

POSTER PRESENTATION

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# Hematoma volume and other prognostic factors with mortality in spontaneous intracerebral hemorrhage

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## Introduction

Intracerebral hemorrhage (ICH), a subtype of stroke associated with high mortality and the majority of survivors will remain permanently disabled. Identifying prognostic factors will determine the severity and guide the treatment for different patients.

## Objective

To relate the volume of hematoma and other prognostic factors with mortality in patients with spontaneous intracerebral hemorrhage (ICH).

## Material and Methods

All patients admitted to the ICU with the diagnosis of spontaneous ICH were collected. We determine the hematoma volume at admission with the modified formula Kothari ( $A \times B \times C / 2$  cc), the location of hematomas as posterior fossa or supratentorial, severity scales (GCS at admission, SOFA, APACHE II), medical history and complications during the ICU admission. Used percentiles (%), mean (SD) and median (min / max). For the univariate analysis we used U-Mann Whitney and Chi square with  $p < 0.05$  significant. Subsequently we performed a multivariate analysis using binary regression (OR with 95% CI) and significant  $p < 0.05$ .

## Results

101 patients were included. 66% men with a mean age  $61.8 \pm 12.7$  years. Our overall mortality was 35%. 82% were supratentorial and 16% infratentorial. The median APACHE II 13 (0-30), SOFA 4 (0-14), GCS 12 (3-15) and mean volume of 37.8 cc hematoma. In the univariate analysis was significantly correlated with mortality: GCS at admission ( $p < 0.001$ ), APACHE II ( $p < 0.001$ ) and

SOFA ( $p < 0.000$ ), taking oral anticoagulants (ACOs) ( $p < 0.05$ ), LOS in hospital ( $p < 0.05$ ) and complications as intracranial hypertension ( $p < 0.000$ ), rebleeding (0.01), herniation ( $p < 0.000$ ) and edema ( $\pm 0.001$ ). After the multivariate analysis, only de volume of hematoma (OR 1.2, 95% CI 1.1-1.2;  $p < 0.01$ ), intracranial hypertension in the first 48 h (OR 3.5; 95% CI 1.12 to 10.99;  $p < 0.03$ ), herniation (OR 7.08, 95% CI 2.77 to 18.09;  $p < 0.000$ ) and SOFA (OR 1.35; 95% CI 1.16 to 1.57;  $p < 0.000$ ). was correlated significant with mortality. As for the volume of hematoma we determined a cutoff point  $> 20$ cc obtaining statistical significance in its relation with mortality ( $p < 0.02$ ). In a subgroup analysis between posterior fossa and supratentorial with volumes  $> 15$  cc and 45 cc respectively we obtained also statistically significance with mortality ( $p < 0.037$  and 0.038 respectively).

## Conclusions

SOFA, volumen of hematoma at admission, intracranial hypertension and herniation are related to mortality in patients with spontaneous intracerebral hemorrhage.

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## References

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