

Exploring the impact and management of aneurysmal subarachnoid hemorrhage: a comprehensive single-center study

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Objectives and Background

This study aims to provide valuable insights into the clinical outcomes of patients with aneurysmal subarachnoid hemorrhage (aSAH), treatment strategies, and prognostic factors.

Methodology

Retrospective and prospective cohort study of adult patients admitted with aSAH to a Neurocritical ICU of a tertiary university hospital between April 2021 and August 2023.

Results

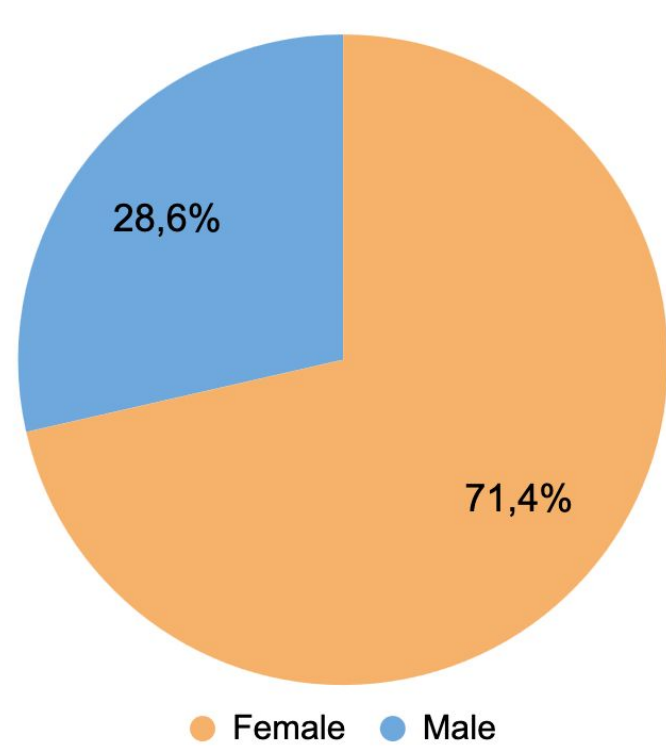


Fig 1 - Analysis of population distribution by gender.

217 patients were included. Median age was 59 years. 71% of whom were female. This represents a RR=1.76 for female, compared with 1.3 in the literature.

The incidence rate rises with age, with the highest prevalence observed within the age range of 40 to 70 years.

