

**Interventional Therapy Versus Medical Therapy for Secundum Atrial Septal Defect:
A Systematic Review (Part 2) for the 2018 AHA/ACC Guideline for the Management of Adults With
Congenital Heart Disease**

Data Supplements

Table of Contents

Data Supplement 1. Literature Search Strategy: Medical Therapy Versus Interventional Therapy for Secundum Atrial Septal Defect*	2
Data Supplement 2. Full-Text Screened Articles.....	3
Data Supplement 3. Analyses of the Risk of Bias.....	9
Data Supplement 4. Methodological Quality Assessment Based on the Cochrane Collaboration Risk of Bias Tool.....	12
Data Supplement 5. Methodological Quality Assessment of Cohort Studies Based on the Newcastle-Ottawa Scale	13
References	15

Data Supplement 1. Literature Search Strategy: Medical Therapy Vs. Interventional Therapy for Secundum Atrial Septal Defect*

	Concept/Filter	MeSH Terms	Keywords
#1	Atrial septal defect	"Heart septal defects, atrial"[MeSH]	Atrial septal defect 'heart atrium septum defect'/exp,mj
#2	Closure	"Surgical procedures, operative"[MeSH] OR "cardiovascular surgical procedures"[MeSH] OR "vascular surgical procedures"[MeSH] OR "cardiac catheterization"[MeSH] OR "septal occlude device"[MeSH]	"Device closure" OR "gore helix" OR amplatzer OR "amplatzer vascular plug"/exp OR "closure intervention" OR "percutaneous closure" OR "surgical closure" OR "right ventricular dilation" OR surgical [title] OR surgery [title] OR percutaneous[title] OR long-term [title]
#3	Patent foramen ovale/ventricular septal defect	"Foramen ovale, patent"[MeSH] OR "heart septal defects, ventricular"[MeSH]	'Patent foramen ovale' OR 'heart ventricle septum defect' OR 'ventricular septal defect'
#4	Adults	Adolescent adult: 19+ years OR young adult: 19–24 years OR adult: 19–44 years OR middle aged + aged: 45+ years OR middle aged: 45–64 years OR aged: 65+ years OR 80 and over: 80+ years	Adolescent OR adult
#5	Publication types	Clinical trial/comparative study; randomized controlled trial; comparative study/meta-analysis/multicenter study; observational study/review; systematic review	N/A
#6	Dates	1985–2014	N/A
#7	Human	Human	N/A

*Combine Concepts: (1 AND 2 AND 4 AND 5 AND 6 AND 7) NOT 3

N/A indicates not applicable.

Data Supplement 2. Full-Text Screened Articles

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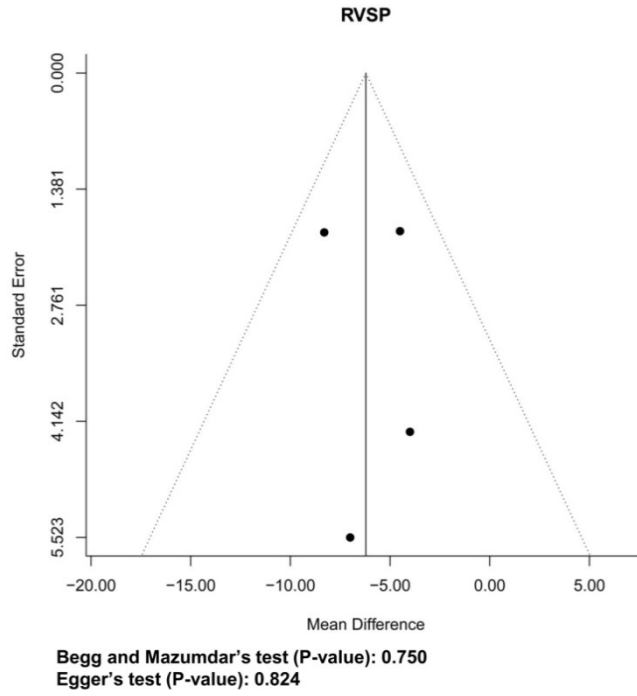
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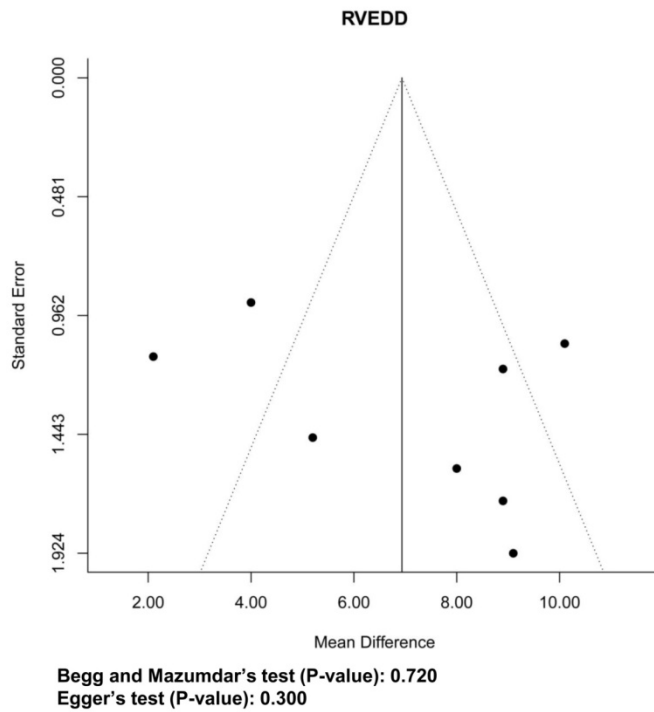
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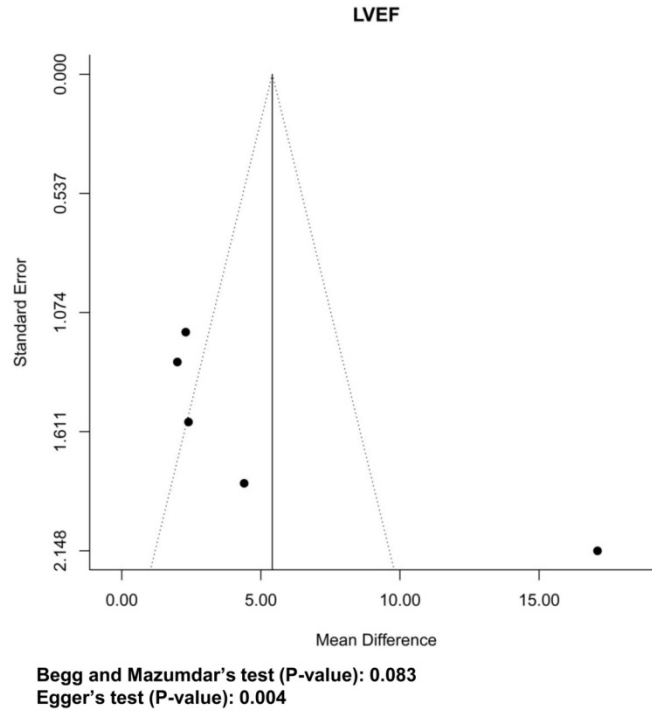
Data Supplement 3. Analyses of the Risk of Bias
Panel A. Right Ventricular Systolic Pressure



