

ECC ACS CQ

[CQ]心筋トロポニン定量 Point-of-care (POC) test を用いた迅速検査は、病院前あるいは救急部門までで AMI を疑う患者での診断に使用すべきか？ (SysRev 2025) [Arai. Circ Rep. 2025; 7(11):997-1004]

[P] 胸痛を訴え、病院前から救急部門で AMI が疑われる患者

[I] 病院前あるいは救急部門のトロポニン POC test が陽性

[C] 病院前あるいは救急部門のトロポニン POC test が陰性

[O] AMI の診断精度

[S] RCT および比較対照研究を対象とした

[T] 英語で記載された論文を 2023 年 6 月 20 日に調査 (2025 年 7 月に再調査)

[Diagnostic Accuracy of the Initial Point-of-Care Troponin Tests for Patients With Chest Pain Who Were Suspected of Acute Myocardial Infarction - A Systematic Review and Meta-Analysis.](#)

Arai M, Minami Y, Yamaguchi J, Tanaka A, Matsuo K, Mano T, Kojima S, Hao K, Taniguchi T, Tateishi K, Aoyama R, Yokose M, Noguchi T, Tsujimoto Y, Matoba T, Funazaki T, Tahara Y, Nonogi H, Kikuchi M; Japan Resuscitation Council (JRC) Emergency Cardiovascular Care (ECC) Acute Coronary Syndrome (ACS) Task Force and the Guideline Editorial Committee on behalf of the Japanese Circulation Society (JCS) Emergency and Critical Care Committee.

Circ Rep. 2025 Sep 20;7(11):997-1004. doi: 10.1253/circrep.CR-25-0163. eCollection 2025 Nov 10. PMID: 41216395

Search strategies of literature databases

Search strings

1. PubMed (MEDLINE & PMC)

#1: "Myocardial Ischemia"[MeSH Terms:noexp] OR "myocardial isch*"[Title/Abstract] OR "myocardial infarction"[MeSH Terms:noexp] OR "myocardial infarction*"[Title/Abstract] OR "acute coronary syndrome*"[Title/Abstract] OR "ACS"[Title/Abstract] OR "ischemic syndrome*"[Title/Abstract] OR "coronary disease"[MeSH Terms] OR "coronary disease*"[Title/Abstract] OR "coronary artery disease*"[Title/Abstract] OR "acute coronary syndrome"[MeSH Terms] OR "non st elevated myocardial infarction"[MeSH Terms] OR "st elevation myocardial infarction"[MeSH Terms] OR "STEMI"[Title/Abstract] OR "STEACS"[Title/Abstract] OR "STE-ACS"[Title/Abstract] OR "Q-wave-MI"[Title/Abstract] OR "acute myocardial Infarction"[Title/Abstract] OR "chest pain"[Title/Abstract] OR "unstable angina*"[Title/Abstract] OR "angina, unstable"[MeSH Terms]

#2: "troponin"[MeSH Terms] OR "troponin"[Title/Abstract] OR "biomarker*"[Title/Abstract] OR "biomarkers"[MeSH Terms] OR "cTn"[Title/Abstract] OR "TnT"[Title/Abstract] OR "TnI"[Title/Abstract] OR "Fatty Acid Binding Protein 3"[MeSH Terms] OR "H-FABP"[Title/Abstract] OR "HFABP"[Title/Abstract] OR "Biological Assay"[MeSH Terms] OR "biological assay*"[Title/Abstract] OR "bioassay*"[Title/Abstract] OR "biologic assay*"[Title/Abstract]

#3: "point of care"[Title/Abstract] OR "point of care testing"[MeSH Terms] OR "POC"[Title/Abstract] OR "POCT"[Title/Abstract] OR "rapid test"[Title/Abstract] OR "Rapid Diagnostic Tests"[MeSH Terms] OR "bedside test*"[Title/Abstract]

#4: #1 AND #2 AND #3

2. Web of Science (Science Citation Index Expanded(SCIE))

#1: (TI="myocardial isch*" OR AB="myocardial isch*" OR AK="myocardial isch*" OR KP="myocardial isch*") OR (TI="myocardial infarction*" OR AB="myocardial infarction*" OR AK="myocardial infarction*" OR KP="myocardial infarction*") OR (TI="acute coronary syndrome*" OR AB="acute coronary syndrome*" OR AK="acute coronary syndrome*" OR KP="acute coronary syndrome*") OR (TI=ACS OR AB=ACS OR AK=ACS OR KP=ACS) OR (TI="ischemic syndrome*" OR AB="ischemic syndrome*" OR AK="ischemic syndrome*" OR KP="ischemic syndrome*") OR (TI="coronary disease*" OR AB="coronary disease*" OR AK="coronary disease*" OR KP="coronary disease*") OR (TI="coronary artery disease*" OR