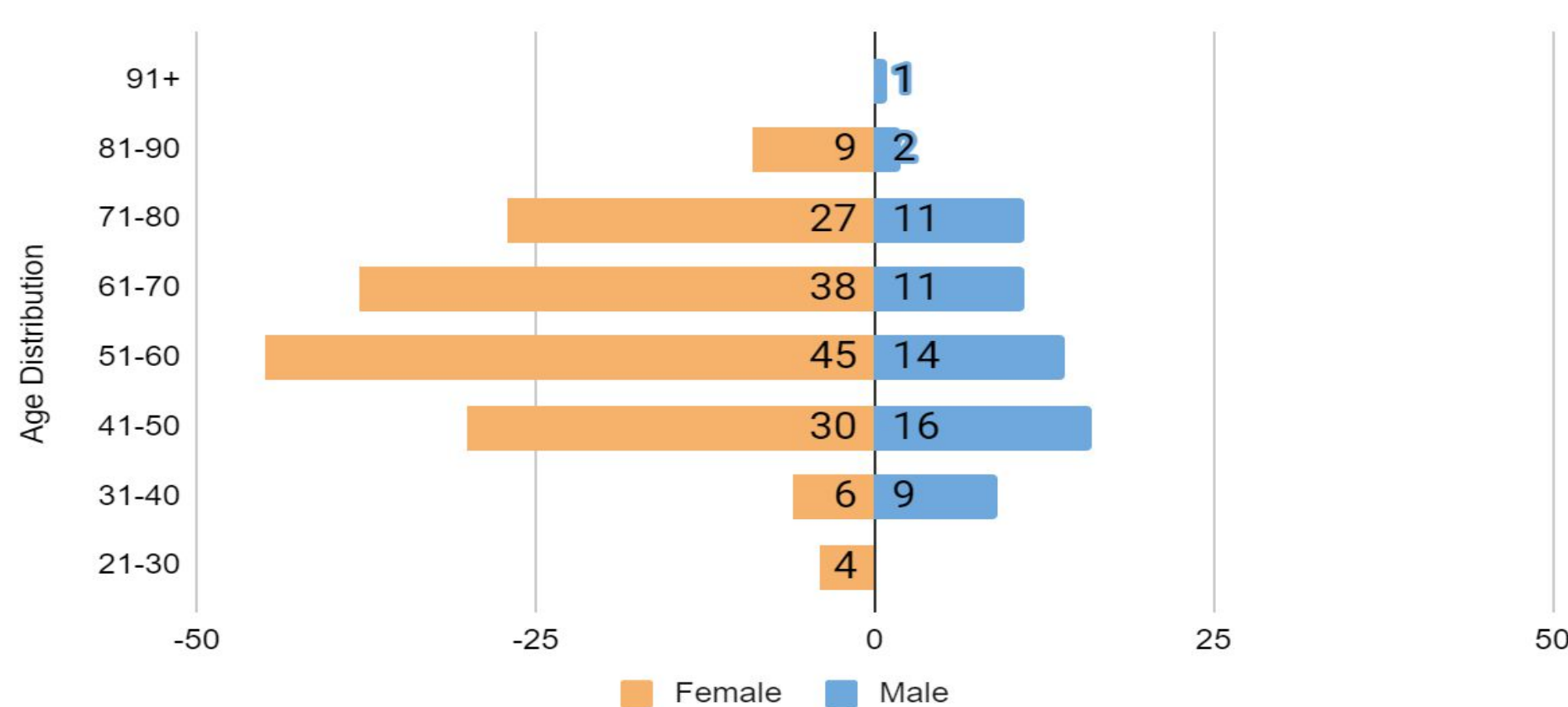


Chart 1 - Population distribution by gender and age group.

