Journal Club Summary

# Background and Overview

**Article Title/Citation:**

Sensitivity of CT performed within 6 hours of onset of headache for diagnosis of SAH: prospective cohort study

**Study Objectives/ Purpose/Hypothesis:**

Determine the sensitivity of modern CT for ID’ing SAH in neuro intact patients who present to the ED with acute HA, especially when scans are performed within 6 hours of HA onset.

**Brief Background/Why Chosen for Journal Club:**

Traditional teaching says patients should undergo LP if initial CT is negative.

# Methods

**Study Design & Methodology:**

Prospective multicenter cohort study in 11 teaching tertiary care centers in Canada from

Nov 2000-Dec 2009

**Patient Selection & Enrollment:**

Sample size: 3132 enrolled out of 5424 potentially eligible patients

Inclusion: Consecutive alert patients >15 yo with non-traumatic acute HA or syncope + HA

Exclusion: HA>14 d, recurrent HA (>3 similar HA), transfers with confirmed SAH, focal neuro deficits, paipilloedema, hx of SAH

**Outcome Measures/Endpoints:**

Positive for SAH if: 1) subarachnoid blood ID’ed on CT, 2) xanthochromia in CSF, or 3) RBC’s in final tube of CSF + aneurysm on angio

**Statistical Analysis:**

Treating physician completed clinical decision rule study data forms. If not clear from the clinical care notes that the patient was ineligible they were deemed “missed eligible”.

Sensitivity, Specificity, NPV, NLR

# Results

**Summary of Primary & Secondary Outcomes**:

240/3132 has SAH (7.7%). For all study patients sensitivity of CT was 92.9%. Sensitivity for those study patients with CT within 6 hours HA onset was 100%.

17/119 SAH missed on CT>6 hrs, 13 diagnosed by xanthochromia & 2 with RBC’s in final tube

1931 pts required f/u . 1506 were reached by telephone 6 mos later—none had SAH

- 8 died w/in 6 mos from other causes

- 50 pt not reached by telephone & had no subsequent hospital visits

# Author’s Discussion and Conclusions

**Conclusions:**

CT highly sensitive for SAH when scan is <6 hours from HA onset & interpreted by qualified radiologist. CT can be considered “rule out” test for SAH

# Your Discussion and Conclusions

**Accept/Decline Author’s Conclusions:**

This study included a very select group of people, so in order to apply it we have to keep the patient characteristics in mind.

**Study Strengths:**

Pragmatic trial- can be generalized broadly to clinical practice.

- radiologists reading the studies weren’t super specialized neuroradiologists

**Study Limits:**

Was the f/u long enough to catch sentinel bleeds?

Is visible ID of xanthochromia reliable?

**Generalizability/**

**Implications:**

The sensitivity for the entire study of 92.9% may be more applicable to daily clinical practice and this is where shared decision making comes into place.