Operative and nonoperative linguistic outcomes in brain injury patients

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Abstract

OBJECTIVE AND BACKGROUND: Linguistic function is one of vulnerable aspects of traumatic brain injury (TBI) which may have destructive effects on patients' communicative activities and daily life, years following trauma. This paper attempts to answer the controversy whether surgery affects increase and decrease of linguistic impairment or not.

MATERIALS AND METHODS: Two hundred forty-one TBI patients aged 18-65 with abnormal CT findings and at least 20 minute post-trauma amnesia (PTA), who were conscious at discharge, participated in this study. Based on operative intervention, the samples were divided into two groups: operative and nonoperative. Cognitive and aphasic deficits were inspected formally and pragmatic disorder was informally appraised at discharge.

RESULTS: The groups had no significant differences in aphasia incidence and language pragmatic impairment, though they were significantly distinctive in aphasia subcategories and cognitive deficit after trauma. Fluent aphasia was more common in both groups alike. In aphasia subcategories, however, transcortical sensory aphasia (TSA) in operative and anomia in nonoperative group were the most prevalent. Several variables appeared strikingly related to higher aphasia in operative groups as follows: moderate to severe injury, 18-35 and over 50 years of age, more than 1 week PTA, intracranial surgery of multiple lesions in left or bilateral hemisphere fronto-temporal cortex plus post-trauma cognitive and pragmatic impairments, and diffuse axonal injuries.

DISCUSSION: Almost certainly, meaningful drop of cognitive function post surgery roots back in significant loss of initial consciousness level. Related factors to postoperative aphasia suggest taking policies through surgery intervention. Discerning the indispensable contributions of neurosurgeons, neurolinguists, and neuroscientists, results inspire more clinical future studies.