Assessment of endothelial function in patients with Kawasaki disease: a meta-analysis

Content

Table S1 PRISMA Checklist 2009 2

Table S2 Summary quality of the studies included in this meta-analysis 4

Table S3 Details of flow-mediated dilation measurement in the involved studies 5

Table S4 Assessment of publication bias 6

Fig. S1 Evaluation of publication bias of flow-mediated dilatation in the convalescence phase 7

Fig. S2 Evaluation of publication bias of nitroglycerin-mediated dilation 7

Fig. S3 Evaluation of publication bias of four biomarkers 8

Fig. S4 Trim-and-fill analysis for publication bias of flow-mediated dilatation in the acute phase 9

Table S1 PRISMA Checklist 2009

Section/topic	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	Title page
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	1
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known.	2-3
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	2-3
METHODS			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	3
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	3
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	3
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	3
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	3-4
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	3-4
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	3
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	4
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	4
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis.	4

Section/topic	#	Checklist item	Reported on page #
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	4
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	4
RESULTS			
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	4
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.	4
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).	6
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.	4-5
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	4-5
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	6
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	5
DISCUSSION			
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers).	6-7
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias).	7-8
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	8
FUNDING			
Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.	8

From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

For more information, visit: **www.prisma-statement.org**.

Table S2 Summary quality of the studies included in this meta-analysis

Study	Year	Selection				Comparability	Outcome			
		Is the case definition adequate	Representativeness of the cases	Selection of Controls	Definition of Controls		Ascertainment of exposure	Same method of ascertainment for cases and controls	Non-Response rate	Total
Furukawa	1992	★	★	★	★	★★	★	★		8
Kim	1994	★	★	★	★	★★	★	★		8
Nash	1995	★	★	★	★	★	★	★	★	8
Dhillon	1996	★	★	★	★	★	★	★		7
Takeshita	1997	★	★	★	★	★	★	★	★	8
Schiller	1999	★	★	★	★	★★	★	★		8
Silva	2001	★	★	★	★	★	★	★	★	8
Deng	2002	★	★	★	★	★★	★	★	★	9
Qiu	2004	★	★	★	★	★★	★	★	★	9
Kadono	2005	★	★	★	★	★	★	★	★	8
Sun_1	2005	★	★	★	★	★	★	★		7
Sun_2	2005	★	★	★	★	★	★			6
Zhang	2005	★	★	★	★	★	★	★		7
Wang	2006	★	★	★	★	★	★			6
Li	2007	★	★	★	★	★	★	★		7
Liu	2007	★	★	★	★	★	★	★	★	8
McCrindle	2007	★	★	★	★	★★	★	★	★	9
Borzutzky	2008	★	★	★	★	★	★	★	★	8
Huang	2008	★	★	★	★	★★	★	★	★	9
Xu_1	2008	★	★	★	★	★	★			6
Xu_2	2008	★	★	★	★	★	★			6
Ghelani	2009	★	★	★	★	★	★	★	★	8
Liu	2009	★	★	★	★	★★	★	★	★	9
Chen	2010	★	★	★	★	★★	★	★	★	9
Straface	2010	★	★	★	★	★	★	★	★	8
Duan	2011	★	★	★	★	★	★	★	★	8
Liu	2013	★	★	★	★	★	★	★	★	8
Ishikawa	2013	★	★	★	★	★★	★	★	★	9
Ding	2014	★	★	★	★	★	★	★	★	8
Duan	2014	★	★	★	★	★★	★	★	★	9
Laurito	2014	★	★	★	★	★	★	★	★	8
Gao	2015	★	★	★	★	★★	★	★	★	9
Sabri	2015	★	★	★	★	★	★	★		7
Mori	2016	★	★	★	★	★	★	★		7
Parihar	2017	★	★	★	★	★	★	★		7
Ishikawa	2018	★	★	★	★	★★	★	★	★	9
Pi	2018	★	★	★	★	★★	★	★		8
Çetiner	2021	★	★	★	★	★	★	★		7
Routhu	2021	★	★	★	★	★	★	★	★	8
Wen	2021	★	★	★	★	★★	★	★	★	9

