

A GESCHWIND-MEZŐ BESZÉDCENTRUM-SZEREPÉT IGAZOLÓ NEUROLINGVISZTIKAI ESETTANULMÁNY

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Absztract: *Background:* As a consequence of a strategic infarction in the area of the dominant parieto-temporal region, the 86-year-old male patient suffered Wernicke-type transient global aphasia, then a sensory aphasia. According to the CT-based clinical diagnosis, Wernicke area was not affected by the infarction. In the early phase of recovery the patient gave responses in 4 languages: Hungarian, English, German and Spanish. A complex language test was considered to verify and to localize the infarction.

The language test consisted of 4 phases. The *first phase* contained 48 (4 X 12) questions and was used to determine the first language (and the second one) of the patient. According to the results, the *second phase* was comprehensive reading both in Hungarian and in English in order to diagnose or exclude alexia. In the *third phase* the automatic Language choice or language preference of the patient was examined by means of mixed (commenced in Hungarian and finished in English, and conversely, commenced in English and finished in Hungarian) questions. The *fourth phase* served for testing the facility in writing (writing task) and the operation of Wernicke and Broca areas (with oral language tests using irregular verbs).

Results: The first (native) language of the patient was Hungarian and the second (working) one was English due to having lived and worked in the USA for 51 years. The reading facility examination proved the results of the first phase and showed more active reading facility in English but excluded alexia. As a result of the third phase, it appeared that the preferred language of the patient was Hungarian. The writing facility of the patient was not damaged but he failed in generating past tense intransitive forms of irregular verbs by producing regular (not existing) forms instead.

Conclusion: The grammatical regularization tendency in generating Hungarian irregular verb forms made lesions probable in the parieto-temporal region (Geschwind area and Wernicke area). Since there were not observable damages to the mental lexicon of the patient, the strategic infarction could be localized in the inferior parietal lobule (Geschwind area).

Keywords: Geschwind area (= supramarginal and angular gyri of dominant inferior parietal lobule), Wernicke aphasia, strategic cerebral infarction, language test as a diagnostic tool.