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Diagnostic accuracy of ultrasound in Carpal tunnel syndrome

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Background and Aim: Carpal tunnel syndrome (CTS) is the most common compressive neuropathy, caused by median nerve compression (NM) in the carpal tunnel. Most cases are idiopathic and its prevalence varies from 1 to 5% in the general population. During the last years there has been an increasing interest in the use of ultrasound in the diagnosis of CTS. The aim of this work is to evaluate the available evidence on the diagnostic accuracy of ultrasound in idiopathic CTS, compared to electrodiagnostic tests or clinical diagnosis of CTS.

Methods: An article search (meta-analyzes, systematic reviews, original studies and clinical guidelines) was performed using published works between 1 January 2009 and 30 June 2015 in the databases National Guideline Clearing House, Canadian Medical Association Practice Guidelines InfoBase, Cochrane Library, DARE, Bandolier, Evidence based Medicine Online, Trip Online Database and PubMed. The search was performed using the MESH terms 'carpal tunnel syndrome' and 'ultrasonography' and was limited to articles in Portuguese, English and Spanish.

Results: We included 12 original studies, which included 953 cases and 341 controls. The specificity of the ultrasound is between 60 and 99% and the sensitivity between 56 and 96%. The area under de curve as a value between 0.71 and 0.99. A systematic review published in 2009 pointed out the value of ultrasound in the diagnosis of this entity.

Conclusion: Ultrasound is an exam with good accuracy in the diagnosis of CTS. However, the absence of a diagnostic protocol to establish the location and other technical aspects limits its applicability.