Table S3 Details of flow-mediated dilation measurement in the involved studies

Study	Year	Occlusion position	Occlusion pressure	Occlusion duration
Dhillon	1996	Forearm (unspecified)	300 mmHg	4.5 mins
Silva	2001	Forearm (unspecified)	>250 mmHg	4 mins
Deng	2002	Forearm (unspecified)	200 mmHg	5 mins
Kadono	2005	Forearm (distal)	200 mmHg	5 mins
Sun_1	2005	Forearm (unspecified)	50 mmHg above resting systolic blood pressure	5 mins
Sun_1	2005	Forearm (unspecified)	50 mmHg above resting systolic blood pressure	5 mins
Liu	2007	Forearm (unspecified)	200 mmHg	5 mins
McCrindle	2007	Upper arm	20 mmHg above resting systolic blood pressure	5 mins
Borzutzky	2008	NR	50 mmHg above resting systolic blood pressure	5 mins
Huang	2008	Forearm (distal)	50 mmHg above resting systolic blood pressure/200 mmHg	5 mins
Ghelani	2009	Forearm (proximal)	50 mmHg above resting systolic blood pressure	5 mins
Liu	2009	Forearm (distal)	200 mmHg	5 mins
Duan	2011	Forearm (unspecified)	200 mmHg	5 mins
Ishikawa	2013	Forearm (distal)	200 mmHg	5 mins
Ding	2014	NR	50 mmHg above resting systolic blood pressure	5 mins
Duan	2014	NR	200 mmHg	5 mins
Laurito	2014	Forearm (proximal)	250 mmHg	5 mins
Gao	2015	Upper arm	50 mmHg above resting systolic blood pressure	5 mins
Sabri	2015	Forearm (distal)	NR	5 mins
Mori	2016	NR	250 mmHg	4–5 mins
Parihar	2017	NR	50 mmHg above resting systolic blood pressure	5 mins
Ishikawa	2018	NR	200 mmHg	5 mins
Çetiner	2021	Upper arm	50 mmHg above resting systolic blood pressure	5 mins
Routhu	2021	Forearm (proximal)	250 mmHg	5 mins
Wen	2021	NR	50 mmHg above resting systolic blood pressure	5 mins

NR, not reported.

Table S4 Assessment of publication bias

Outcome	Test of Publication Bias Begg's *P* value	Test of Publication Bias Egger's *P* value
FMD in the acute phase (%)	0.221	0.038
FMD in the subacute phase (%)	0.999	-
FMD in the convalescence phase (%)	0.833	0.399
NMD (%)	0.902	0.630
E-selectin (ng/ml)	0.263	0.260
P-selectin (ng/ml)	0.873	0.297
ICAM-1 (ng/ml)	0.474	0.814
VCAM-1 (ng/ml)	0.536	0.135

FMD, flow-mediated dilatation; ICAM-1, intercellular adhesion molecule-1; NMD, nitroglycerin-mediated dilation; VCAM-1, vascular cellular adhesion molecule-1.

Fig. S1 Evaluation of publication bias of flow-mediated dilatation in the convalescence phase

