

## Neuropsychological Deficits in Drug-Resistant Epilepsy

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**Abstract :** Drug-resistant epilepsy (DRE) is defined as the persistence of seizures despite at least two syndrome-adapted antiseizure drugs (ASD) used at efficacious daily doses. About a third of patients with epilepsy suffer from drug resistance. Cognitive assessment has a crucial role in the diagnosis and clinical management of epilepsy. Previous studies have addressed the clinical targets and indications for measuring neuropsychological functions; best to our knowledge, no studies have examined it in a Hungarian therapy-resistant population. To fill this gap, we investigated the Hungarian diagnostic protocol between 18 and 65 years of age. This study aimed to describe and analyze neuropsychological functions in patients with drug-resistant epilepsy and identify factors associated with neuropsychology deficits. We perform a prospective case-control study comparing neuropsychological performances in 50 adult patients and 50 healthy individuals between March 2023 and July 2023. Neuropsychological functions were examined in both patients and controls using a full set of specific tests (general performance level, motor functions, attention, executive facts., verbal and visual memory, language, and visual-spatial functions). Potential risk factors for neuropsychological deficit were assessed in the patient group using a multivariate analysis. The two groups did not differ in age, sex, dominant hand and level of education. Compared with the control group, patients with drug-resistant epilepsy showed worse performance on motor functions and visuospatial memory, sustained attention, inhibition and verbal memory. Neuropsychological deficits could therefore be systematically detected in patients with drug-resistant epilepsy in order to provide neuropsychological therapy and improve quality of life. The analysis of the classical and complex indices of the special neuropsychological tasks presented in the presentation can help in the investigation of normal and disrupted memory and executive functions in the DRE.

**Keywords :** drug-resistant epilepsy, Hungarian diagnostic protocol, memory, executive functions, cognitive neuropsychology

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