

Supplementary material

Pubmed: 13 Results 17th Dec 2024

((((((Myxoma[Mesh]) OR (Myxomas)) OR (Angiomyxoma)) OR (Angiomyxomas)) AND (((((((((((((((((((((((((((((((Robotic Surgical Procedures[Mesh]) OR (Procedure, Robotic Surgical)) OR (Procedures, Robotic Surgical)) OR (Robotic Surgical Procedure)) OR (Surgical Procedure, Robotic)) OR (Robotic-Assisted Surgery)) OR (Robotic-Assisted Surgeries)) OR (Robotic Assisted Surgery)) OR (Surgery, Robotic-Assisted)) OR (Surgical Procedures, Robotic)) OR (Robot-Assisted Surgery)) OR (Robot-Assisted Surgeries)) OR (Robot Assisted Surgery)) OR (Surgery, Robot-Assisted)) OR (Robot Surgery)) OR (Robot Surgeries)) OR (Surgery, Robot)) OR (Robot-Enhanced Procedures)) OR (Procedure, Robot-Enhanced)) OR (Robot-Enhanced Procedure)) OR (Robot Enhanced Procedures)) OR (Robot-Enhanced Surgery)) OR (Robot-Enhanced Surgeries)) OR (Robot Enhanced Surgery)) OR (Surgery, Robot-Enhanced)))))) AND (((((((((Sternotomy[Mesh]) OR (Sternotomies)) OR (Median Sternotomy)) OR (Median Sternotomies)) OR (Sternotomies, Median)) OR (Sternotomy, Median)))

Ovid: 29 studies 18th Dec 2024

Database: Ovid MEDLINE(R) 1946 to Present and Epub Ahead of Print, In-Process & Other Non-Indexed Citations and Ovid MEDLINE(R) Daily

Search Strategy:

- 1 exp Myxoma/ or Myxoma*.mp. (12749)
2 exp Myxoma/ or Angiomyxoma*.mp. (8169)

- 3 Procedure, Robotic Surgical.mp. or exp Robotic Surgical Procedures/ (20387)
- 4 exp Robotic Surgical Procedures/ or Robotic Surgical Procedure*.mp. (20821)
- 5 Robotic Assisted Surger*.mp. (1637)
- 6 Robotic Assisted Surgery.mp. or exp Robotic Surgical Procedures/ (21042)
- 7 Surgery, Robotic-Assisted.mp. or exp Robotic Surgical Procedures/ (20411)
- 8 Robot Enhanced Surgery.mp. or exp Robotic Surgical Procedures/ (20390)
- 9 Robot-Enhanced Surgery*.mp. or exp Robotic Surgical Procedures/ (20390)
- 10 Robot-Enhanced Procedure*.mp. or exp Robotic Surgical Procedures/ (20389)
- 11 Robot-Enhanced Procedure*.mp. or exp Robotic Surgical Procedures/ (20389)
- 12 Robot Surger*.mp. (147)
- 13 exp Robotics/ or Robot Assisted Surger*.mp. (47508)
- 14 Robot Assisted Surger*.mp. (2216)
- 15 exp Sternotomy/ or Sternotom*.mp. or exp Cardiac Surgical Procedures/ (262183)
- 16 Median Sternotomy.mp. or exp Sternotomy/ (7860)
- 17 1 or 2 (12999)
- 18 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 (48389)

19 15 or 16 (262183)

20 17 and 18 and 19 (29)

Embase 18th Dec 2024 58

Database: Embase <1974 to 2024 December 17>

Search Strategy:

1 exp Myxoma/ or Myxoma*.mp. (16893)

2 exp Myxoma/ or Angiomyxoma*.mp. (13495)

3 Procedure, Robotic Surgical.mp. or exp Robotic Surgical Procedures/ (34485)

4 exp Robotic Surgical Procedures/ or Robotic Surgical Procedure*.mp. (37664)

5 Robotic Assisted Surger*.mp. (2419)

6 Robotic Assisted Surgery.mp. or exp Robotic Surgical Procedures/ (35519)

7 Surgery, Robotic-Assisted.mp. or exp Robotic Surgical Procedures/ (34534)

8 Robot Enhanced Surgery.mp. or exp Robotic Surgical Procedures/ (34487)

9 Robot-Enhanced Surgery*.mp. or exp Robotic Surgical Procedures/ (34487)

10 Robot-Enhanced Procedure*.mp. or exp Robotic Surgical Procedures/ (34485)

11 Robot-Enhanced Procedure*.mp. or exp Robotic Surgical Procedures/ (34485)

12 Robot Surger*.mp. (230)

13 exp Robotics/ or Robot Assisted Surger*.mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword heading word, floating subheading word, candidate term word] (77912)

