

NEUROPSYCHOLOGICAL PROFILES IN CHILDREN WITH AgCC: A SYSTEMATIC REVIEW

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Background

Brown & Paul (2019) proposed AgCC as a neuropsychological syndrome with core deficits in:

- limited interhemispheric transfer of complex information
- slow processing speed
- restricted ability to process novel and complex tasks

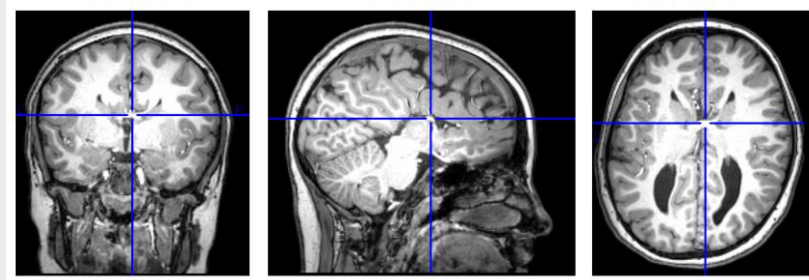
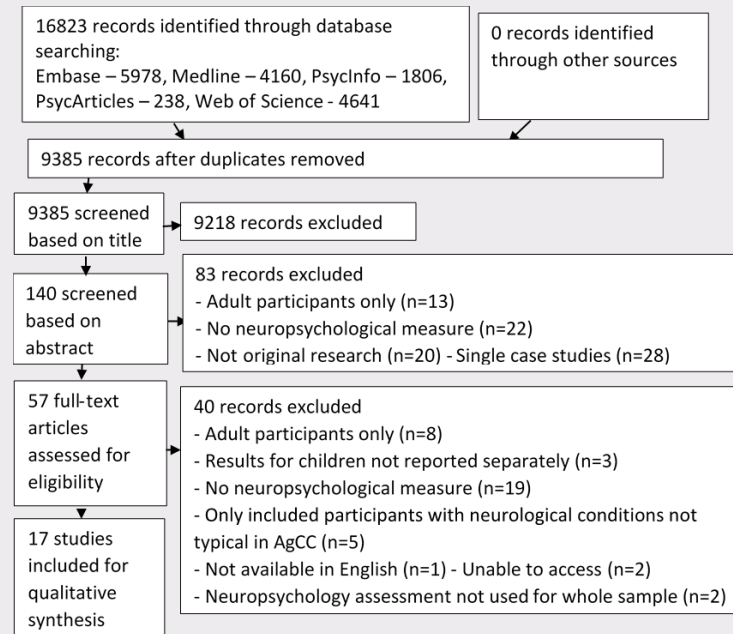
Key Questions

- What is the evidence of this syndrome in childhood?
- Is there a defined developmental pathway to the syndrome of AgCC?

Method

- Relevant research papers published from 2007 were identified through a systematic research conducted on 24/06/2020
- Key search terms included: Corpus Callosum, Agenesis/Dysgenesis of the Corpus Callosum, Neuropsychology, Cognition, Memory, Language, Attention, Executive Function, Outcome
- Databases searched: Medline, Embase, PsycINFO, PsycARTICLES and Web of Science

Figure 1. PRISMA Flowchart of Study Selection Process



MRI scan of 10-year-old girl with partial AgCC; Booth, Charlton & Happé (2014)

Key Findings from 17 studies

- 7/10 reported average IQ range
- 6/7 of these included isolated AgCC only
- Processing speed reported within average range in 1 study (Folliot-Le Doussal et al., 2008)
- 2 studies reported difficulties processing complex and novel information (Moutard et al., 2012, Siffredi et al., 2018)
- Significant variability in inclusion and exclusion criteria and reporting of results, limiting comparisons across studies
- 6 studies looking beyond IQ reported weaknesses in areas including social cognition, executive functioning and attention
- Only 5 studies considered impact of age; 2 indicated increased difficulties with older age, 3 reduced difficulties

Conclusions and Implications

- Neuropsychological outcomes in childhood are often defined by IQ alone, limiting conclusive evidence of a syndrome
- Available evidence suggest difficulties in a range of areas but not **processing speed** as predicted
- The developmental pathway in AgCC is unclear
- **Children with AgCC should be offered neuropsychological assessment covering a range of areas to ensure they receive appropriate support**