The volume of the ventricles is about 25 ml and 125 ml in subarachnoid spaces.

CSF is produced at a rate of 0.2 - 0.7 ml per minute or 600-700 ml per day.

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Approximately 20 percent of the CSF is contained in the ventricles; the rest is contained in the subarachnoid space in the cranium and spinal cord.

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While many studies have evaluated risk factors associated with hydrocephalus after aneurysmal subarachnoid hemorrhage, specific ventricle volume changes after subarachnoid hemorrhage have not been evaluated. To evaluate factors predicting ventricle volume enlargement in patients with aneurysmal subarachnoid hemorrhage by measuring ventricle volume with a validated semi-automated tool.

Uni- and multivariable linear regression analyses were conducted with the follow-up ventricle volume as the dependent variable, and the duration between subarachnoid hemorrhage occurrence and follow-up imaging as the independent variable, classified using various predictive factors. A logistic regression model was used to calculate the odds ratio for the higher ventricle volume group compared with the lower ventricle volume group based on predictive factors.

Bang et al. included 173 participants with a mean age of 55.5 years. Overall, an approximate increase in ventricle volume of 1.1 cc was observed daily within 60 days of clipping owing to a subarachnoid hemorrhage. In the multivariate logistic regression analysis, patients in the first and second tertile groups for body mass index showed approximately a 5.9- and 4.1-fold increased risk of higher follow-up ventricle volume, respectively, compared with the third tertile group for body mass index within 60 days of subarachnoid hemorrhage.

They found that higher body mass index independently predicted suppression of ventricle volume growth, owing to maintenance of subarachnoid trabeculae structures after subarachnoid hemorrhage. Further studies are needed to confirm our findings [1].

1)
Bang JH, Na MK, Kim CH, Kim JM, Cheong JH, Ryu JI, Han MH. Factors predicting ventricle volume increase after aneurysmal clipping in patients with subarachnoid hemorrhage. World Neurosurg. 2017 Aug 22. pii: S1878-8750(17)31377-3. doi: 10.1016/j.wneu.2017.08.076. [Epub ahead of print] PubMed PMID: 28842230.