14 Robot Assisted Surger*.mp. (30377)

15 exp Sternotomy/ or Sternotom*.mp. or exp Cardiac Surgical Procedures/ (496254)

16 Median Sternotomy.mp. or exp Sternotomy/ (30940)

17 1 or 2 (17285)

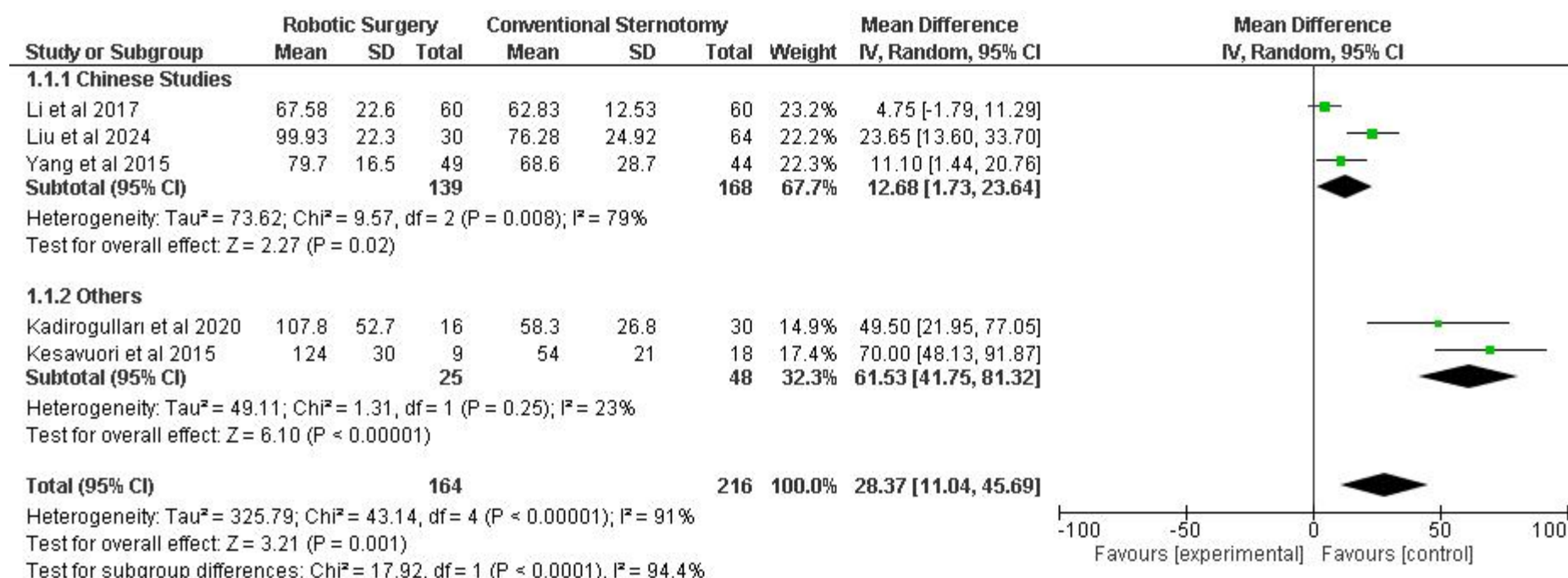
18 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 (86362)

19 15 or 16 (496254)