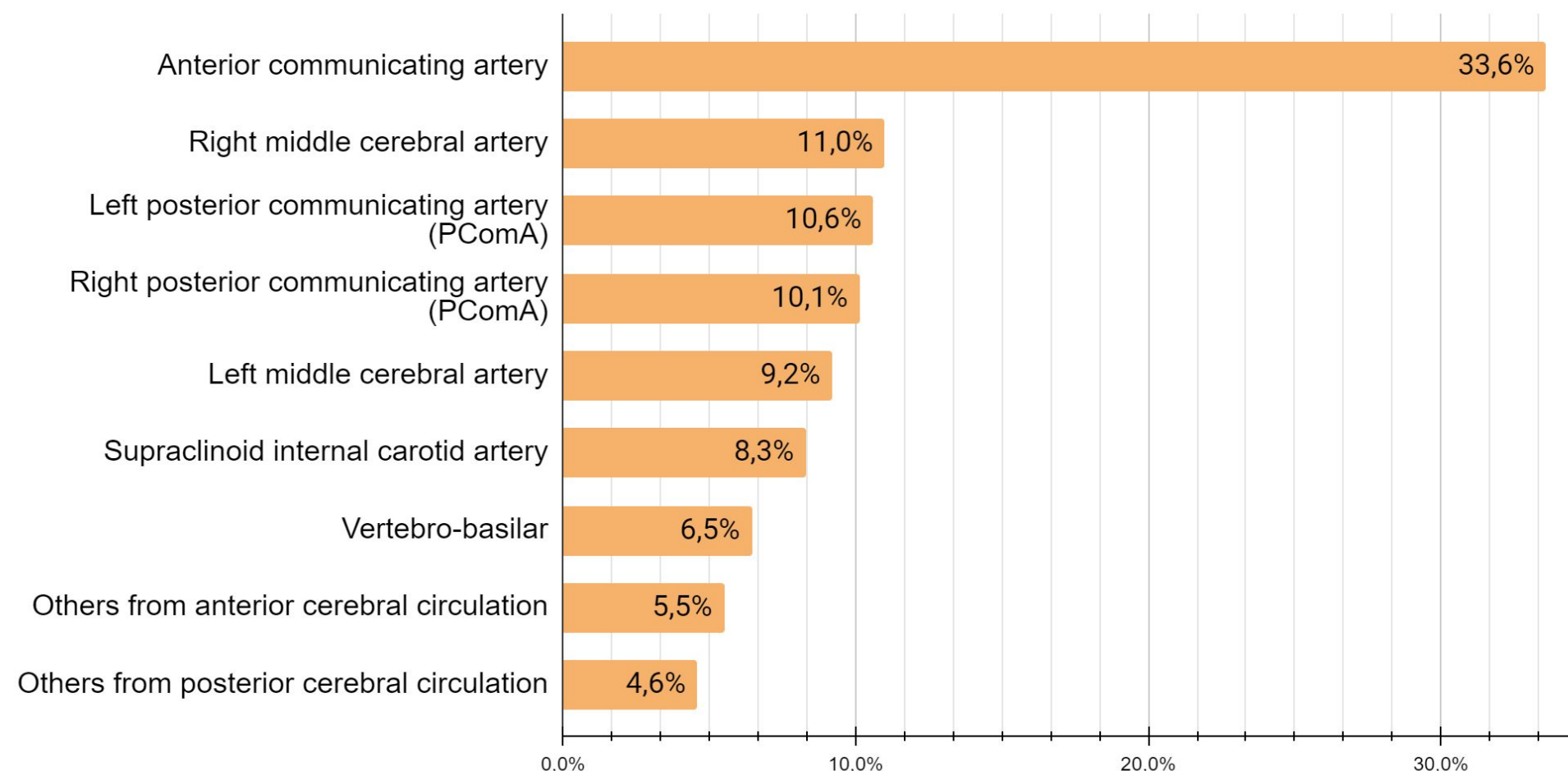


Chart 2 - Aneurysm locations.

According to the literature, 30% of the aneurysms occur in the anterior communicating artery. Our findings were in lined (34%). Approximately 46% were in the anterior circulation and 33% in the posterior circulation.

