Objective: Recent evidence suggests that blood pressure variability (BPV), early after stroke, may be associated with worse prognosis, though the data for BPV following intracerebral haemorrhage (ICH) are limited. We examined the association of systolic BP (SBP) variability and maximum SBP on outcome in the INTERACT2 dataset.

Methods: INTERACT2 was an international, multicenter, blinded clinical trial of early rapid BP lowering in 2,839 acute hypertensive (SBP 150-220mmHg) ICH patients. Relationship of SBPV, defined by standard deviation (SD-SBP) of 5 measurements in the hyperacute phase (first 24 hours; n=2645) and 12 measurements in the acute phase (2-7 days; n=2,347), and outcome (death or dependency at 90 days) was determined using logistic regression models.

Results: Significant associations were found for SD-SBP on day 1, expressed as fifths, and poor outcome (OR for highest fifth SD-SBP 1.41, 95%CI 1.05-1.90; p for trend 0.017), and for SD-SBP on days 2-7 and poor outcome (OR for highest fifth SD-SBP 1.57, 95%CI 1.14-2.17; p for trend 0.012). Maximum SBP was also significantly associated with outcome in the hyperacute (P=0.03 for trend) and acute (P=0.02 for trend) phases.

Interpretation: BPV in both hyperacute and acute periods after ICH is significantly associated with death or dependency, independent of mean BP. Effective BP lowering therefore involves early targeting and sustained control throughout the first 7 days.