Intra-ambulance Telestroke Assessment for Identifying Stroke Reperfusion Candidates

Early recognition of the need for acute intervention, including reperfusion treatment, can improve prehospital triage and therapeutic outcomes in patients with stroke

Is telestroke evaluation better than paramedic evaluation using a score to identify patients who may benefit from stroke reperfusion therapies?

Cluster randomized controlled trial to assess patients with suspected stroke by:

In-ambulance evaluation with a telestroke consultation with a neurologist (n = 35)

VS

Paramedic-administered LAMS-based stroke score (PASTA score) (n = 41)

Accuracy of predicting:

Telestroke		PASTA score
100%	Emergency department (ED) neurologist assessment of reperfusion candidacy before imaging	**70.7%**
95% CI: 90–100%		95% CI: 54.5–83.9%
80%	Actual reperfusion therapy administered	**60.1%**
95% CI: 63.1–91.6%		95% CI: 44.5–75.8%

Sensitivity and specificity of telestroke vs PASTA score

Detection of patients eligible for reperfusion therapy compared to ED assessment

Telestroke (95% CI)	PASTA score (95% CI)
100% (69.2–100%) sensitivity	76.5% (50.1–93.2%) sensitivity
100% (86.3–100%) specificity	66.7% (44.7–84.4%) specificity

Prediction of eventual reperfusion treatment received

Telestroke (95% CI)	PASTA score (95% CI)
100% (29.2–100%) sensitivity	77.8% (40.0–97.2%) sensitivity
78.1% (60.0–90.7%) specificity	56.3% (37.7–73.7%) specificity

Detection of patients who eventually underwent intravenous thrombolysis

Telestroke (95% CI)	PASTA score (95% CI)
100% (15.8–100%) sensitivity	71.4% (29.0–96.3%) sensitivity
78.8% (61.1–91.0%) specificity	52.9% (35.1–70.2%) specificity
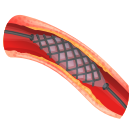
Detection of patients who eventually underwent endovascular thrombectomy

Telestroke (95% CI)	PASTA score (95% CI)
100% (2.5–100%) sensitivity	100% (29.2–100%) sensitivity
88.2% (72.6–96.7%) specificity	52.6% (35.8–69.0%) specificity

This study provides Class I evidence that intra-ambulance telestroke evaluation has greater diagnostic accuracy than the PASTA score performed by paramedics in distinguishing hyperacute stroke patients who are candidates for reperfusion therapy

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