

Intraventricular tPA and simultaneous use of external ventricular drain and lumbar drain in treating aneurysmal subarachnoid hemorrhage

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Introduction

The sequelae of aneurysmal subarachnoid hemorrhage(SAH) include vasospasm and hydrocephalus. This study is to assess the intraventricular tPA and simultaneous use of external ventricular drain and lumbar drain in clearing subarachnoid blood in aneurysmal SAH.

Methods

A 63 year old male presented with seizures to emergency room and became unresponsive at presentation. Hunt and Hess score was 4 and Fisher grade 3 SAH on CT scan brain. His digital subtraction angiogram(DSA) showed anterior communicating artery aneurysm. External ventricular drain (EVD) placed and aneurysm was secured by coiling embolization. On second day, lumbar drain was placed and intraventricular tPA of 2mg given through EVD 6 doses in 48 hours.

Results

Patient got extubated after 4 days of the event. CT scan of the brain 3 days after the tPA showed near complete clearance of the subarachnoid blood. Lumbar drain removed in 5 days and EVD in 10 days. Patient was discharged to rehabilitation at 2 weeks with minimal word finding difficulty. There was no hydrocephalus on imaging. Unfortunately patient died in rehabilitation after a week due to massive pulmonary embolism.

Conclusions

Use of intraventricular tPA along with CSF drainage through EVD and lumbar drain might enhance the clearance of subarachnoid blood in aneurysmal SAH.

References

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Learning Objectives

Simultaneous use of intraventricular tPA, EVD and lumbar drain for rapid clearance of subarachnoid blood in aneurysmal SAH.