picture

A slowly expanding intracranial lesion

An 82-year-old right-handed woman was brought to our emergency department following a fall during a walk in the forest. She reported a transient loss of consciousness after the fall. She had no previously known neurological or cardiac disorder and was taking no medication. Her physical examination was normal at admission except for a bleeding scalp wound. A deformity of her left temporal bone was discovered. The brain CT scan revealed a giant cerebral arachnoid cyst in the left cerebral hemisphere which was almost completely compressed (Figure 1). The thinning and the outward bulging of the left temporal bone with expansion of the middle cranial fossa indicated an underlying congenital and slowly expanding process (Figure 2).

Arachnoid cysts are benign, congenital, intrarachnoidal space-occupying lesions that are filled with clear, colourless fluid almost identical to cerebrospinal fluid (CSF). They are common, representing 1% of all intracranial masses. Arachnoid cysts presumably result from the splitting of the two lipid layers of the arachnoid membrane to form a cavity during embryological development. Cystic enlargement may be related to excessive fluid secretion by the cyst wall, slow distention by CSF pulsations or one-way ball-valve flow of CSF. Trauma, mastoiditis, meningitis and subarachnoid haemorrhage may also be considered as causative factors. They often remain clinically silent, have a prolonged and relatively benign course, and usually produce few, if any, symptoms in spite of insidious but progressive enlargement. When symptomatic, arachnoid cysts may require surgical removal, stereotactic aspiration or shunting of cystic fluid to the peritoneal cavity.

Figure 1. Brain CT scan revealed an asymptomatic giant intracranial arachnoid cyst occupying the whole left hemisphere.

Figure 2. Skull CT scan showing expansion of the left middle cranial fossa with thinning and outward bulging of the left temporal bone.
This case report illustrates the discordance between clinical and radiological findings in these slowly expanding intracranial lesions.

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Reference