As correctly stated by the authors, patients with intracranial arachnoid cysts, most often present from childhood, may live their entire life without any overt symptoms from the cyst. However, several studies have shown that temporal cysts may impair several, mostly basic aspects of cognition and that cognition normalizes after surgical cyst decompression as early as 4 hours after surgery. This leads to the following questions. First, whether the case presented by the authors would not show cognitive improvements after surgery. Second, is there a relationship between AD pathology and the cyst? The rather young age of the patient suggests that he carries one ApoEe4 allele or his early onset is possibly related to the cyst (reduced perfusion and metabolism in the surrounding cortical regions). Reduced clearance of Aβ is one hallmark of aging brains, and may lead to increased Aβ levels, thus increasing the risk of developing AD pathology (Randy Bateman et al.).

The presentation of the careful and detailed neurological and neuropsychological examination as well as MRI and PET of the brain outlined in this paper would be improved by addressing the points mentioned above.

Regarding Table 3, with exception of one reference (Lebowitz, 2006), the remaining 14 references of these studies are not included under References. THIS NEEDS TO BE DONE.

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Careful description and study of a single case presenting with a large left-hemispheric frontotemporal cyst without progression but amnestic mild cognitive impairment (MCI) without further neurological/psychiatric symptoms. The cyst was detected in the 66-year old caucasian three years before this study. The case was carefully evaluated by neuropsychological assessment, structural imaging, functional imaging and amyloid PET. Neuropsychological assessment detected amnestic mild cognitive decline (MCI) without further symptoms. Structural
MRI revealed mild medio-temporal atrophy. Functional MRI showed sustained function of the left hemisphere despite the presence of the very large left-hemispheric arachnoid cyst (Type III Galassi classification corresponding to about 300-400 ml), and amyloid-PET was indicative of increased amyloid burden. The latter and the clinical evaluation led to the well justified diagnosis of MCI due to Alzheimer’s disease (AD).

The case is discussed in the context of 15 case series of subjects with frontotemporal arachnoid cysts and cognitive decline. These 15 case studies are summarized in Table 3. With the exception of one reference (Lebowitz, 2006), the remaining 14 references of these studies are not included under References. THIS NEEDS TO BE DONE. Interestingly, over 80% of the patients in these studies received surgical treatment in form of cystectomy or cyst-peritoneal-shunt surgery. In the largest study by Gjerde et al. (2013) which included 22 patients and 13 controls, the patients with cysts performed significantly better on the letter fluency test, category fluency condition, category switching condition, and total switching accuracy at postoperative testing than preoperative. The control group did not show a similar improvement. Thus, pressure exerted by the arachnoid-cyst may compromise the function of the adjacent cortex possibly due to a reduction of perfusion and metabolism in surrounding cortical regions. These changes are reversible after decompression of the cyst as early as 4 hours after surgery, paralleling the cognitive improvements observed in the patients. This leads to the following questions. First, whether the case presented by the authors would not show cognitive improvements after surgery. Second, is there a relationship between AD pathology and the cyst? The rather young age of the patient suggests that he carries one ApoEe4 allele or if not, his early onset is possibly related to the cyst (reduced perfusion and metabolism in the surrounding cortical regions). Reduced clearance of Aß is one hallmark of aging brains, and may lead to increased Aß levels, thus increasing the risk of developing AD pathology (Randy Bateman et al.).

The presentation of the careful and detailed neurological and neuropsychological examination as well as MRI and PET of the brain outlined in this paper would be improved by addressing the points mentioned above.

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