

EP03.33 How accurate is ultrasound-guided biopsy for diagnosing suspected myometrial lesions? A systematic review and meta-analysis

Marianna Cianza¹, Francesca Moro^{1,2}, Alessia Barreca¹, Antonia Carla Testa^{1,3}

¹ Dipartimento Scienze della Salute della Donna, del Bambino e di Sanità Pubblica, Fondazione Policlinico Universitario Agostino Gemelli, IRCCS, Rome, Italy
² UniCamillus-International Medical University of Rome, Italy
³ Dipartimento Universitario Scienze della Vita e Sanità Pubblica, Università Cattolica del Sacro Cuore, Rome, Italy

Objective

To assess the diagnostic performance of ultrasound-guided biopsy, in addition to feasibility and major complication rates, in discriminating between leiomyomas and sarcomas in patients with suspicious myometrial lesions.

Methods

A comprehensive literature search was conducted using the Web of Science, PubMed, and Scopus databases to identify potentially eligible articles published up to January 28, 2026. We included studies enrolling patients with myometrial lesions suspected of malignancy who underwent ultrasound-guided biopsy and reported diagnostic accuracy, feasibility, and/or major complications. The quality of the studies included in the meta-analysis was assessed using the QUADAS-2 criteria.

Results

The most used approach was trans-cervical biopsy guided by trans-abdominal or trans-rectal ultrasound followed by trans-vaginal approach. Feasibility was high (95.9% adequate samples), and major complications were rare (0.2%). The pooled sensitivity and specificity were calculated from 3 studies and illustrated in Figure 1 and Figure 2, respectively. Risk of bias was primarily related to flow and timing, whereas the index test showed low risk (Figure 3).

Conclusions

Ultrasound-guided biopsy appears to be an accurate and safe method for diagnosing suspicious myometrial lesions. These conclusions are based on a limited number of studies with small cohorts. Larger prospective investigations are needed to confirm these findings and to determine whether small histologic samples adequately reflect heterogeneity of myometrial tumors.

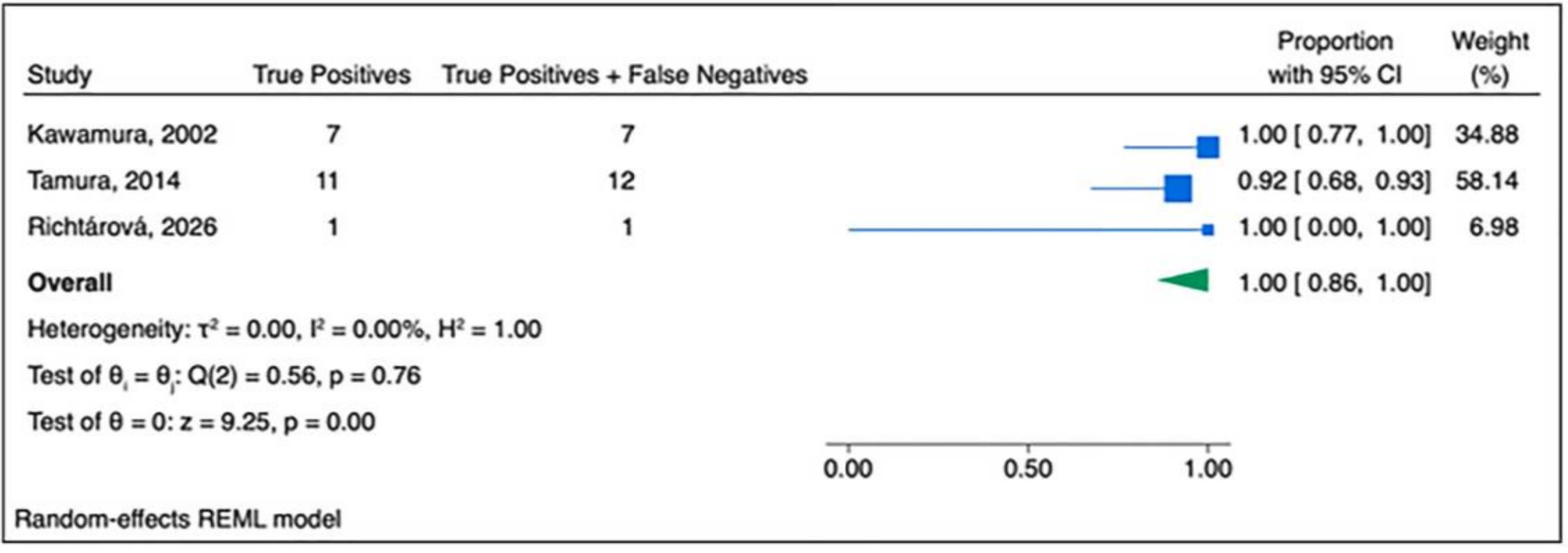


Figure 1. Forest plot of summary sensitivity of studies included in the meta-analysis.

