

The impact of ageing on neurocognitive and emotional processing in hydrocephalus

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Background

Neuropsychological assessment has revealed a distinct pattern of cognitive and emotional sequelae associated with the neuroanatomical changes caused by hydrocephalus. This neuropsychological profile highlights executive function, memory and attentional deficits that have been linked to difficulties in everyday function, that are exacerbated by high levels of anxiety (Fletcher et al, 2004; Dennis et al, 2005; Loveday and Edginton, 2012). Subjective memory changes over time have been reported in individuals with hydrocephalus that may be atypical of healthy ageing. This study aims to explore the impact of ageing across cognitive domains in individuals with hydrocephalus who have had longitudinal neuropsychological follow up.

Materials and method

Longitudinal measures of cognitive, behavioural and emotional functioning were assessed in a group of patients (n=48) with hydrocephalus who had completed initial baseline assessments. Objective and subjective measures of cognitive function were analysed across a range of executive function, memory and attentional tasks and HADS questionnaires to assess anxiety and depression.

Results

Initial assessment confirmed the neurotypical pattern of cognitive deficits with impairments in memory, learning and executive function with abnormal levels of anxiety on the HADS. Analyses revealed that over 55% of patients declined on measures of memory and executive function and anxiety increased in over 56% of patients. Further analysis will explore individual patterns of change.

Conclusions

This study suggests that subjective reports of cognitive decline are revealed with longitudinal neuropsychological follow up. We discuss the impact of ageing on cognitive and emotional processing and attentional capacity and discuss the implications for everyday function over time for individuals with hydrocephalus and spina bifida and their caregivers.