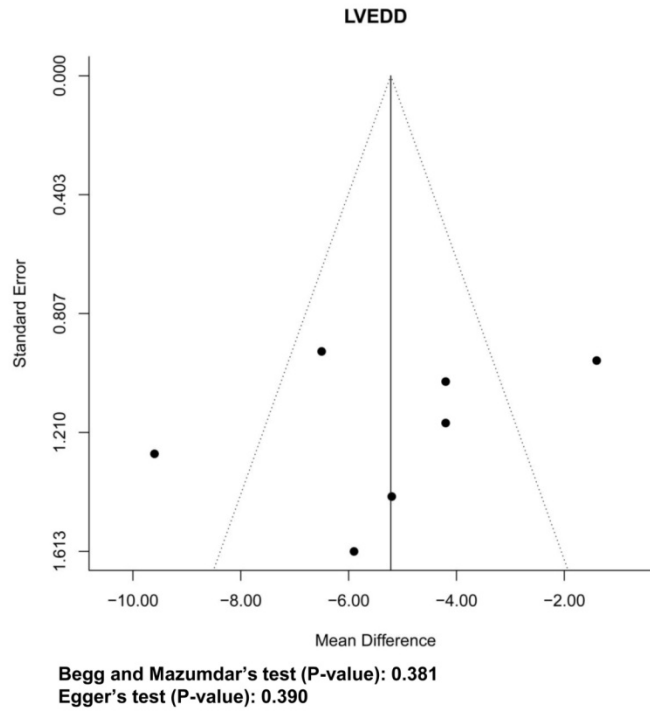
Panel B. Right Ventricular End Diastolic Dimension



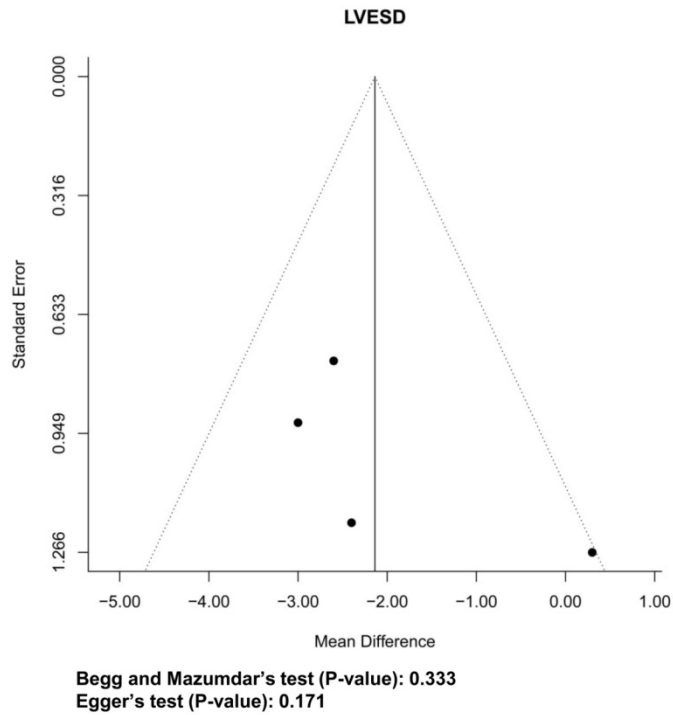
Panel C. Left Ventricular Ejection Fraction