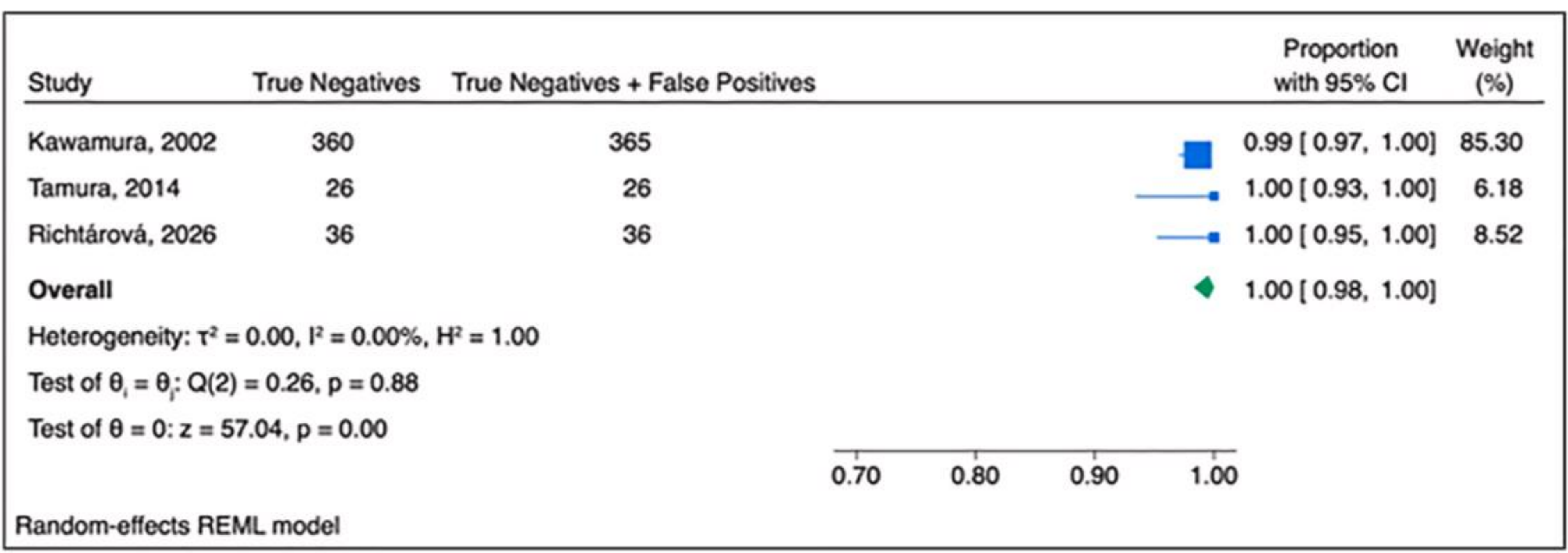


Figure 2. Forest plot of summary specificity of studies included in the meta-analysis.

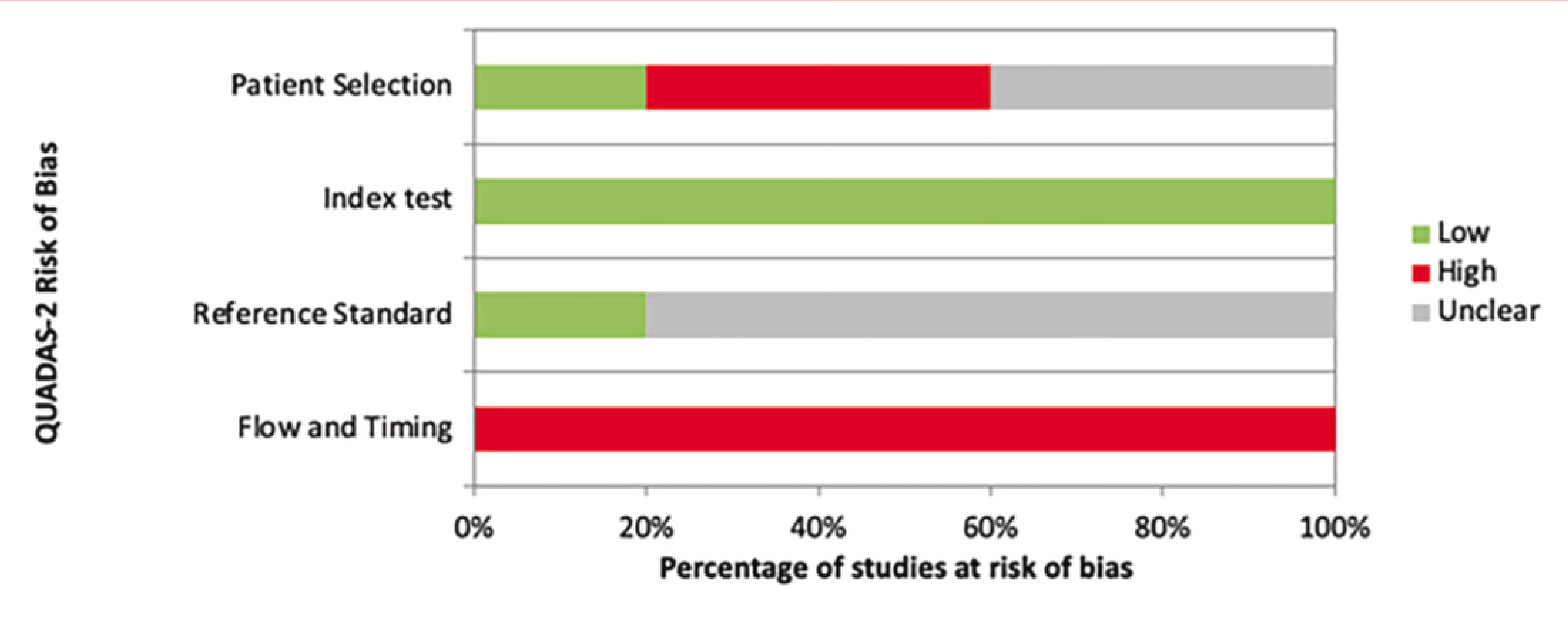


Figure 3. Risk of bias for each domain in included studies in the meta-analysis using QUADAS-2.