

# Misdiagnosis of the Aneurysmal Subarachnoid Hemorrhage (Incidence, Cause and Clinical outcome of the Misdiagnosis)

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## Introduction

It is not known what percentage of the patients with aneurysmal subarachnoid hemorrhage (SAH) is misdiagnosed at initial medical presentation and the reasons of misdiagnosis.

## Methods

We reviewed medical records of consecutive patients managed by our institution recent five years. Clinical symptoms and hospital course and reasons of misdiagnosis were analyzed.

## Results

January 2006 to December 2010, five hundred nineteen eight patients were treated due to aneurysmal SAH in our institution. Thirty one patients (31/598, 5.2%) were misdiagnosed at initial medical contact. Among patients with misdiagnosed, appropriate diagnostic image test (computed tomography (CT) scan or magnetic resonance (MR) image etc) was not performed in twenty three patients (23/31, 74.2%) at initial medical contact. Image interpretation errors occurred in six patients (6/31, 19.4%). When diagnostic image showed negative finding with clinically suspected, further examination (lumbar puncture, MR image etc) was not performed in two patients (2/31, 6.5%). Misdiagnosis occurred non-teaching hospital in twenty six patients (26/31, 83.9%) and in five patients (5/31, 16.1%) in teaching hospital.

## Conclusions

In this study, misdiagnosis of aneurysmal SAH occurred in 5.2% (31/598) of patients. Unfavorable outcome (Glasgow outcome scale, 1 to 3) was in 29.0% (9/31). More detailed examination and a low threshold for diagnostic image test such as CT scan of patients with mild symptoms that suggestive of aneurysmal SAH may reduce the frequency of misdiagnosis.

## Learning Objectives

For reduce misdiagnosis. First, a high index of suspicion for the aneurysmal SAH is recommended through the teaching program about headache targeting not only referring doctors but also patients. Second, properly performed and correct interpretation of CT scan is necessary in physician. And, some patients with negatively finding on previous study should undergo neurological consultation and perform the lumbar puncture or vascular image by MRI or conventional angiography.

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