Aetiology and diagnosis of intracerebral haemorrhage

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Abstract

Spontaneous, non-traumatic intracerebral haemorrhage (ICH) remains a significant cause of morbidity and mortality, as it is the second most common cause of stroke. High blood pressure and age are the most important risk factors. However, the investigation should include a search for other causes including use of anticoagulants or antiplatelet agents, coagulopathy and other comorbidities such as dementia, epilepsy, cancer or hepatic disease.

The CT scan remains the gold standard for diagnosis in emergency care. On the other hand, brain magnetic resonance angiography should be performed in the case of single/multiple lobar haemorrhages. These can be secondary to amyloid angiopathy, rupture of an aneurism or an arteriovenous malformation, cavernous angioma or tumour haemorrhage.

Radiological evidence suggestive of vascular abnormalities as causative for ICH can include the presence of subarachnoid haemorrhage, enlarged vessels or calcifications along the margins of the ICH, hyperattenuation within a dural venous sinus or cortical vein along the presumed venous drainage path, unusual hematoma shape, presence of oedema out of proportion to the time of presumed installation, an unusual location, and the presence of other abnormal structures in the brain (such as a mass). Magnetic resonance venography and catheter angiography can be performed in specific situations.