

INPLASY

PET/CT based model for predicting malignancy in pulmonary nodules: a meta-analysis

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ADMINISTRATIVE INFORMATION

Support - None.

Review Stage at time of this submission - Preliminary searches.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY2023100042

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 10 October 2023 and was last updated on 10 October 2023.

INTRODUCTION

Review question / Objective To assess the diagnostic ability of PET/CT based model in predicting malignancy in pulmonary nodules.

Condition being studied Pulmonary nodules are usually the early-stage lung cancers, and therefore, making an accurate diagnosis of pulmonary nodules is important. At present, the PET/CT has been widely used for diagnosis of pulmonary nodules.

METHODS

Search strategy (((((positron emission tomography) OR (PET/CT)) AND (model)) AND ((lung) OR (pulmonary))) AND (nodule)) AND (((differential) OR (diagnosis)) OR (probability)) OR (predictive)).

Participant or population Patients with pulmonary nodule.

Intervention Malignancy.

Comparator Benign.

Study designs to be included Studies eligible for inclusion were: (1) studies assessing the differential diagnosis of benign and malignant SPNs; (2) studies of SPNs \leq 30 mm in size; (3) studies in which predictive models were developed and provided; (4) studies in which sensitivity and specificity were provided. Studies were excluded if they were reviews, case reports, or non-human studies.

Eligibility criteria Studies eligible for inclusion were: (1) studies assessing the differential diagnosis of benign and malignant SPNs; (2) studies of SPNs \leq 30 mm in size; (3) studies in

which predictive models were developed and provided; (4) studies in which sensitivity and specificity were provided. Studies were excluded if they were reviews, case reports, or non-human studies.

Information sources The PubMed, Embase, Cochrane Library, CNKI, Wanfang, and VIP databases were searched for relevant studies.

Main outcome(s) Diagnostic accuracy.

Quality assessment / Risk of bias analysis Risk of bias was evaluated with the quality assessment of diagnostic accuracy studies (QUADAS-2) tool.

Strategy of data synthesis The sensitivity, specificity, positive likelihood ratio (PLR), negative likelihood ratio (NLR), diagnostic score, and summary receiver operating characteristic (SROC) curve were pooled using Stata v12.0 (Stata Corporation, TX, USA).

Subgroup analysis None.

Sensitivity analysis None.

Country(ies) involved China.

Keywords PET/CT, Pulmonary nodule, Diagnosis.

Contributions of each author

Author 1 - Yu Li.

Author 2 - Yi-Bing Shi.

Author 3 - Chun-Feng Hu.