FACTORS INFLUENCING SURVIVAL FROM HAEMORRHAGIC STROKE IN AN URBAN UK CENTRE

C. Wharton¹, A. Sadiq¹, P. Nightingale², S. Ispoglou¹

¹Sandwell and West Birmingham NHS Trust, Stroke Medicine, Birmingham, United Kingdom.

²Queen Elizabeth Hospital Birmingham, Statistics, Birmingham, United Kingdom.

Background and Aims

Haemorrhagic stroke (HS) has a high case fatality. Established prognostic factors include clinical severity, location and volume of haematoma (1). The INTERACT2 study further showed that elevated blood glucose levels and diabetes mellitus both predict serious outcomes in patients with predominantly mild to moderate severity of acute ICH but in contrast to previous studies, did not find that diabetes predicted death after ICH (2).

Zhang et al suggested that HbA1c alone could serve as a better predictor of poor outcome in diabetic patients after sICH (3). A recent meta-analysis looking at amongst others, mortality according to age, sex and ethnic origin showed that the incidence and case fatality of ICH haven't changed in recent years (4).

Serving an ethnically diverse, low-income population, we retrospectively reviewed registry data to determine how certain parameters influenced 30-day survival in the cases of HS admitted to our stroke service.

Methods

We reviewed registry data from the Stroke Service at Sandwell and West Birmingham NHS Trust and looked into cases admitted between January 2010 - November 2015 which were coded as "intracerebral haemorrhage". After reviewing case records and images, 404 HS cases were identified after excluding SAH, traumatic contusions and haemorrhagic transformation of infarcts.

We examined how age, ethnicity, gender, hypertension, diabetes, atrial fibrillation, anticoagulation, HbA1C and haematoma location (lobar versus deep) related to 30-day survival. Fisher's exact test was used for univariable analysis and binary logistic regression for multivariable analysis.

Results

In univariable analysis, the 30-day survival for males and females was 69% and 54% respectively ($p=0.002$). 67% of patients with history of hypertension were alive at 30 days compared to 50% of patients without ($p=0.001$). 71% of patients with deep, and 48% with lobar haematoma were alive at 30 days ($p<0.001$). Ethnicity and diabetes mellitus did not significantly influence this.

In multivariable analysis, age ($p<0.001$), hypertension ($p=0.001$) and haematoma location ($p=0.002$) were significantly associated with 30-day survival.

In the 169 patients that HbA1c was available, there was no association with survival ($p=0.36$).

Multivariable Analysis: Association between patient factors and 30 day survival

Discussion and Conclusion

In this cohort, 30-day survival was similar to what has been reported in big population studies. This was not statistically different in the ethnic groups represented. The history of hypertension favourably influenced the 30-day survival, possibly via premorbid antihypertensive treatment. Where available, HbA1c was not associated with survival. However, recognising bias due to incomplete data, retrospective analysis and no pre-specified hypothesis, we propose that a prospective study is done to determine the effect of history of hypertension and previous antihypertensive use and HbA1c on clinical outcomes from HS in the UK.

References

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