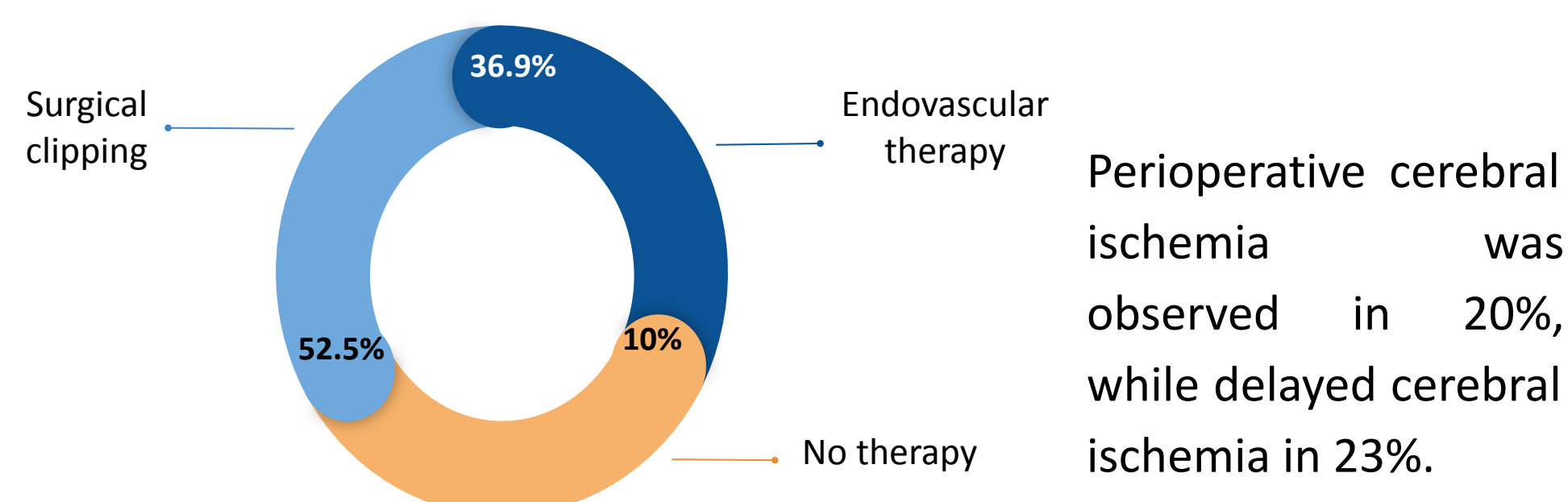
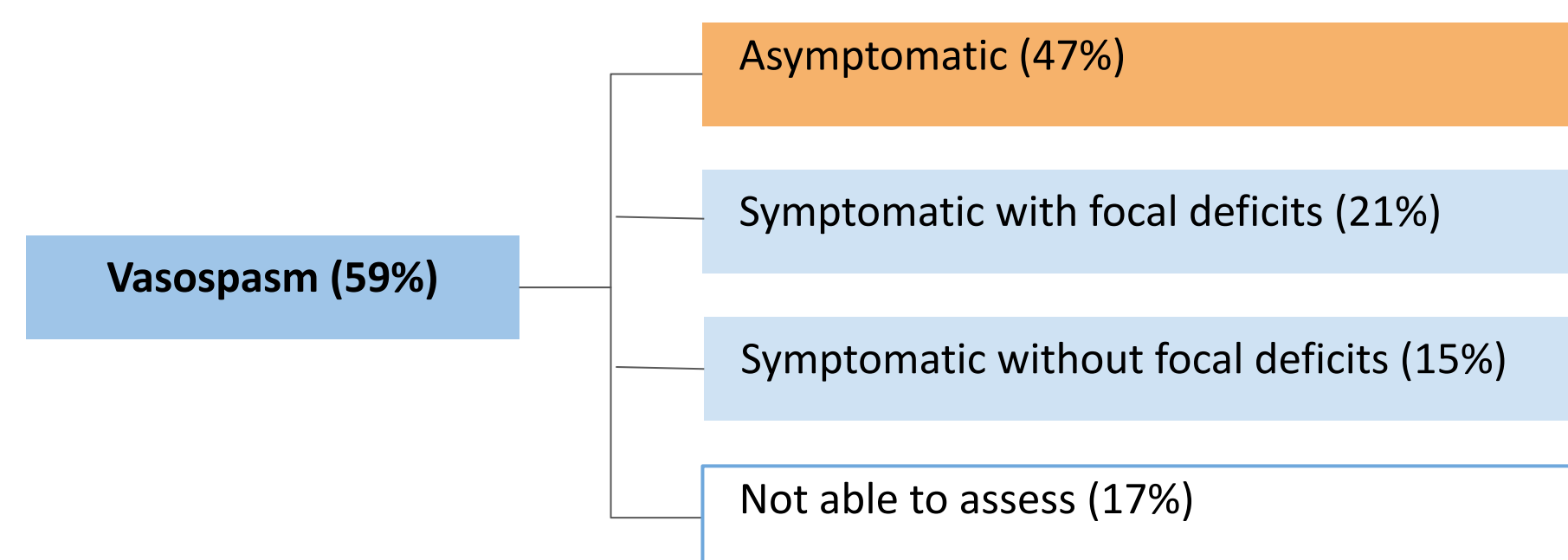
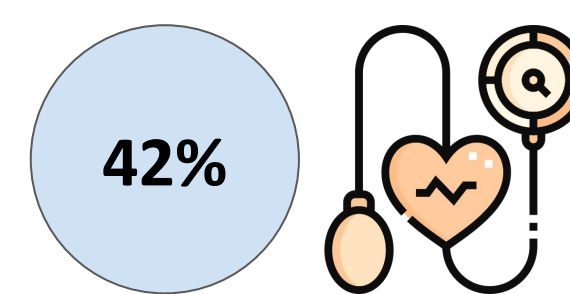
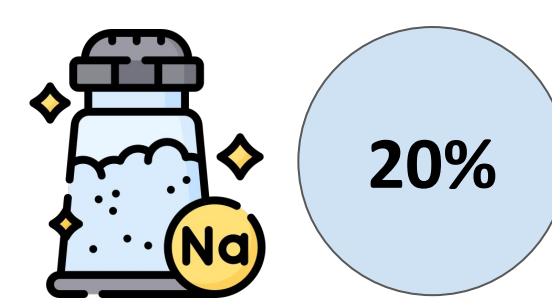


