

Transesophageal Echocardiography – Dysphagia Risk in Acute Stroke (T.E.D.R.A.S.)

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Abstract

Introduction: Dysphagia is common in acute stroke and deteriorates the overall outcome. Transesophageal echocardiography (TEE) builds the diagnostic workup of stroke etiology and is known as cause of postoperative dysphagia in cardiac surgery. The prevalence of dysphagia in acute stroke patients undergoing TEE remains unknown. The aim of T.E.D.R.A.S. was to assess the influence of TEE on swallowing in acute stroke patients.

Methods: T.E.D.R.A.S. as a prospective, blind, randomized, controlled trial included patients with acute stroke in two groups. Simple unrestricted randomization was performed and examiners were blinded for each other's results. Swallowing was tested using Flexible Endoscopic Evaluation of Swallowing (FEES) at three different intervals in the intervention group (IG) (24 hours before, immediately after and 24 hours after TEE) and within the control group (CG) (FEES on three consecutive days and TEE earliest after the last FEES). Validated scores assessed dysphagia severity for all time points as primary outcome measures.

Results: 34 patients were randomized in the IG (n=19) and the CG (n=15). Key findings using repeated measure between group comparisons shows in the IG significant increases in the following dysphagia measures: 1) Secretion severity score (immediately after TEE: $p<0.001$, 24 h after TEE: $p<0.001$). 2) Penetration-aspiration-scale for saliva (immediately after TEE: $p<0.001$; 24 h after TEE: $p=0.007$), for small (immediately after TEE: $p=0.009$) and for large liquid boli (immediately after TEE: $p=0.009$, 24 h after TEE: $p=0.025$).

Conclusion: The results indicate a negative influence of TEE on swallowing in acute stroke patients at least for 24 hours.

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