Panel D. Left Ventricular End Diastolic Dimension



Panel E. Left Ventricular End Systolic Dimension



LVESD indicates left ventricular end systolic dimension; LVEDD, left ventricular end diastolic dimension; LVEF, left ventricular ejection fraction; RVEDD, right ventricular end diastolic dimension; and RVSP, right ventricular systolic pressure.

Data Supplement 4. Methodological Quality Assessment Based on the Cochrane Collaboration Risk of Bias Tool

First Author	Study Design	Selection Bias	Performance Bias	Detection Bias	Attrition Bias
Attie F, et al. (1) 11738312	P, R, NM	B	A	A	B
Brochu MC, et al. (2) 12356636	P, NR, NM	B	B	B	B
Donti A, et al. (3) 11453578	NP, NR, NM	C	B	B	C
Eroglu E, et al. (4) 23186338	P, NR, NM	B	B	A	A
Fang F, et al. (5) 21529749	P, NR, NM	B	B	A	A
Khan AA, et al. (6) 20298984	P, NR, NM	B	B	A	A
Konstantinides S, et al. (7) 7623878	NP, NR, M	B	B	C	A
Schussler JM, et al. (8) 15820174	P, NR, NM	B	B	A	A
Stroker E, et al. (9) 23705553	NP, NR, NM	B	B	A	B
Suchon E, et al. (10) 19946231	NP, NR, NM	C	B	A	A
Takaya Y, et al. (11) 23163398	P, NR, NM	B	B	A	A
Veldtman GR, et al. (12) 11419895	P, NR, NM	B	B	A	A
Vijarsorn C, et al. (13) 22409656	NP, NR, NM	B	A	A	A

A indicates risk of bias is low; B, risk of bias is moderate; C, risk of bias is high; D, incomplete reporting; M, multicenter; NM, nonmulticenter; NP, nonprospective; NR, nonrandomized; P, prospective; and R, randomized.

Data Supplement 5. Methodological Quality Assessment of Cohort Studies Based on the Newcastle-Ottawa Scale

	Brochu MC, et al. (2) 12356636	Donti A, et al. (3) 11453578	Eroglu E, et al. (4) 23186338	Fang F, et al. (5) 21529749	Khan AA, et al. (6) 20298984	Konstantinides S, et al. (7) 7623878	Schussler JM, et al. (8) 15820174	Stroker E, et al. (9) 23705553	Suchon E, et al. (10) 19946231	Takaya Y, et al. (11) 23163398	Veldtman GR, et al. (12) 11419895	Vijarsorn C, et al. (13) 22409656
Representativeness*	1	1	1	1	1	1	0	1	1	1	1	1
Selection of non-exposed†	N/A	N/A	1	N/A	N/A	1	N/A	1	1	N/A	N/A	N/A
Ascertainment of exposure‡	1	1	1	1	1	1	1	1	1	1	1	1
Outcome not present at study recruitment	1	1	1	1	1	1	1	1	1	1	1	1
Comparability¶	N/A	N/A	1	N/A	N/A	1	N/A	1	2	N/A	N/A	N/A
Assessment of outcome#	1	1	1	1	1	1	1	1	1	1	1	1
Follow-up long enough**	1	1	1	1	1	1	1	1	1	1	1	1
Rate of response††	N/A	N/A	1	N/A	N/A	1	N/A	1	1	N/A	N/A	N/A
Overall quality score ‡‡	5	5	8	5	5	8	4	8	9	5	5	5

*Representativeness

1. Consecutive or obviously representative cases

†Selection of controls

1. Community controls

‡Ascertainment of exposure

1. Secure record (medical or surgical records) or structured interview where blind to case/control status
0. Interview not blinded or written self-report

|| Outcome not present at study recruitment

1. Yes

¶Comparability of cases and controls

2. Study controls for ASD and a second factor (age, gender)
1. Study only controls for ASD or for a second factor
0. No comparability

#Assessment of outcome (0,1, NA)

1. Direct measurement of objective outcomes, patient interrogation for subjective outcomes

**Follow-up long enough

1. Defined by our PICOTS criteria: 1 month

††Rate of response:

1. Complete follow-up of all subjects (cases and controls) or subjects lost to follow-up unlikely to introduce bias (small number in controls and cases <10%).

‡‡Total: minimum=1; maximum=9

ASD indicates atrial septal defect; and N/A, not applicable.

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