Aneurysmal subarachnoid hemorrhage epidemiology

Aneurysmal subarachnoid hemorrhage (aSAH) accounts for only 3-5% of all strokes.

Estimated annual rate of aneurysmal subarachnoid hemorrhage in most western populations: 6-9 per 100,000 population per year [1) 2)].

Gender

Aneurysmal subarachnoid hemorrhage (aSAH) is more common in women than in men.

Women outnumbered men among aSAH patients, especially along increasing age strata, and had increased global disease severity on admission. No other significant differences between genders were found [3)].

China

The age and gender information of 4,895 cases of aneurysmal SAH (3,016 females, 1,879 males) were collected retrospectively from eight institutions in mainland China. The prevalence of aneurysmal SAH of men and women at different ages was analyzed.

The data showed women had a higher incidence of aneurysmal SAH than men starting at late thirties, and men might have a higher incidence of aneurysmal SAH than women only before 37-year-old.

Menopause may not be the only dominant factor causing higher incidence of aneurysmal SAH in women than in men [4)].

South Korea

Trends in the incidences of newly detected unruptured aneurysms (UA) and SAH and trends in the treatment modalities used were assessed from 2005 to 2015 using the nationwide database of the Korean National Health Insurance Service in South Korea. They also evaluated the influence of demographic characteristics including socioeconomic factors on the incidence and treatment of UA and SAH.

The marked increase in the detection and treatment of UA might have contributed to the decreasing incidence of SAH, though levels of contribution depend on socioeconomic status despite universal medical insurance coverage [5)].

United States

In the United States alone, there are up to 30,000 new cases of aSAH per year [6].

Only 8 studies have investigated the Aneurysmal subarachnoid hemorrhage epidemiology in the United States. In the first investigation in Indiana, which has some of the highest rates of tobacco smoking and obesity in the nation. Ziemba-Davis et al. prospectively identified 441 consecutive patients with aSAH from 2005 to 2010 at 2 hospitals where the majority of cases are treated. Incidence calculations were based on US Census populations. Epidemiologic variables included demography; risk factors; Hunt and Hess scale; Fisher grade; number, location, and size of aneurysms; treatment type; and complications. The overall incidence was 21.8 per 100,000 population. Incidence was higher in women, increased with age, and did not vary by race. One third to half of the patients were hypertensive and/or smoked cigarettes at the time of ictus. Variations by count were partially explained by Health Factor and Morbidity Rankings. Complications varied by treatment. These findings deviate from estimates that 6-16 per 100,000 people in the United States will develop aSAH and are double the incidence in a Minnesota population between 1945 and 1974. The results also deviate from the worldwide estimate of 9.0 aSAHs per 100,000 person-years. The predictive value of variations in Health Factor and Morbidity Rankings implicates the importance of future research on multivariate biopsychosocial causation of aSAH [7].

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