AB="coronary artery disease*" OR AK="coronary artery disease*" OR KP="coronary artery disease*") OR (TI=STEMI OR AB=STEMI OR AK=STEMI OR KP=STEMI) OR (TI=STEACS OR AB=STEACS OR AK=STEACS OR KP=STEACS) OR (TI=STE-ACS OR AB=STE-ACS OR AK=STE-ACS OR KP=STE-ACS) OR (TI=Q-wave-MI OR AB=Q-wave-MI OR AK=Q-wave-MI OR KP=Q-wave-MI) OR (TI="acute myocardial Infarction" OR AB="acute myocardial Infarction" OR AK="acute myocardial Infarction" OR KP="acute myocardial Infarction") OR (TI="chest pain" OR AB="chest pain" OR AK="chest pain" OR KP="chest pain") OR (TI="unstable angina*" OR AB="unstable angina*" OR AK="unstable angina*" OR KP="unstable angina*")

#2: (TI=troponin OR AB=troponin OR AK=troponin OR KP=troponin) OR (TI=biomarker* OR AB=biomarker* OR AK=biomarker* OR KP=biomarker*) OR (TI=cTn OR AB=cTn OR AK=cTn OR KP=cTn) OR (TI=TnT OR AB=TnT OR AK=TnT OR KP=TnT) OR (TI=TnI OR AB=TnI OR AK=TnI OR KP=TnI) OR (TI="Fatty Acid Binding Protein" OR AB="Fatty Acid Binding Protein" OR AK="Fatty Acid Binding Protein" OR KP="Fatty Acid Binding Protein") OR (TI=H-FABP OR AB=H-FABP OR AK=H-FABP OR KP=H-FABP) OR (TI=HFABP OR AB=HFABP OR AK=HFABP OR KP=HFABP) OR (TI="biological assay*" OR AB="biological assay*" OR AK="biological assay*" OR KP="biological assay*") OR (TI="biologic assay*" OR AB="biologic assay*" OR AK="biologic assay*" OR KP="biologic assay*") OR (TI=bioassay* OR AB=bioassay* OR AK=bioassay* OR KP=bioassay*)

#3 (TI="point of care" OR AB="point of care" OR AK="point of care" OR KP="point of care") OR (TI=POC OR AB=POC OR AK=POC OR KP=POC) OR (TI=POCT OR AB=POCT OR AK=POCT OR KP=POCT) OR (TI="rapid test" OR AB="rapid test" OR AK="rapid test" OR KP="rapid test") OR (TI="Rapid Diagnos*" OR AB="Rapid Diagnos*" OR AK="Rapid Diagnos*" OR KP="Rapid Diagnos*") OR (TI="bedside test*" OR AB="bedside test*" OR AK="bedside test*" OR KP="bedside test*")

#4 #1 AND #2 AND #3

3. Cochrane Library (Cochrane Central Register of Controlled Trials(CENTRAL))

#1: [mh ^"Myocardial Ischemia"] OR ("myocardial" NEXT isch*):ti,ab,kw OR [mh ^"myocardial infarction"] OR ("myocardial" NEXT infarction*):ti,ab,kw OR ("acute coronary" NEXT syndrome*):ti,ab,kw OR ACS:ti,ab,kw OR ("ischemic" NEXT syndrome*):ti,ab,kw OR [mh "coronary disease"] OR ("coronary" NEXT disease*):ti,ab,kw OR ("coronary artery" NEXT disease*):ti,ab,kw OR [mh "acute coronary syndrome"] OR [mh "non st elevated myocardial infarction"] OR [mh "st elevation myocardial infarction"] OR STEMI:ti,ab,kw OR STEACS:ti,ab,kw OR STE-ACS:ti,ab,kw OR Q-wave-MI:ti,ab,kw OR "acute myocardial Infarction":ti,ab,kw OR "chest pain":ti,ab,kw OR ("unstable" NEXT angina*):ti,ab,kw OR [mh "angina, unstable"]

#2: [mh troponin] OR troponin:ti,ab,kw OR biomarker*:ti,ab,kw OR [mh biomarkers] OR cTn:ti,ab,kw OR TnT:ti,ab,kw OR TnI:ti,ab,kw OR [mh "Fatty Acid Binding Protein 3"] OR H-

