

Dysphagia Risk Assessment in Acute Left-Hemispheric Middle Cerebral Artery Stroke

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Abstract:

Background and purpose: Bedside evaluation of dysphagia may be challenging in left middle cerebral artery (MCA) stroke due to frequently existing aphasia. Here we analyze the predictive value of common bedside screening tests and of two items of cortical dysfunction, aphasia and buccofacial apraxia (BFA) for the detection of dysphagia.

Methods: We prospectively examined 67 consecutive patients with clinical and imaging evidence of acute (<72h) left MCA stroke. Dysphonia, dysarthria, abnormal volitional cough and abnormal gag reflex were assessed followed by a standardised 50ml water-swallowing test determining the symptoms cough and voice change after swallow. Aphasia and BFA were assessed according to defined criteria. Fiberoptic endoscopic evaluation of swallowing (FEES) was performed for validation of dysphagia.

Results: 41 (61%) patients had FEES-proven dysphagia. Abnormal gag reflex, abnormal volitional cough, cough after swallow, aphasia and BFA were significantly more frequent in dysphagic as compared to non-dysphagic patients, while dysphonia, dysarthria and voice change after swallow were not. Aphasia and BFA had highest sensitivity (97% and 78%, respectively) and high negative predictive values (89% and 68%, respectively) for dysphagia. Multivariate regression analysis did not identify an

independent predictor of dysphagia.

Conclusions: In left MCA stroke, sensitivity and specificity of common bedside dysphagia screening methods is low. In contrast, aphasia and BFA have high sensitivity and high negative predictive power, presumably due to the neuroanatomical overlap between cortical regions involved in swallowing, speech production, imitation, and voluntary movement control.

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