Results. A total of 27 studies with 5,701 lung nodules were considered. The pooled sensitivity, specificity, positive likelihood ratio, negative likelihood ratio, diagnostic odds ratio and the area under the curve of SROC for AI-assisted diagnosis technology for lung nodules classification respectively were 0.892 (95% confidence interval [CI]: 0.854–0.920), 0.876 (95% CI: 0.833–0.909), 7.190 (95% CI: 5.194–9.955), 0.124 (95% CI: 0.089–0.171), 58.102 (95% CI: 32.391–104.219) and 0.95 (95%CI: 0.92–0.96).

Conclusions. Of note, several limitations should be considered when interpreting the findings of this meta-analysis. Data acquisition is not comprehensive enough because the language of the literature search was limited to Chinese and English. Furthermore, heterogeneity caused due to the difference of lung nodule size affected the study results. Despite these limitations, our study suggests that AI-assisted diagnosis technology for benign-malignant lung nodule classification on CT images obtains high diagnostic accuracy, and it can be used as a novel method to differentiate benign and malignant pulmonary nodules.

OP608 The Diagnostic Accuracy Of Quantitative Flow Ratio In Myocardial Ischemia Of Coronary Artery Disease: A Meta-Analysis

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Introduction. Quantitative flow ratio (QFR) is a novel approach to derive fractional flow reserve (FFR) from coronary angiography. QFR based on 3-dimensional reconstruction of angiographic images assesses the significance of coronary artery disease (CAD) without using an invasive pressure wire. This study aimed to evaluate the diagnostic accuracy of quantitative flow ratio in myocardial ischemia of coronary artery disease.

Methods. A meta-analysis was conducted of published research articles on diagnostic accuracy of QFR between January 2016 and September 2019 in the databases of PubMed, EMBASE, Cochrane Library, China National Knowledge Infrastructure, Wanfang Data Knowledge Service Platform and China Bio-medicine Database. Statistical analysis was performed with software Meta-Disc 1.4 and Stata 12.0, and the summary receiver operating characteristic (SROC) curve was drawn to evaluate accuracy of the method.

Results. A total of 11 articles were retreived, including 1,782 patients and 2,054 vessels. The pooled sensitivity, specificity, positive likelihood ratio, negative likelihood ratio and diagnostic odds ratio for quantitative flow ratio respectively, were 0.86 (95% confidence interval [CI]: 0.85-0.89), 0.89 (95%CI: 0.87–0.91), 7.51 (95%CI: 6.40–8.82), 0.15 (95%CI: 0.10–0.23), 54.18 (95%CI: 34.09–86.12), and the pooled AUC was 0.9458.

Conclusions. Several limitations should be considered when interpreting the findings of this meta-analysis. First, despite the extensive literature search, the number of included studies was small; however, the number of patients and vessels enrolled was satisfactory, thereby decreasing type II error. Furthermore, data acquisition is not comprehensive enough because the language of the literature search was limited to Chinese and English. Despite these limitations, our study suggests with a definition of ischemia as FFR $\leq$ 0.8, the QFR obtains high diagnostic efficacy in myocardial ischemia of CAD. It can be used as a non-invasive novel method to screen CAD patients with myocardial ischemia.

OP611 Breast Cancer Classification In Histopathological Images Using Artificial Intelligence Assisted Diagnosis Technology: A Meta-Analysis

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Introduction. Artificial Intelligence (AI) is an important product of the rapid development of computer technology today. It has a far-reaching impact on the development of medical diagnostic technology especially in combination with medical imaging. The aim of this study was to analyze the diagnostic accuracy of AI-assisted diagnosis technology for classification of breast cancer in histopathological images.

Methods. A meta-analysis was conducted of published research articles on diagnostic accuracy of AI-assisted diagnosis technology for breast cancer classification between January 2010 and September 2019 in the databases of PubMed, EMBASE, Cochrane Library, China National Knowledge Infrastructure, Wanfang Data Knowledge Service Platform and China Bio-medicine Database. Statistical analysis was performed with software Meta-Disc 1.4 and Stata 12.0, and the summary receiver operating characteristic (SROC) curve was drawn to evaluate accuracy of the method.

Results. A total of 18 studies with 13,573 breast histopathological images were considered for the analysis. The pooled sensitivity, specificity, diagnostic odds ratio and the area under the curve of the SROC for AI-assisted diagnosis technology for classification of breast cancer respectively, were 0.94 (95% confidence interval [CI]: 0.93–0.85), 0.84 (95% CI: 0.93–0.94), 255.47 (95% CI: 168.33–387.73) and 0.98 (95%CI: 0.96–0.99).

Conclusions. Several limitations should be considered when interpreting the findings of this meta-analysis. First, despite the extensive literature search, the number of included studies was small; however, the number of images enrolled was satisfactory, thereby decreasing type II error. Second, data acquisition is not comprehensive enough because the language of literature search was limited to Chinese and English. Furthermore, the heterogeneity caused due to different sources of data affected the study results. Despite these limitations, our study suggests AI-assisted diagnosis technology for breast cancer classification in histopathological images is a highly accurate and reliable diagnostic method for clinical application.

OP615 Implementing EUnetHTA Products: The Implementation Experiences In Italy

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