Fig 3 - Aneurysm therapy performed.

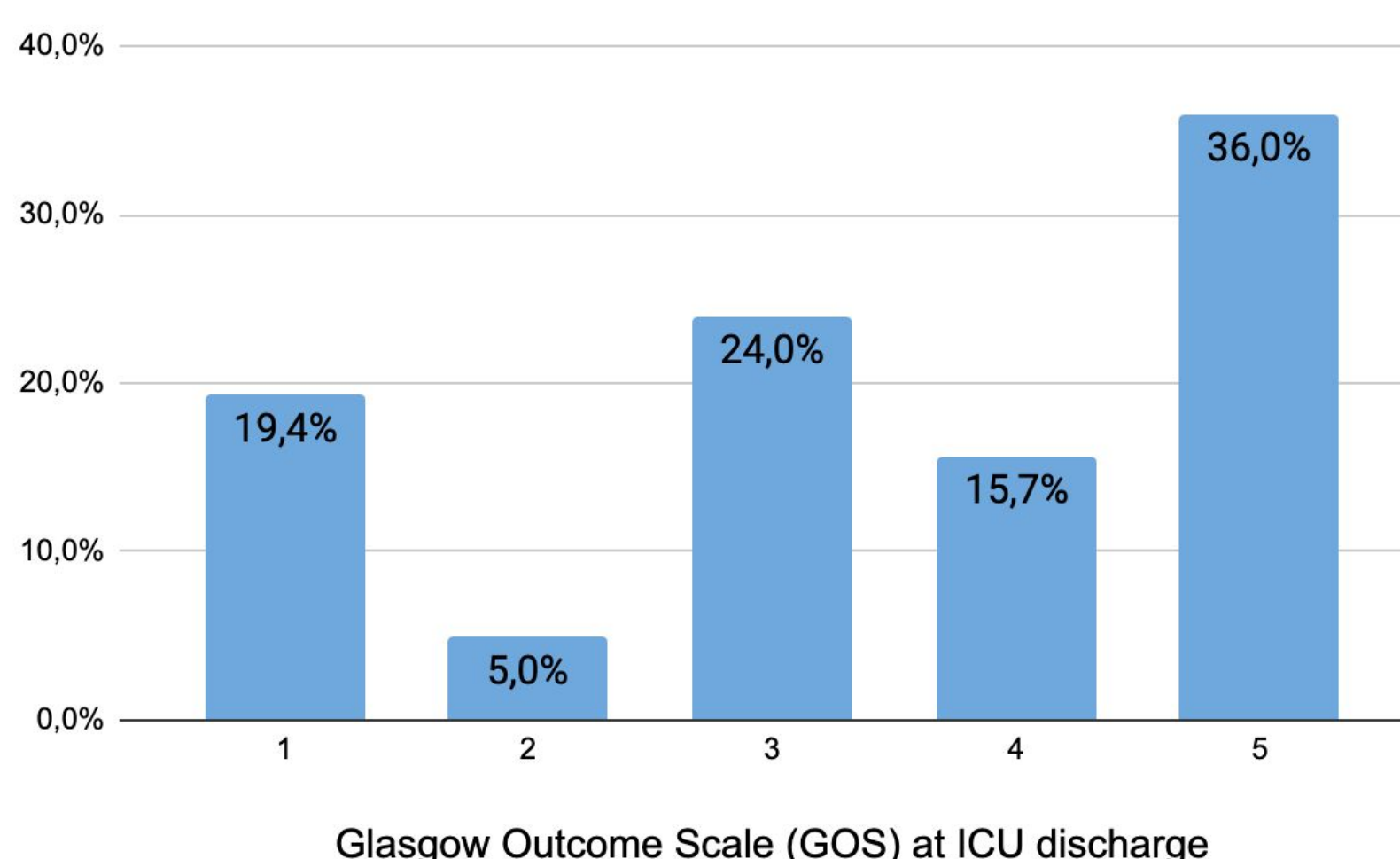
Permissive hypertension was implemented in 42% of the patients and induced in 13.3%.



