Ethnic differences in survival after stroke: Follow-up study of the south London stroke register

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Background: Previous studies have provided conflicting results regarding differences in survival between black and white patients after stroke. We aim to identify ethnic differences in survival after first-ever stroke and examine factors influencing survival.

Methods: Population based stroke register of first in a lifetime strokes between 1995 and 2010. Baseline data were collection of sociodemographic factors, stroke subtype, case mix, risk factors prior to stroke, and acute stroke care variables. Survival curves were estimated with Kaplan-Meier methods and multivariate survival analyses were undertaken using Cox Proportional-hazards models.

Results: Median (mean) survival was 2.15 (3.69), 3.33 (4.70), 5.04 (5.64) years for White, Black Caribbean (BC) and Black African (BA) patients, respectively. Among 4212 patients with a first-ever stroke between 1st January 1995 and 31st December 2010, 2605 (61.8%) had died (all causes) by 31st May 2011. Survival gradually improved over this 16-year period (P-value<0.0001). BC and BA had a reduced risk of death compared with white patients (hazard ratio (HR): 0.85(95% CI: 0.74, 0.98), HR: 0.61(0.49, 0.77), respectively) after adjustment for confounders. Age-stratified analyses showed this survival advantage of BC/BA over White only existed in patients over 65 years old (HR: 0.77(0.65,0.90), HR: 0.55(0.40,0.76), respectively). Recent stroke, being BC or BA and stroke unit admission were associated with better survival while risk factors prior to stroke such as myocardial infarction, atrial fibrillation, diabetes and smoking were associated with increased risk of death.

Conclusion: A number of factors appear to be associated with survival advantage but importantly survival has improved in a multi-ethnic population over time. The independent survival advantage of Black over White group in those aged over 65 may be a healthy migrant effect of first generation migrants, the result of a mass migration of workers from all over the English-speaking Caribbean during 1950s and 1960s. However, this survival advantage of Black over White is not seen in younger stroke patients with different lifestyle and risk exposure.