Sentinel Headaches Predict Better Outcome in Aneurysmal Subarachnoid Hemorrhage

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Introduction

Sentinel headaches (SH), defined as a sudden and severe headache preceding aneurysm rupture, remain a controversial sign when discussing outcomes following subarachnoid hemorrhage (SAH). Impact on overall patient outcome and treatment course remains equivocal.

Methods

A single-center, retrospective cohort of 612 patients presenting with suspected aneurysmal SAH was reviewed. Patients were placed into four groups:

1) SH+/Angiogram+
2) SH+/Angiogram(-)
3) SH(-)/Angiogram+
4) SH(-)/Angiogram(-).

Groups were analyzed to determine rates of intervention and outcome.

Results

64 patients were identified who had a SH, with 53 being angiogram+ and 11 angiogram(-). The total incidence of SH was 10.5%. Mean Hunt & Hess Grades were lower in angiogram(-) patients regardless of SH status, 1 (1-3) vs. 3 (1-3), $p<0.001$.

Post-bleed day at presentation was higher in SH+ patients, 1 (0-3) vs. 0 (0-1), $p<0.001$. In all SH+ patients, rate of EVD insertion was lower, 40.3% vs. 57.7%, $p=0.011$, rate of vasospasm was lower, 20.7% vs. 49.6%, $p=0.016$, and ICU length of stay was lower, 13 (9-18) vs. 15.5 (11-21), $p=0.063$.

Comparing angiogram+ patients only, those with SH had lower mRS at discharge, 2 (1-4) vs. 3 (1-4), $p=0.027$, lower rates of EVD insertion, 46.2% vs. 68.1%, $p=0.002$, decreased incidence of vasospasm, 33.3% vs. 55.2%, $p=0.012$, and both hospital and ICU length of stay were less, 15 (11-20) vs. 18 (13-24), $p=0.016$ and 13 (9.5-18) vs. 17 (13-22.5), $p=0.015$, respectively. There was no difference in the number, location, or size of aneurysms between SH+ and SH(-) patients. There was no difference in mortality between either group.

Conclusions

Patients with SH, regardless of presence of aneurysm, experience a more benign course following SAH with lower rates of hydrocephalus (requiring an EVD or shunt), vasospasm, and hospital length of stay. Prospective studies are needed to validate findings and appropriately counsel patients on prognosis.

Learning Objectives

By the conclusion of the session, participants should be able to:

1) Know how to identify sentinel headaches and the associated incidence.

2) Understand the improved outcomes associated with sentinel headache for both patients with and without aneurysms found on digital subtraction angiography.