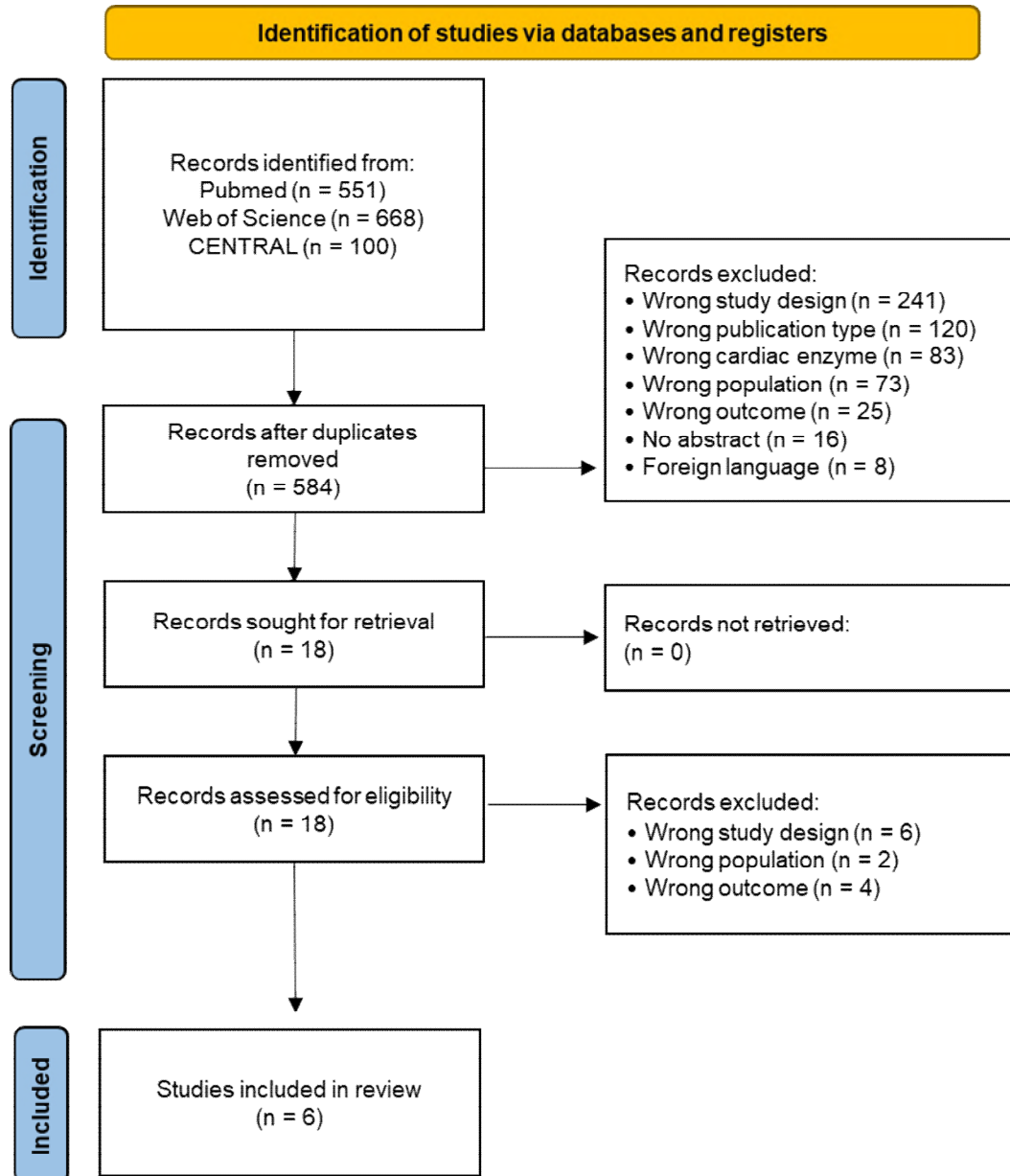
FABP:ti,ab,kw OR HFABP:ti,ab,kw OR [mh "Biological Assay"] OR ("biological" NEXT assay*):ti,ab,kw OR ("biologic" NEXT assay*):ti,ab,kw OR bioassay*:ti,ab,kw
 #3: "point of care":ti,ab,kw OR [mh "point of care testing"] OR POC:ti,ab,kw OR POCT:ti,ab,kw OR "rapid test":ti,ab,kw OR [mh "Rapid Diagnostic Tests"] OR "rapid test":ti,ab,kw OR ("bedside" NEXT test*):ti,ab,kw
 #4: #1 AND #2 AND #3

Characteristics of the 6 Studies Evaluating the Performance of Point-of-care Troponin Tests

Study	Year	Sample size	Age (years)	Prevalence	Marker	Diagnostic performance
Apple et al	2022	1486	60	5.5	Atellica VTLi	Sen: 98.8% NPV: 99.8% Spe: 44.8% PPV: 9.5%
Stopyra et al	2020	421	58.8	16.2	i-STAT	Sen: 26.5% NPV: 87.5% Spe: 99.2% PPV: 85.7%
Suzuki et al	2018	1399	70	8.3	AQT System	Sen: 70.7% NPV: 97.1% Spe: 87.7% PPV: 34.2%
Stengaard et al	2013	985	ND	20.0	Cobas h232	Sen: 39.0% NPV: 86.0% Spe: 95.0% PPV: 68.0%
Diercks et al	2012	858	57	9.6	Cardio3	Sen: 84.1% NPV: 98.2% Spe: 93.4% PPV: 57.5%
Rasmussen et al	2019	18712	ND	11.7	Cobas h232	Sen: 44.2% NPV: 92.6% Spe: 92.8% PPV: 44.9%

NPV, negative predictive value; PPV, positive predictive value; Sen, sensitivity; Spe, specificity.

PRISMA flow chart



Evidence profile

No. of Studies (No. of patients)	Study Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Test accuracy class of evidence
True positives and false negatives							
6 (23,841)	Observational study	Not serious	Serious	None	Serious	Not serious	Very low
True negatives and false positives							
6 (23,841)	Observational study	Not serious	Serious	None	Serious	Not serious	Very low

Forest plot

