

fluency trajectories, reflecting the negative cognitive consequences of disorders such as diabetes, hyperlipidemia, and hypertension. Unexpectedly, greater increases in BMI and WHtR were associated with more favorable trajectories in motor speed and executive functioning. In this population, weight gain may be a proxy for other positive health factors, such as immune reconstitution, which will be examined in future analyses. Taken together, cardiovascular risk factors have heterogeneous associations with cognitive trajectories, emphasizing the importance of examining the mechanisms of these varying relationships. Future research will examine how social determinants of health, such as racial/ethnic discrimination, contribute to disparities in cardiovascular risk factors and cognitive outcomes.

**Categories:** Infectious Disease  
(HIV/COVID/Hepatitis/Viruses)

**Keyword 1:** HIV/AIDS

**Keyword 2:** cognitive functioning

**Keyword 3:** cardiovascular disease

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## 70 Visual Attention and Emotion Recognition Deficits in Patients with Cerebellar Tumors

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**Objective:** Social cognition refers to processing, analyzing and understanding information about emotions and social situations. Many studies indicate a frequent deficit of these functions in people with tumors of the cerebellum. Visual search is an important attention process prior to information processing. It also mediates the relationship between cognitive function (attention) and social cognition. There are numerous data showing that disorders of various aspects of attention are fairly common in patients with tumors of the cerebellum. The question arises whether there is any relationship between these functions. The purpose of this study was to find out if there is a relationship

between visual search performance and the ability to recognize emotions.

**Participants and Methods:** The study included 19 patients with the cerebello-pontine angle (CPA) tumors (mean age = 38.84, SD = 14.27; 10 women and 9 men) and 19 healthy controls (mean age 38.26, SD = 10.40; 10 women and 9 men). The research group consisted of patients from the Department of Neurosurgery, UCK Medical University of Warsaw, the control group was healthy. The groups did not differ demographically.

At the beginning, the respondents completed a questionnaire in which they were asked about demographic data and health status. Then, a series of 40 boards presenting the letters T in two colors, blue and orange, scattered in different planes was presented. The letters were right or upside down. The test person's task was to find and click the correctly positioned orange T letter as quickly as possible. Then, a series of 56 photos of faces representing seven different emotions was presented (happiness, anger, sadness, surprise, disgust, fear and a neutral face). The test person's task was to decide which of the emotions mentioned under the photo were presented by the presented face.

**Results:** The results indicated that patients with tumors in the CPA area had a longer mean reaction time and lower accuracy when performing visual searches than subjects from the control group. Likewise, there were longer times and lower accuracy in the emotional recognition task. Moreover, in the group of patients with CPA tumor, the response time during visual search was negatively associated with the correctness of the response in visual search ( $\rho = -0.57$ ,  $p < 0.05$ ). There were also negative correlations between the reaction time and the correctness of recognizing particular emotional states: anger ( $\rho = -0.48$ ,  $p < 0.05$ ), disgust ( $\rho = -0.62$ ,  $p < 0.01$ ) and neutral ( $\rho = -0.64$ ,  $p < 0.01$ ). The correctness of answers in visual search correlated positively with the accuracy of emotion recognition ( $\rho = 0.72$ ,  $p < 0.01$ ). None of the above-mentioned relationships were found in the control group.

**Conclusions:** The obtained results indicate a relationship between the quality of visual attention and the ability to recognize emotions in people with cerebellar lesions. In order to better understand this phenomenon, it is necessary to continue research in this field.

**Categories:** Medical/Neurological Disorders/Other (Adult)

**Keyword 1:** visuospatial functions

**Keyword 2:** social cognition

**Keyword 3:** cerebellum

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## 72 Lesion Location and Differing Symptom Presentation in Two Arachnoid Cyst Cases

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**Objective:** Arachnoid cysts are fluid-filled sacs thought to be a developmental abnormality which form as a result of splitting or duplication of the arachnoid membrane. In most cases, arachnoid cysts are congenital and asymptomatic throughout an individual's life. Rarely, arachnoid cysts develop because of head injury, intraventricular hemorrhage of prematurity, presence of a tumor, infection or surgery on the brain. Intracranial cysts are typically incidental brain imaging findings and most commonly located in the middle fossa, the suprasellar region, and the posterior fossa. In cases where the cyst enlarges significantly individuals may experience symptoms of increased intracranial pressure, mass effects, seizures, nausea and vomiting, focal neurological deficits, or hydrocephalus. This presentation compares the differing symptom presentation of two individuals with medically confirmed arachnoid cysts -- one in the middle cranial fossa region (Patient A) and the other in the posterior cranial fossa region (Patient B).

**Participants and Methods:** The 2 patients were referred to a private practice neuropsychological clinic for neuropsychological assessment. Patient A was a 39-year-old, right-handed, married Syrian male with 12 years of education, unemployed at the time of testing. Changes in cognition, behavior and personality were reported for Patient A approximately two years after a known cerebrovascular accident. Patient B was a 48-year-old, left-handed married

Caucasian male with 16 years of education, on disability due to his medical condition. Patient B reported severe memory impairment, speech and language deficits, variable attention, executive dysfunction, impaired gait with falls, emotional dysregulation, and sleep difficulties. He was diagnosed with bipolar disorder and alcohol use disorder in remission for 9 years. **Results:** Neuropsychological testing results for Patient A were not valid, due to initiation difficulties, paranoia about the testing and consequent limited engagement in the process. Predominant symptoms were consistent with negative symptoms of schizophrenia, (i.e., avolition, abulia, and diminished emotional expression); no positive symptoms were observed or reported. His speech was limited - he lacked spontaneous speech and only responded to direct questions. His informant completed a measure assessing pre/post changes in frontal systems and there were significant increases in apathy and executive dysfunction reported. Neuropsychological results collected from Patient B revealed mild to severe impairment of aspects of executive functioning, memory, processing speed, visual attention, expressive language, and manual dexterity bilaterally and manual motor strength – more consistent with subcortical neurological disease. Self-report and informant data revealed significant difficulties with functional abilities, pre/post changes in frontal systems (apathy, disinhibition, and executive dysfunction), sleep efficiency and daytime fatigue, and psychological distress (anxiety and depressive symptoms).

**Conclusions:** The presenting case analysis illustrates the importance of neuropsychology in identifying and tracking the nature of symptoms associated with neuroimaging confirmed arachnoid cysts. This case analysis is unique as it highlights the complexities of differing symptom phenotypes of the same condition due to location of the cyst. Surgical intervention usually through draining the cyst directly or implantation of a shunt is typically recommended for symptomatic patients and that course of treatment was suggested to both patients. Treatment recommendations geared to target psychosocial and functional difficulties should also be considered.

**Categories:** Medical/Neurological Disorders/Other (Adult)

**Keyword 1:** brain disorder