The hyponatremia contributes to cerebral ischemia and a worsened outcome by being associated with a decrease in intravascular volume. This complication occurred in 21% of the patients.



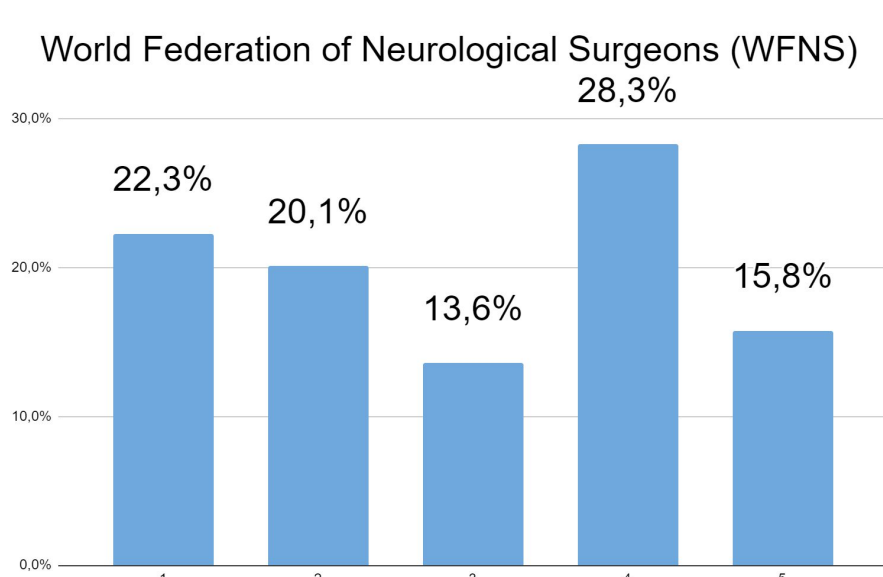
The average length of stay was approximately 14 days, 36% with a Glasgow Outcome Scale of 5 and an ICU mortality rate of 19%.



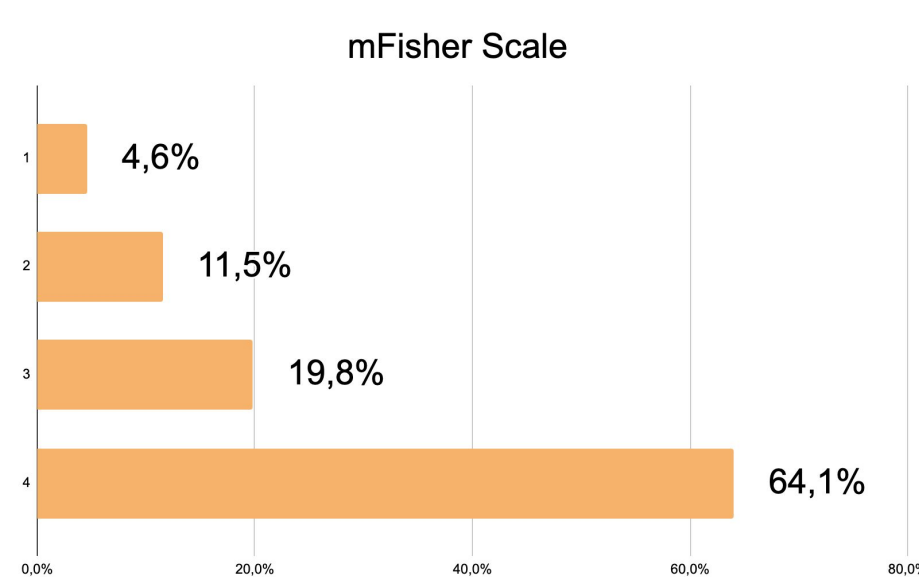
Prevalent risk factors:

- Hypertension (56%)
- Tobacco consumption (30%)
- Ischemic heart disease (5%)
- Family history (1%)

Only 8.29% were under antiplatelet therapy and 6% with an anticoagulant.



