INPLASY PROTOCOL

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Conflicts of interest: None.

Diagnostic Value of Endobronchial Ultrasound Elastography for Differentiating Benign and Malignant Hilar and Mediastinal Lymph Nodes: A Systematic Review and Meta-analysis

Wu, F[1]; Sun, Y[2]; Wang, Y[3]; Ge, L[4]; Jin, Y[5]; Wang, Z[6].

Review question / Objective: In the present study, a meta-analysis was performed to evaluate the diagnostic value of endobronchial ultrasound (EBUS) elastography for differentiating benign and malignant hilar and mediastinal lymph nodes (LNs).

Condition being studied: As stated above, whether endobronchial ultrasound (EBUS) elastography can be considered as a valuable scanning modality is still a controversial issue. Therefore, we performed a meta-analysis to assess the diagnostic performance of endobronchial ultrasound elastography in the noninvasive discrimination between benign and malignant hilar and mediastinal LNs during endobronchial ultrasound-guided transbronchial needle aspiration (EBUS-TBNA).

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 27 November 2020 and was last updated on 27 November 2020 (registration number INPLASY2020110117).

INTRODUCTION

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METHODS

Participant or population: Patients with enlarged hilar and mediastinal LNs who would undergo EBUS-TBNA.

Intervention: Endobronchial ultrasound elastography.

Comparator: Pathology.

Study designs to be included: Diagnostic studies were included.

Eligibility criteria: The inclusion criteria were as follows: (a) Diagnostic studies were included; (b) Studies evaluating the diagnostic accuracy of EBUS elastography in distinguishing malignant and benign hilar and mediastinal LNs were included; (c) A reference standard was adopted to confirm malignant intrathoacic LNs, such as cytology obtained by EBUS-FNA or other method, histology of surgical resection, or more than 6 months of follow-up; (4) If several diagnostic methods were used in a study, only the best result was chosen.

Information sources: Pubmed, EMBASE and Cochrane Library.

Main outcome(s): Sensitivity, specificity, positive likelihood ratio, negative likelihood ratio, and area under the curve.

Quality assessment / Risk of bias analysis: The methodological quality of each included study was assessed by the Quality Assessment of Diagnostic Accuracy Studies 2 tool.

Strategy of data synthesis: This meta-analysis was performed by StataSE 15 (Stata Corporation, College Station, Texas). All statistical analyses were performed by one author, who has experience in performing meta-analysis. The pooled estimates of sensitivity, specificity, positive likelihood ratio (PLR), negative likelihood ratio (NLR) and diagnostic odds ratio (DOR) with corresponding 95% confidence intervals (CIs) were calculated by a bivariate random effect model.

Subgroup analysis: Subgroup analysis was performed according to variables like study design, year published, reference standard, diagnostic method, and sampling.

Sensibility analysis: A sensibility analysis was performed to assess the influence of any one study on the pooled sensitivity and specificity, by omitting one individual study at one time.

Country(ies) involved: China.

Keywords: Endobronchial ultrasound; Elastography; Hilar and mediastinal lymph nodes; Diagnosis; Meta-analysis.

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