

## Introduction

- Non-aneurysmal subarachnoid hemorrhage (SAH) occurs in about 15% of all non-traumatic SAH cases.
- Often, this presents with a perimesencephalic pattern of hemorrhage, with the majority of hyperdensity found around the brainstem on non-contrast head CT.
- Since the patho-physiology is attributed to be related to venous hemorrhage. We hypothesized that patient body mass index (BMI) may be associated with a perimesencephalic pattern and a non-aneurysmal diagnosis.

## Methods

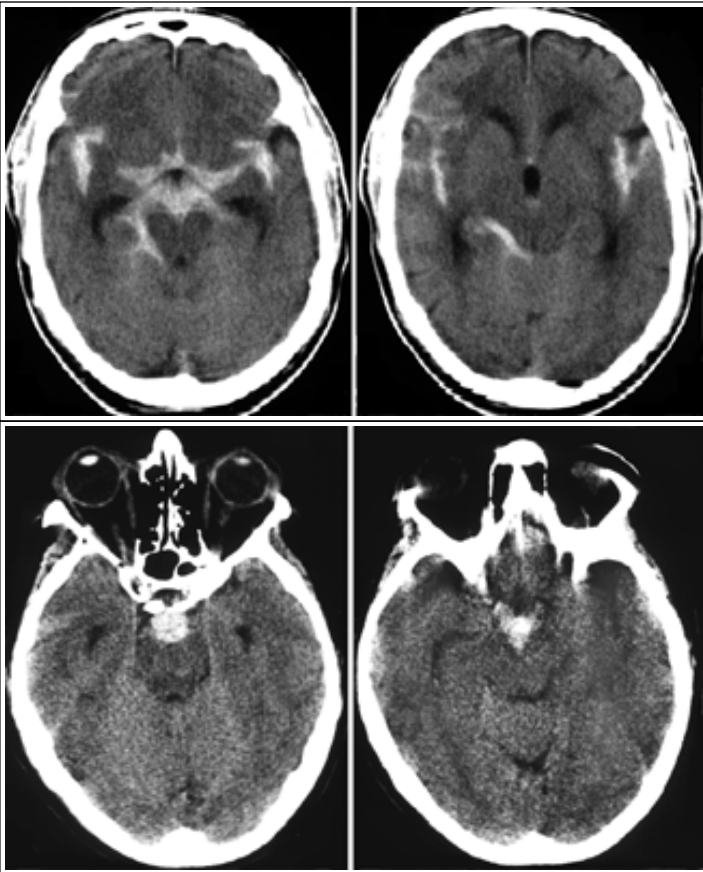
- A retrospective review was performed of all cases of SAH that presented between 12/2011 and 12/2014.
- Cases without source by angiographic evaluation were evaluated and patient BMIs compared to those where angiographic source, aneurysmal or otherwise, was identified.

## Conclusions

There is no significant difference the BMI of those presenting with non-aneurysmal SAH and those with an identified angiographic source in our experience.

## Results

- A total of 302 cases were reviewed during the 3-year period, with 51 patients identified as having no angiographic source of hemorrhage.
- 223 cases had an aneurysm or AVM consistent with hemorrhage pattern, and 28 suffered mortality before angiogram could be performed.
- Age, gender and co-morbidities were comparable between the two groups. Including only patients who underwent digital subtraction angiography, the BMI in those without source averaged 29.24, which was not significantly different than the average BMI of 28.61 in those with angiographically identified sources ( $P=0.57$ ).
- Including mortalities as presumed aneurysmal SAH did not alter this results (BMI 28.86 vs. 29.24,  $P=0.74$ ).
- Our hypothesis was disproved that there is any significant difference in the BMI of those presenting with non-aneurysmal SAH and those with an identified angiographic source. Encompassing the early mortality patients did not change this finding.



Top Figure: CT scan of the brain from a patient with aneurysmal subarachnoid hemorrhage. Diffuse SAH involving bilateral sylvian fissures.

Bottom Figure: CT scan of the brain from a patient with aneurysmal subarachnoid hemorrhage, blood is localized to the pre-mesencephalic cisterns.

## Learning Objectives

- 1- Understand the incidence of aneurysmal subarachnoid hemorrhage.
- 2- Evaluate the relationship of aneurysmal subarachnoid hemorrhage and body mass index