Grade 4 corresponded to 28% of our population



Regarding the mFisher scale, 64% exhibited a grade 4

In our study, we assessed the presence of complications upon admission, with hydrocephalus evident in 48% of patients.

As a therapeutic measure, **external ventricular drainage was performed in 73%** with intracranial pressure monitoring, with 26.7% placed pre-treatment.

17% developed seizures during the ICU stay (vs 7.8% - 15.2% in the literature) and **16.6% did progress with status epilepticus.**

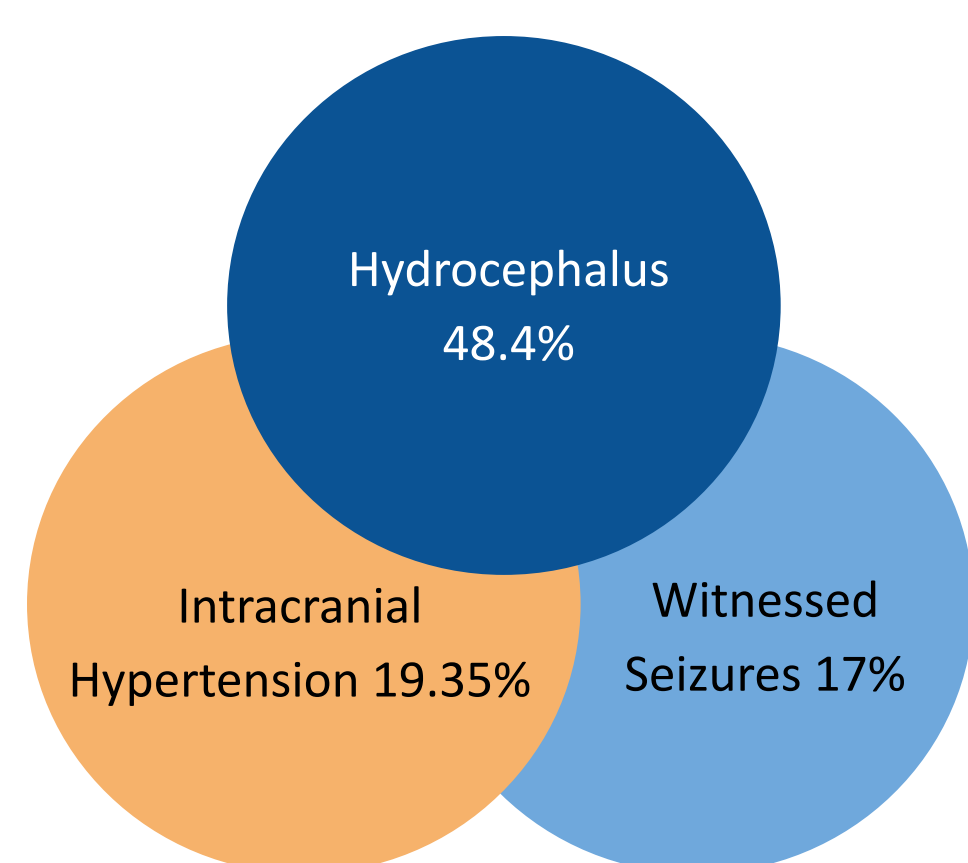


Fig 2 - Complications of aSAH.

Conclusions

The findings of this study hold the potential to enhance patient care, refine therapeutic approaches with tailored interventions and contribute to the overall body of knowledge surrounding aSAH. It was observed the difficulty of finding scientific evidence in different areas of aSAH treatment, emphasizing the need for further studies in this regard in order to refine patient care and outcomes in aSAH management.