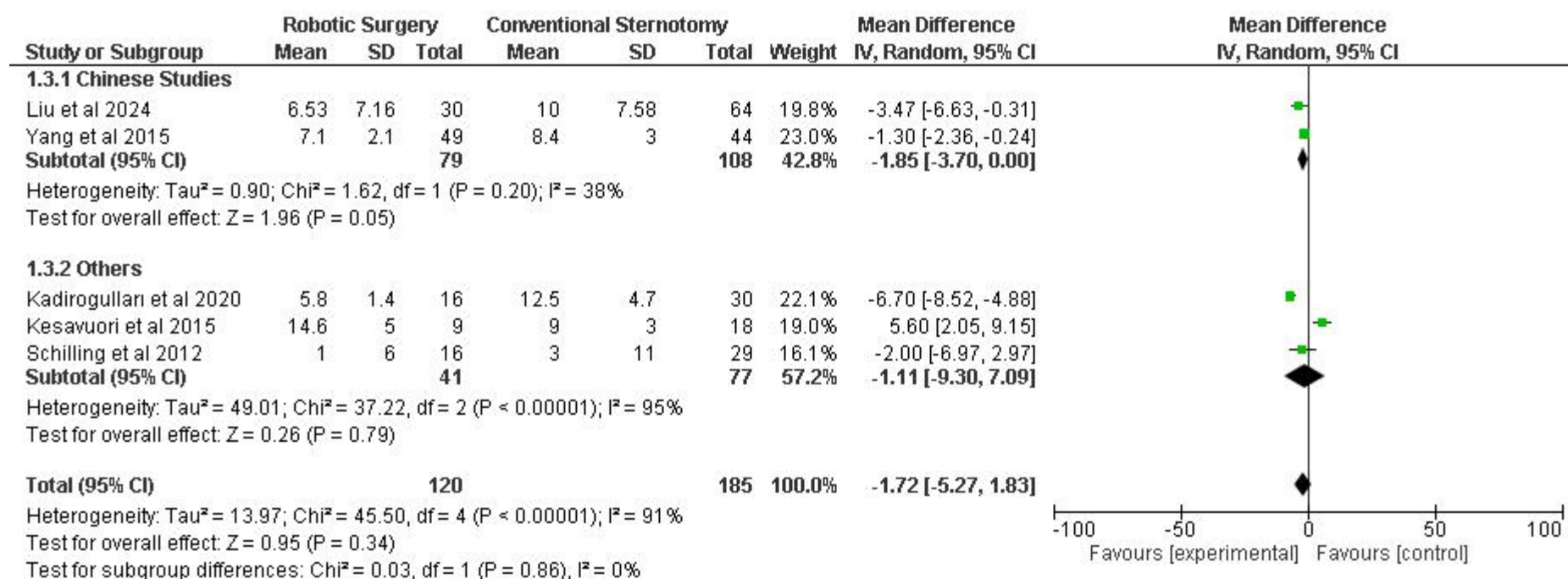
20 17 and 18 and 19 (58)

Scopus 19th Dec 2024 14 studies

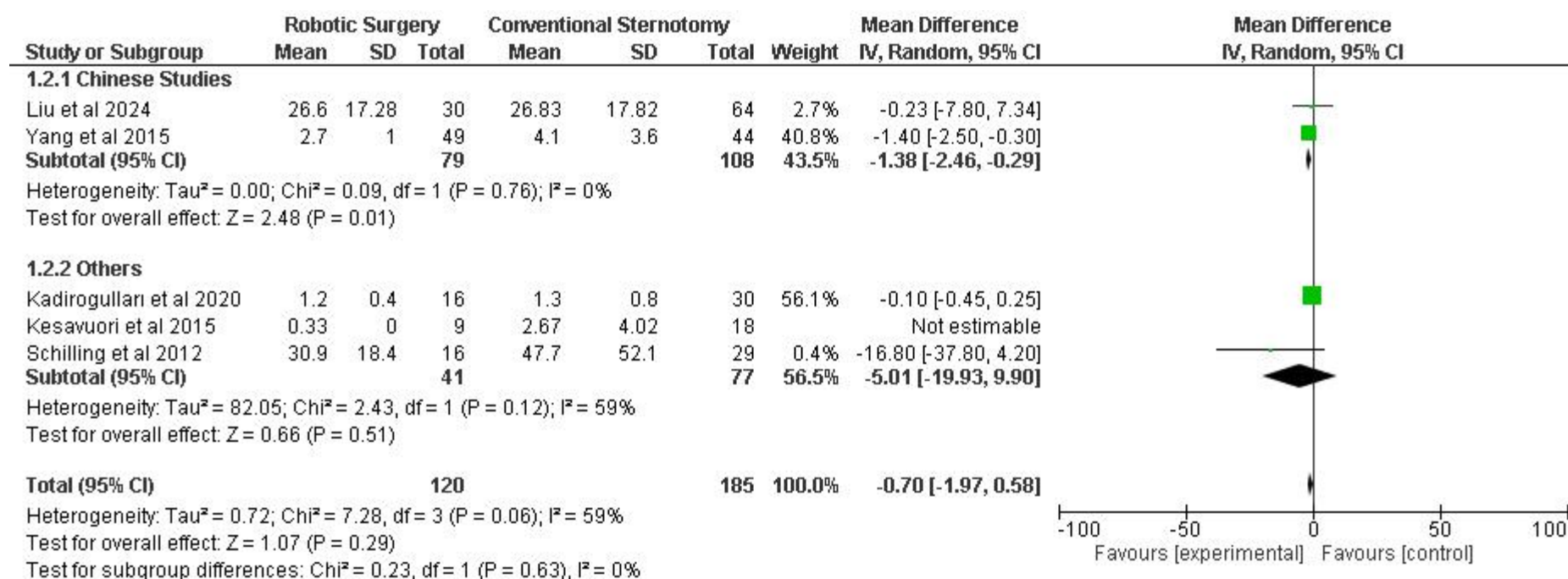
(TITLE-ABS-KEY (myxoma* OR angiomyxoma*) AND TITLE-ABS-KEY ("Robotic Surgical Procedure*" OR "Robotic Surgical Procedur*" OR "Robotic-Assisted Surger*" OR "Robotic Assisted Surger*" OR "Robot-Assisted Surger*" OR "Robot Assisted Surger*" OR "Robot Surger*" OR "Robot-Enhanced Procedure*" OR "Robot Enhanced Procedure*" OR "Robot-Enhanced Surger*" OR "Robot Enhanced Surger*") AND TITLE-ABS-KEY (sternotom* OR "Median Sternotom*"))



