Interesting images

Incidental finding of bilateral subdural hematoma on brain perfusion SPECT

Hallazgo casual de un hematoma subdural bilateral mediante SPECT de perfusión cerebral

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A brain perfusion SPECT was performed in a 58-year-old male with mild cognitive impairment. He suffered behavioral disorders and memory loss and had a first-degree family history of dementia, so the neurologist requested neuroimaging and a genetic study. Two months prior to Nuclear Medicine appointment the patient presented a seizure and fell down, but immediate post-ictal CT scan only revealed cortico-subcortical atrophy and no subsequent clinical changes happened.

99mTc-ECD (Neurolite®) SPECT showed an atypical morphology of anterior cerebral pole due to bilateral disappearance of the frontal convexity (large arrows) and parenchymal medial displacement that produced an elongated brain shape. Subtle crescent photopenic areas and a slight decrease of cortical perfusion in the dorsolateral surface of frontal lobes were also observed on both sides (small arrows). These findings pointed out to an extra-axial compression and were suggestive of chronic subdural hematomas.1,2 A new CT scan evidenced an extensive bilateral fronto-temporal subdural collection with bleeding areas and mass effect (Fig. 1). The patient underwent surgery with excellent clinical and image evolution. On the other hand the genetic study identified changing of an alanine to a threonine at 152 position of the protein encoded by the gene MAPT (NP005901.2: p.A152T), a mutation described on the literature as linked to Alzheimer disease, but currently the patient is clinically stable. CT diagnosis of subdural hematoma is straightforward, but clinical suspicion sometimes can be challenging. Brain perfusion SPECT provides highly relevant information for diagnosis and monitoring of cognitive disorders.3 However, a proper assessment of emission tomography should not only include cortical and subcortical perfusion but also be aware of indirect signs of bone and soft tissue disease so that extracerebral pathology will not be overlooked.

References


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