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Remarkable vignettes

TITLE: Isolated peripheral-type facial palsy due to pontine cavernoma hemorrhage

Une paralysie faciale périphérique isolée due au saignement d'un cavernome pontique

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Isolated peripheral-type facial palsy due to pontine cavernoma hemorrhage

A 80-year-old woman with a history of hypertension and tobacco abuse was referred to our emergency department for the assessment of acute and isolated left facial weakness for several hours. Neurological examination showed an isolated left peripheral-type facial palsy (involvement of both upper and lower part of the face with asymmetry of eyelid closure during maximal effort). There were neither motor nor sensory nor visual abnormalities and examination of others cranial nerves was also normal. General examination revealed only a blood pressure of 180/110 mmHg. She was not complaining of headache.

CT scan revealed an acute focal hemorrhage situated in the left caudal portion of the pons in the region of the left seventh nerve nucleus (**figure 1, a**) explaining the patient's symptoms.

An asymptomatic cavernoma, located at the exact place of the current hemorrhage was discovered fortuitously 5 years ago on a brain MRI (**figure 1, b**).

These data suggest that the current peripheral-type facial palsy is due to acute bleeding of the known pontine cavernoma.

[Antihypertensive therapy was introduced to achieve a blood pressure goal <140/90 mm Hg. Clinical course was progressively favourable with complete regression of the facial palsy in a few weeks.](#)

Isolated peripheral-type facial palsy due to brainstem involvement is unusual [1]. In cases of pontine infarctions or brainstem hemorrhages, the patient had usually additional pontomedullary symptoms (eg vertigo, diplopia, nystagmus, contralateral weakness) [2].

Weakness of upper facial muscles can also be seen in central facial paralysis especially in cases of supratentorial stroke (involving critical zones of the Rolandic area) [3]. Such facial paralysis are also very rarely isolated and could constitute a difficult diagnosis in the emergency department, mimicking a peripheral-type facial palsy [4].

Acute pontine cavernoma hemorrhage leading to isolated peripheral-type facial palsy has not been reported yet.

Initially, in our case a diagnosis of Bell's palsy could have been made and an otorhinolaryngology consultation requested. However a CT scan of the brain was performed because of her age, the presence of vascular risk factors and the known asymptomatic pons cavernoma, allowing a quick diagnosis.

That constitutes a crucial diagnosis challenge because they can be misdiagnosed as Bell's palsy.

Figure 1: Cerebral imaging

Emergency brain CT scan revealed an acute punctate hemorrhage in the left caudal portion of the pons in the region of the left seventh nerve nucleus (**a, arrow**)

Gradient echo T2*-weighted axial MRI of the brain performed 5 years ago showed a left pontine asymptomatic cavernoma situated at the exact place of the current hemorrhage (**b, arrow**). Note the location of the contralateral facial nerve nucleus situated in the caudal portion of the healthy hemipons (**asterisk**)

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