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Real-time shear wave elastography for the evaluation of liver fibrosis: A meta-analysis

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A meta-analysis was performed to assess the accuracies of shear wave elastography (SWE) and compare SWE with other elastography technology in predicting significant fibrosis (stage F2-F4) and cirrhosis (stage F4). Electronic and manual bibliographic searches until June 2014 were used. A bivariate binomial model was used to combine the sensitivity, specificity and the area under summary receiver operating characteristic (AUC) curve and their 95% confidence intervals (95% CI) were derived to indicate the diagnostic accuracy of imaging modalities. In total, eight studies with 1632 patients were included. The sensitivity, specificity, and AUC (with 95% CIs) of SWE were 0.85 (0.81-0.89), 0.85 (0.80-0.88), and 0.92 (0.89-0.94) for significant fibrosis, respectively; 0.88 (0.83-0.92), 0.90 (0.87-0.93), and 0.96 (0.94-0.97) for cirrhosis, respectively. The mean optimal cut-off value of liver stiffness assessed by SWE for the detection of significant fibrosis and cirrhosis was 7.4 ± 0.40 kPa (median 7.2 kPa) and 10.9 ± 0.70 kPa (median 10.7 kPa). Thus, SWE is reliable for staging hepatic fibrosis, with a high combination of sensitivity and specificity.

Biography

Quanyuan Shan has completed her MD at the age of 26 years from Sun Yat-Sen University. She is now working in department of Medical Ultrasound of First Affiliated Hospital and Institute of Diagnostic and Interventional Ultrasound of Sun Yat-Sen University. As a doctor of ultrasonography she has used a great deal of ultrasonic machines, and has a deep understanding of SWE, which has emerged as a novel technological development in the field of elastography and is based on shear waves integrated into a conventional ultrasound device.

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