

Diagnostic accuracy of premanipulative vertebrobasilar insufficiency tests. A systematic review.

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Samenvatting

Diagnostic accuracy data does not support the use of premanipulative vertebrobasilar insufficiency tests to prevent the incidence of complications related to vertebrobasilar insufficiency. At this moment, practitioners must be careful when interpreting these tests. A surplus value for the use of these tests has not been verified.

Study design. A systematic review of diagnostic accuracy.

Objective. To evaluate the diagnostic accuracy of the premanipulative vertebrobasilar insufficiency tests. Summary of background data. Abnormal stress on the vertebral artery can change the blood supply in the artery, which can be caused by neck movements during spinal manipulative treatments. The aim of premanipulative vertebrobasilar testing is to evaluate the adequacy of the blood supply to the brains, by compressing the vertebral artery. For years it is considered important for practitioners to test the blood supply before using spinal manipulative therapy. Before large scale implementing premanipulative vertebrobasilar testing, it is important to know the validity of these tests.

Methods. We conducted a search in PUBMED, CINAHL and EMBASE between 1966 and April 2008. Studies were included if they compared a VBI test with a reference test and sensitivity and specificity were reported or could be calculated. The methodological quality of the studies included was evaluated using QUADAS. Agreement between reviewers was calculated and expressed as a percentage and also quantified by kappa(ê)statistics. Data extraction was performed..

Results. The search identified 763 potential citations of which 4 studies were included finally. Sensitivity was low and varied between 0% and 57%. Specificity varied between 67% and 100%. The positive predictive values varied between 0% and 100%. The negative predictive values varied between 26% and 96%. Positive likelihood ratios were also variable (0.22 - 83.25). The negative likelihood ratio varied from 0.44 to 1.40. Conclusion. Sensitivity, specificity, predictive values and likelihood ratios do not support the use of premanipulative vertebrobasilar insufficiency tests to prevent the incidence of complications related to vertebrobasilar insufficiency. At this moment, practitioners must be careful when interpreting these tests. A surplus value for the use of these tests has not been verified.