Dementia Epidemiology

Although the preponderant prevalence in women has been identified, the sex differences in risk factors are unclear.

Both cognitive reserve and modifiable-risk-factor profiles play a role in dementia incidence. Jia et al. investigated whether cognitive reserve moderates the risk of dementia attributable to the modifiable-risk-factor profile.

They followed 2102 older individuals aged 65+ years recruited from the population-based longitudinal cohort CFAS Wales study, begun in 2011, and the follow-up wave completed in early 2016. Cognitive reserve was measured by combining educational level, occupation complexity, and engagement in social and cognitive activities in later life. Modifiable-risk-factor profile scores were based on depression, diabetes, smoking, physical activity, a healthy diet, and drinking. The interactions between cognitive reserve indicators and modifiable-risk-factor profiles were assessed on multiplicative and additive scales.

There is an additive interaction between the composite effect of cognitive reserve indicator and modifiable-risk-factor profile on dementia. In those with low cognitive reserve, the risk of dementia in participants with a favorable profile was significantly lower than in those with an unfavorable one (OR = 0.08, 95% CI = 0.02-0.27).

Cognitive reserve significantly moderates the association between modifiable-risk factor profiles and dementia [1].

Disorders of memory and cognitive function are increasing in incidence as several societies deal with the demographic reality of an aging population. At present, it is estimated that 25 million people worldwide are suffering from dementia caused by Alzheimer disease (AD), with a predicted doubling in incidence every 20 years [2].

By 2040, the incidence of Parkinson’s disease (PD)—in which dementia arises in 75 % of patients at 10 years and up to 87 % at 20 years [3] will also have doubled [4].

Dementia continues to enjoy a high public and political profile, the latter exemplified by the recent G8 summit meeting declaration to develop a cure or treatment by 2025. This is only likely to be achieved by a deeper understanding of the clinical and pathophysiological phenomena of dementia disorders [5].

Even though dementia is a cardinal symptom of normal pressure hydrocephalus (NPH), there is few data available concerning cognitive functioning.

The association between exposure to general anesthesia and dementia risk has been inconsistently reported across epidemiological studies. To better understand the association, Jiang et al. conducted a metaanalysis of epidemiological studies. PubMed and Embase were searched through April 2017. Random-effects models were used to pool association estimates. They further evaluated potential

dose-response relationship. Based on literature search, seven prospective/cohort studies, 11 case-control studies, and a pooled analysis of six case-control studies were identified. Sixteen of these studies were with high quality. After pooling available risk estimates, overall no significant association between exposure to general anesthesia (yes versus no) and dementia risk was detected (odds ratio (OR) = 1.03, 95% confidence interval (CI) 0.90-1.19, p for heterogeneity < 0.001). The null association persisted in the majority of subgroup analyses, although a significant positive association was detected in studies collecting anesthesia exposure using records (OR = 1.22, 95% CI 1.01-1.47, p for heterogeneity < 0.001), a method that is less prone to bias compared with interview or questionnaire using proxy reporters. Based on the dose-response analysis of three studies, a significant nonlinear relationship between times of exposure to general anesthesia and increased risk of dementia was suggested (p < 0.0001). Overall, this meta-analysis suggests that overall the evidence from epidemiological studies supporting a link between general anesthesia exposure and an increased dementia risk is not very strong, while an association was suggested in the studies collecting anesthesia exposure using records and those providing anesthesia exposure frequency data. Further well-designed studies are warranted to better characterize the relationship of interest [6].

1)
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