Supplementary Figure 1 Forest plot comparing cardiopulmonary bypass time between robotic surgery and conventional sternotomy, stratified by Chinese studies and other studies.



Supplementary Figure 2 Forest plot comparing ventilation time between robotic surgery and conventional sternotomy, stratified by Chinese studies and other studies.



Supplementary Figure 3 Forest plot comparing cross-clamp time between robotic surgery and conventional sternotomy, stratified by Chinese studies and other studies.

Supplementary Table 1 Detailed search strategy for different databases

Population	Intervention	Control
cardiac myxoma	Robotic-assisted surgery	sternotomy
Mesh Terms		
Myxoma[Mesh]	Robotic Surgical Procedures[Mesh]	Sternotomy[Mesh]
Entry terms		
Myxomas	Procedure, Robotic Surgical	Sternotomies
Angiomyxoma	Procedures, Robotic Surgical	Median Sternotomy
Angiomyxomas	Robotic Surgical Procedure	Median Sternotomies
	Surgical Procedure, Robotic	Sternotomies, Median
	Robotic-Assisted Surgery	Sternotomy, Median
	Robotic-Assisted Surgeries	
	Robotic Assisted Surgery	
	Surgery, Robotic-Assisted	

Surgical Procedures, Robotic

Robot-Assisted Surgery

Robot-Assisted Surgeries

Robot Assisted Surgery

Surgery, Robot-Assisted

Robot Surgery

Robot Surgeries

Surgery, Robot

Robot-Enhanced Procedures

Procedure, Robot-Enhanced

Robot-Enhanced Procedure

Robot Enhanced Procedures

Robot-Enhanced Surgery

Robot-Enhanced Surgeries

Robot Enhanced Surgery

Surgery, Robot-Enhanced

Supplementary Table 2 Quality Assessment of the observational study through New Castle Ottawa Scale

Study	Selection				Comparability	Outcome			Total
	1	2	3	4		1	2	3	
Kadirogullari 2020	★	★	★		★★	★	★		7
Kesa vuori 2015	★	★	★		★	★	★	★	7
Liu 2024	★	★	★		★★	★	★	★	8
Schilling 2012	★	★	★		★	★			5
Shuanglei 2017	★	★	★		★★	★	★	★	8
Yang 2015	★	★	★		★★	★	★	★	8

Supplementary Table 3 Grading of Recommendations Assessment, Development, and Evaluation assessment of the outcomes

Name of Outcome	No. of Studies	Study Design	Risk of Bias	Inconsistency	Imprecision	Indirectness	Effect Size (MD/OR + CI)	Certainty of Evidence
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Cardiopulmonary Bypass (CPB) Time	5	Observational	Not serious	Serious (I ² =91%)	Not serious	Not serious	MD=28.37 min (95% CI: 11.04-45.69)	Low
Cross-Clamp Time	6	Observational	Not serious	Serious (I ² =84%)	Not serious	Not serious	MD=12.03 min (95% CI: 2.15-21.90)	Low
Ventilation Time	5	Observational	Not serious	Serious (I ² =91%)	Serious (CI includes no effect)	Not serious	MD=-1.72 min (95% CI: -5.27-1.83)	Very Low
Hospitalization Time	5	Observational	Not serious	Not serious (I ² =38%)	Not serious	Not serious	MD=-1.86 days (95% CI: -2.46--1.27)	Low
Atrial Arrhythmia	6	Observational	Not serious	Not serious (I ² =0%)	Serious (CI includes no effect)	Not serious	OR=0.55 (95% CI: 0.27-1.12)	Low
RBC Transfusion	3	Observational	Not serious	Not serious (I ² =0%)	Not serious	Not serious	OR=0.30 (95% CI: 0.12-0.71)	Low