

### Discussion

The ATH connects the temporal lobe to the prefrontal cortex and is known as a component of Papez's circuit [3]. Papez's circuit includes the mamillothalamic tract, which connects the thalamus to the mamillary body, and is thought to be involved in emotion and memory. Damage in the ATH is associated with memory and motor performance deficits: mamillothalamic tract damage is related to long- and short-term memory deficits [4]; the ATH is the primary region involved in amnesic symptoms in alcoholic Korsakoff's syndrome [5]. In addition, perseverative behavior [6] or dystonic hand tremors [7] were observed after ATH infarctions. Hence, in the present case, the improvement in emotion and memory after an ATH infarction was a paradoxical outcome.

We found severe atrophy of the temporal lobe including the hippocampus and amygdala in the early stages of dementia. In contrast, the frontal cortex function may have been preserved because the frontal lobe atrophy was not severe. Therefore, we speculate that the temporal lobe degeneration might have disturbed the frontal cortical function and the ATH infarction may have reduced this disturbance, thus normalizing the frontal cortical function rather than causing an impairment. Indeed, the ATH is a recognized therapeutic target in epilepsy treatments [8].

The case presented here suggests that the ATH is a critical intermediary point between the temporal and frontal lobes. Thus, the ATH might be an effective target for the treatment of emotional and memory disturbances in dementia that involves severe temporal lobe pathology.

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## Intravenous Thrombolysis Cancelled in Acute Right Hemiparesis

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### Introduction

Evaluating the indication of i.v. thrombolysis in acute stroke patients requires a careful work-up within a short time frame. Ruling out cerebral hemorrhage by CT is of highest priority. However, there may be more pitfalls in emergency stroke cases, which is illustrated in a patient who presented with acute neurological symptoms and back pain.

### Case Description

A 62-year-old retired chemical laboratory worker was referred to the emergency room with numbness and weakness of his right arm and leg with suspected acute stroke. He was seen by a neurologist 1 h and 45 min after symptom onset. Sudden-onset hemiparesis had started immediately after he had used the bathroom, together with severe pain between his shoulder blades radiating to the right arm. On neurological examination the patient was alert and fully orientated, there was no aphasia or apraxia. He showed equivocal right facial weakness (facial asymmetry) and a right MRC grade 3–4 flaccid hemiparesis with a plantar extensor response and hypesthesia on the right side of the body. Reflexes were +++/+++ and symmetrical, the NIHSS score on admission was counted as 6 points.

An ECG and routine blood tests were within normal limits. The blood pressure was 137/97 mm Hg. I.v. thrombolysis was considered, but due to the initial pain syndrome there was a suspicion of an aortic and carotid artery dissection (and subsequent middle cerebral artery infarction). A cranial CT was negative for signs of hemorrhage or ischemic infarction, or arterial dissection. A CT scan of the aorta showed no arterial dissection. Subsequently, his wife arrived and reported that the facial asymmetry (mimicking right facial weakness) had been present before. A further neurological examination revealed a Brown-Séquard syndrome with reduction of pain and temperature sensation on the left below C4 level in addition to the hemiparesis and hypesthesia of the right arm and leg. The thoracic CT scan was reviewed and the suspicion of focal hemorrhage was confirmed by MRI (fig. 1, 2) demonstrating a cervical epidural hematoma causing compression of the cord affecting the nerve roots at levels C4 to C7 on the right. The patient underwent emergency right hemilaminectomy at levels C5 and C6. He subsequently recovered without sequelae.

### Discussion

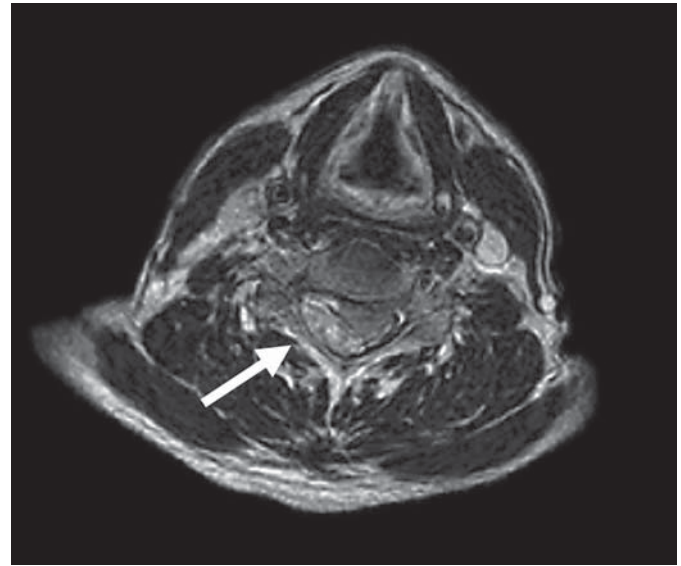
Spontaneous spinal epidural hematoma (SSEH) is rare, but particularly since the availability of i.v. thrombolysis physicians

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**Fig. 1.** Sagittal T<sub>2</sub>-weighted MRI shows the acute epidural hematoma (slightly hyperintense compared to normal cord tissue) extending from the level of the 4th to the 7th vertebral body (white arrow).

need to be aware of this entity. According to our stroke unit patient register, an average of 325 patients with acute ischemic stroke are treated per year, of whom on average 38% of patients present within the 3-hour time window. We recorded 3 further cases with epidural hematomas mimicking acute stroke since introduction of thrombolysis in June 1998. In patients with epidural hematoma there are usually features that hint to an acute myelo- or radiculopathy that differentiate it from cerebral ischemia but, as in this case, these features may not be so overt as to guide the neurologist immediately to the correct diagnosis. Cranial MRI including perfusion-weighted MRI would have demonstrated the lack of a hypoperfused brain area excluding cerebral ischemia. Acute back or neck pain may also be important to evaluate as thoroughly as possible even if time is pressing in order to stay within the current 3-hour time window for i.v. thrombolysis [1, 4, 6].



**Fig. 2.** Axial T<sub>2</sub>-weighted MRI demonstrating the hematoma dorsolaterally on the right side displacing the cord slightly at the level of the 6th vertebral body (white arrow).

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