

Paradigm shift in acute dizziness: is caloric testing obsolete?

Miranda Morrison¹, Athanasia Korda², Ewa Zamaro¹, Franca Wagner³, Marco Caversaccio⁴, Thomas Sauter⁵, Roger Kalla⁶, and Georgios Mantokoudis⁷

¹Inselspital Universitätsspital Bern

²Inselspital University Hospital Berne Department of Ear Nose and Throat and Head and Throat Surgery

³University Hospital of Bern, Inselspital

⁴University Hospital, Inselspital

⁵Inselspital, University hospital Bern

⁶Inselspital Universitätsspital Bern Universitätsklinik für Neurologie

⁷University Hospital Berne

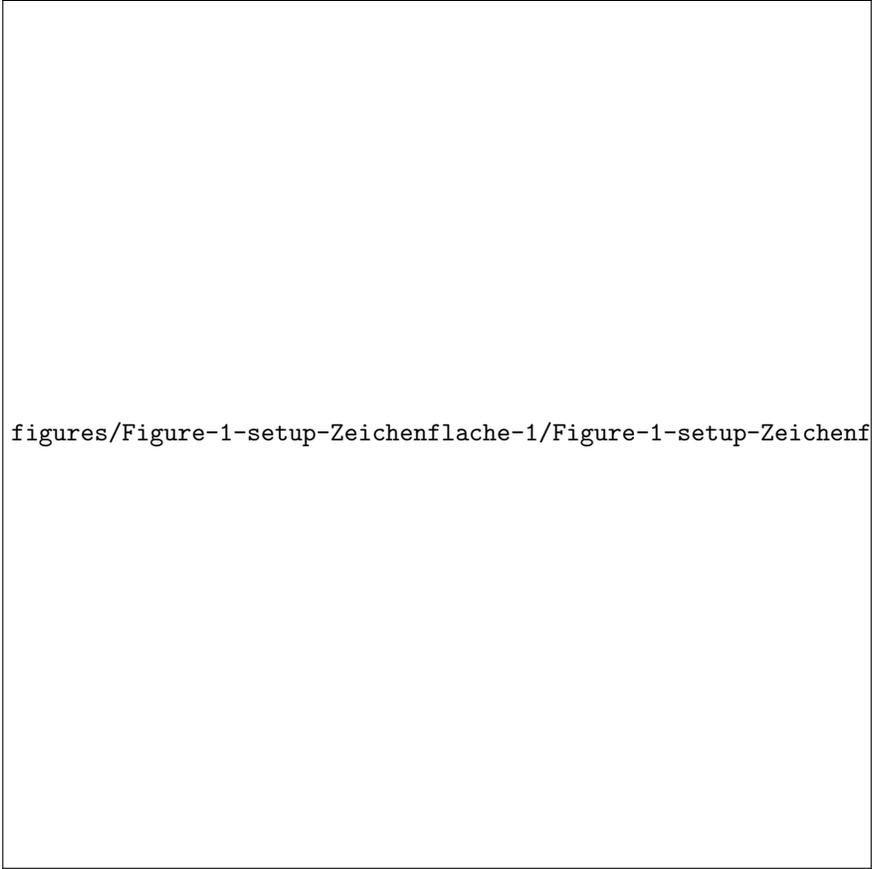
April 3, 2021

Abstract

Objectives: We aimed to investigate the diagnostic accuracy of Caloric Testing and video Head Impulse Testing (vHIT) in differentiating between vestibular neuritis and strokes in acute dizziness. **Design:** Prospective cross-sectional study. **Setting:** Emergency department of a tertiary referral center. **Participants:** 1677 adult patients were screened between 2015 and 2020 for AVS, of which 152 met the inclusion criteria. **Inclusion criteria** consisted of a state of continuous dizziness, associated with nausea or vomiting, head-motion intolerance, new gait or balance disturbance and nystagmus. **Patients** were excluded if symptoms lasted <24 hours or if the index ED visit was >72 hours after symptom onset. **Eighty-five** patients completed testing of which 58 were vestibular neuritis and 27 strokes. **Main outcome measures:** All patients underwent calorics and vHIT followed by a delayed MRI (gold standard for vestibular stroke confirmation). **Results:** The sensitivity/specificity for detecting stroke (caloric asymmetry cut-off of 30.9%) was 75% and 86.8% respectively (Negative likelihood ratio (NLR) 0.29) compared to 91.7% and 88.7% for vHIT (NLR 0.094). Best VOR gain cut-off was 0.685. Twenty-five percent of vestibular strokes were misclassified by calorics, 8% by vHIT. **Conclusions:** Caloric testing demonstrated lower accuracy than vHIT in discriminating stroke from vestibular neuritis in acute dizziness. Asymmetric caloric responses can also occur with vestibular strokes and might put the patient at risk for misdiagnosis. We therefore recommend replacing calorics with vHIT in the acute setting. Caloric testing has still its place as a diagnostic tool in an outpatient setting.

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figures/Figure-2-ROC-01/Figure-2-ROC-01-eps-converted-to.pdf