

Publication

Acute phase proteins and IP-10 as triage tests for the diagnosis of tuberculosis : systematic review and meta-analysis

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We examined the data reported in studies for diagnostic purposes and to discuss whether their intended use could be extended to triage, as rule-in or rule-out tests to select individuals who should undergo further confirmatory tests.; We searched Scopus, PubMed and Web of Science with the terms 'acute phase proteins,' 'IP-10,' 'tuberculosis,' 'screening' and 'diagnosis,' extracted the sensitivity and specificity of the biomarkers and explored methodologic differences to explain performance variations. Summary estimates were calculated using random-effects models for overall pooled accuracy. The hierarchical summary receiver operating characteristic model was used for meta-analysis.; We identified 14, four and one studies for C-reactive protein (CRP), interferon γ -induced protein 10 (IP-10) and alpha-1-acid glycoprotein (AGP). The pooled CRP sensitivity/specificity (95% confidence interval) was 89% (80-96) and 57% (36-65). Sensitivity/specificity were higher in high-tuberculosis-burden countries (90%/64%), HIV-infected individuals (91%/61%) and community-based studies (90%/62%). IP-10 sensitivity/specificity in TB vs. non-TB studies was 85%/63% and in TB and HIV coinfectd vs. other lung conditions 94%/21%. However, IP-10 studies included diverse populations and a high risk of bias, resulting in very low-quality evidence. AGP had 86%/93% sensitivity/specificity.; Few studies have evaluated CRP, IP-10 and AGP for the triage of symptomatic patients. Their high sensitivity and moderate specificity warrant further prospective studies exploring whether their combined use could optimize performance.

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