AANS/CNS Joint Cerebrovascular Annual Meeting

January 22–23, 2018 Los Angeles, CA Increased Radiographic Cerebral Vasospasm and Delayed Clinical Neurologic Deficits in Women After Ruptured Aneurysmal Subarachnoid Hemorrhage

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#### Introduction

The prevalence of cerebral aneurysm is higher in women and emerging literature suggests women to experience worse morbidity and mortality after an aneurysmal rupture. The objective of this study was to evaluate the effects of gender on post-ictal radiographic vasospasm, delayed cerebral ischemia and clinical outcome.

#### Methods

A total of 328 consecutive patients over 17 years with radiographic confirmed ruptured cerebral aneurysms were reviewed, comparing the demographics, presenting clinical and radiographic grades, radiographic vasospasm, delayed neurologic deficits, and follow up mRS outcome at 6 months to 1 year. Univariate and multivariate logistic analyses were used to compare men and women with statistical significance defined as p<0.05.

## Results

After multivariate adjustment, women had higher rates of radiographic vasospasm (r=0.33, 95%CI 0.048, 0.61) and clinical neurologic deficits (OR2.71, 95%CI 1.26, 5.82), but no difference was observed in radiographic ischemic infarct or clinical outcome. Younger age has a direct correlation with radiographic vasospasm in women (r=-0.028, 95%CI -0.037, -0.02) but not in men. Older age is associated with worse outcome in both groups, (r=0.043 95%CI 0.012, 0.074) in men, and (r=0.038 95%CI 0.02, 0.06) in women.

# Conclusions

Radiographic vasospasm and delayed neurologic deficits were found to be increased in women after an aneurysmal subarachnoid hemorrhage. This effect was not observed for ischemic infarct or follow up clinical outcome. This study further supports the unique role of sex and our need to better understand its involvement in the development of subarachnoid hemorrhage complications.

## **Learning Objectives**

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

1)Describe the importance of understanding radiographic vasospasm and delayed clinical ischemia after aneurysmal subarachnoid hemorrhage.

2)Identify the role of gender as an association with radiographic vasospasm and delayed clinical ischemia

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