

INPLASY PROTOCOL

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**Review Stage at time of this
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Conflicts of interest:
None.

The diagnostic accuracy of superb microvascular imaging in distinguishing thyroid nodules: A protocol for systematic review and meta analysis

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Review question / Objective: Ultrasonography is the first choice for clinical diagnosis and differentiation of thyroid cancer Currently. However, due to the complexity and overlapping nature of the thyroid nodule sonograms, it remains difficult to accurately identify nodules with atypical ultrasound characteristics. Previous studies showed that superb microvascular imaging can detect tumor neovascularization to differentiate benign from malignant thyroid nodules.

Condition being studied: However, the results of these studies have been contradictory with low sample sizes. This meta-analysis tested the hypothesis that superb microvascular imaging is accurate in distinguishing benign and malignant thyroid nodules.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 20 August 2020 and was last updated on 20 August 2020 (registration number INPLASY202080084).

INTRODUCTION

Review question / Objective: Ultrasonography is the first choice for clinical diagnosis and differentiation of thyroid cancer Currently. However, due to

the complexity and overlapping nature of the thyroid nodule sonograms, it remains difficult to accurately identify nodules with atypical ultrasound characteristics. Previous studies showed that superb microvascular imaging can detect tumor

neovascularization to differentiate benign from malignant thyroid nodules.

Condition being studied: However, the results of these studies have been contradictory with low sample sizes. This meta-analysis tested the hypothesis that superb microvascular imaging is accurate in distinguishing benign and malignant thyroid nodules.

METHODS

Participant or population: The patients should be those who had undergone thyroid nodule.

Intervention: SMI.

Comparator: Pathology.

Study designs to be included: This study will only include high quality clinical cohort or case control studies.

Eligibility criteria: 2.1.1. Type of study. This study will only include high quality clinical cohort or case control studies. 2.1.2. Type of patients. The patients should be those who had undergone thyroid nodule. 2.1.3. Intervention and comparison. This study will compare SMI with pathology for diagnosing thyroid nodules.

Information sources: PubMed, Web of Science, Cochrane Library, and Chinese biomedical databases will be searched from their inceptions to the August 20, 2020, without language restrictions.

Main outcome(s): The primary outcomes include sensitivity, specificity, positive and negative likelihood ratio, diagnostic odds ratio, and the area under the curve of the summary receiver operating characteristic.

Quality assessment / Risk of bias analysis: Methodological quality was independently assessed by two researchers based on the quality assessment of studies of diagnostic accuracy studies (QUADAS) tool.

Subgroup analysis: We also performed subgroup and meta-regression analyses to

investigate potential sources of heterogeneity.

Sensibility analysis: To evaluate the influence of single studies on the overall estimate, a sensitivity analysis was performed.

Country(ies) involved: China.

Keywords: meta-analysis, superb microvascular imaging, thyroid nodule.

Contributions of each author:

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