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The longitudinal effect of stroke on cognition

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Background/Aims: With advancements in medicine and improved chronic disease management in primary care, the numbers of stroke-survivors are increasing alongside our ageing population. Stroke is known to increase an individual's risk of cognitive impairment and dementia. Further, family doctors are often the first point of contact if stroke-survivors develop cognitive impairment. However, it is not currently known what factors influence the longitudinal effect of stroke on cognition. The aim of this systematic review was to assess the longitudinal pattern of cognitive function in stroke patients.
Methods: Three comprehensive medical databases (MEDLINE, EMBASE and PSYCHInfo) were searched from inception to July 2014. The following search terms were used:: "stroke", "(cognit* or neuropsych*) and "(progress* or longitudinal or decline or prospective)". Longitudinal studies (retrospective or prospective and published in English) with two or more time points of cognitive assessment post-stroke, in subjects over 50 years was included. The review was registered with PROSPERO (CRD42014015018).
Results: The search identified 7617 articles with 2841 duplicates removed. Twenty-three articles fulfilled inclusion criteria and were retained. in included studies, cognitive decline is a frequent sequelae following stroke but this was not the usual outcome. Several factors had been shown to increase the risk of prolonged cognitive impairment in stroke populations, namely: diabetes, medial temporal atrophy on imaging studies, recurrent stroke events, APoE-e4, vascular risk burden and apathy.
Conclusions: There is currently no single memory test that family doctors can use to accurately assess which stroke-survivors will go onto develop dementia. However, there is now evidence of a number of independent risk factors specific to stroke-survivors that increase the individual's risk of developing dementia. There may yet to be role in combining these risk factor variables in a risk assessment calculator to predict future dementia, which could be of clinical use in primary care.