INPLASY PROTOCOL

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Corresponding author:
Yu Li

xzliyu@126.com

Author Affiliation:
Xuzhou Medical University.

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None declared.

Computed tomography-guided for sub-centimeter pulmonary nodules: a meta-analysis

Li, Y[1]; Shi, YB[2]; Hu, CF[3].

Review question / Objective: **We aimed to assess the safety and diagnostic accuracy of CT-guided biopsy for sub-centimeter pulmonary nodules.**
Condition being studied: **Based on the data from the computed tomography (CT) pulmonary nodules (PNs) screening trial, sub-centimeter PNs with a diameter ≤ 10 mm are observed in approximately 15% of the screened population, of which 48–56% of the cases occur in patients with lung cancer. CT-guided biopsy is a common used method for diagnosis of sub-centimeter PNs.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 08 May 2023 and was last updated on 08 May 2023 (registration number INPLASY202350031).

INTRODUCTION

Review question / Objective: **We aimed to assess the safety and diagnostic accuracy of CT-guided biopsy for sub-centimeter pulmonary nodules.**

Condition being studied: **Based on the data from the computed tomography (CT) pulmonary nodules (PNs) screening trial, sub-centimeter PNs with a diameter ≤ 10 mm are observed in approximately 15% of the screened population, of which 48–56% of the cases occur in patients with lung cancer. CT-guided biopsy is a common used method for diagnosis of sub-centimeter PNs.**

METHODS

Search strategy: **(((((computed tomography) OR (CT)) AND ((lung) OR (pulmonary))) AND (biopsy)) AND (((1 cm) OR (10 mm)) OR (subcentimeter))) AND ((nodule) OR (lesion)).**

Participant or population: Patients with sub-centimeter PNs.

Intervention: CT-guided biopsy.

Comparator: None.

Study designs to be included: Included studies had to meet the following criteria: (a) studies were specifically focused on CT-guided sub-centimeter PNs biopsy; (b) lesions in the evaluated studies were ≤ 10 mm in diameter. Studies were excluded if they: (a) were conference abstracts; (b) were non-human studies; or (c) were reviews.

Eligibility criteria: Included studies had to meet the following criteria: (a) studies were specifically focused on CT-guided sub-centimeter PNs biopsy; (b) lesions in the evaluated studies were ≤ 10 mm in diameter.

Information sources: Pubmed, Web of science, Wanfang.

Main outcome(s): Diagnostic accuracy.

Quality assessment / Risk of bias analysis: All studies identified for inclusion in the present analyses had a non-randomized design, and their quality was evaluated using the Newcastle–Ottawa scale.

Strategy of data synthesis: Stata v12.0 was used to conduct the present meta-analysis. Owing to presumed heterogeneity, a random-effects model was used to calculate pooled technical success rates, diagnostic accuracy, pneumothorax rates, and hemoptysis rates, with weighting being conducted according to the inverse variance of included studies, under the assumption of heterogeneity. Heterogeneity among studies was evaluated using the Q test and the I2 statistic, with I2 > 50% being indicative of substantial heterogeneity.

Subgroup analysis: Yes.

Sensitivity analysis: No.

Country(ies) involved: China.

Keywords: CT, Biopsy, Sub-centimeter, Pulmonary nodule.

Contributions of each author:
Author 1 - Yu Li.
Author 2 - Yi-Bing Shi.
Author 3 - Chun-Feng Hu.