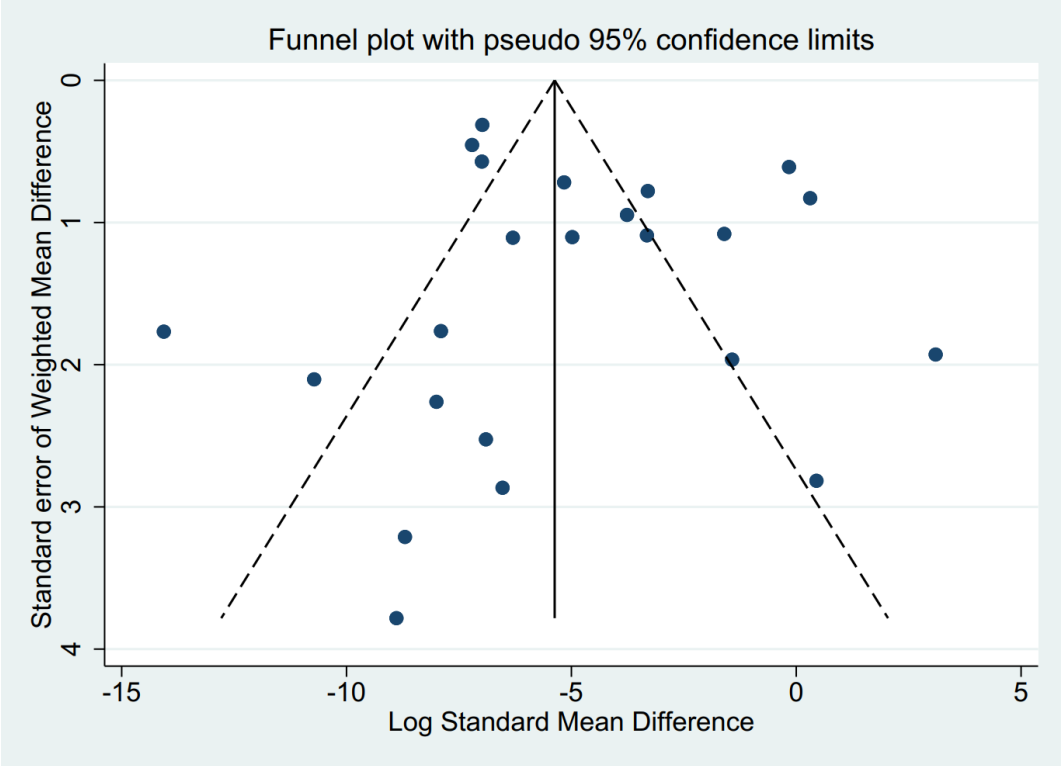


Fig. S2 Evaluation of publication bias of nitroglycerin-mediated dilation

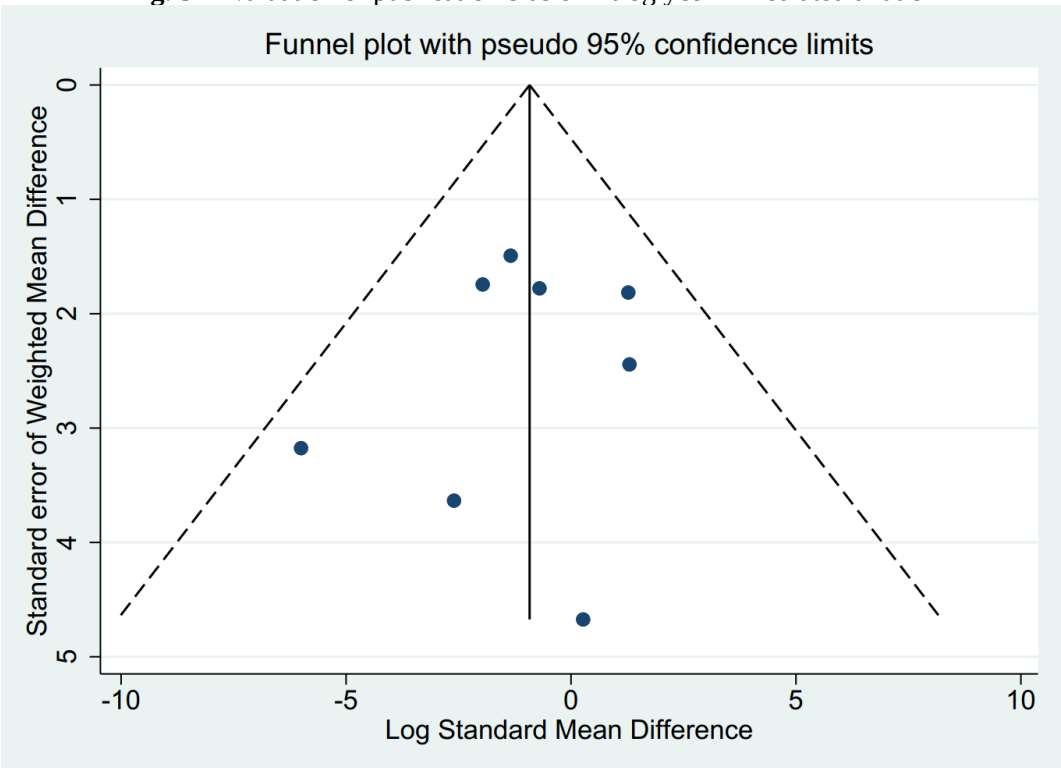
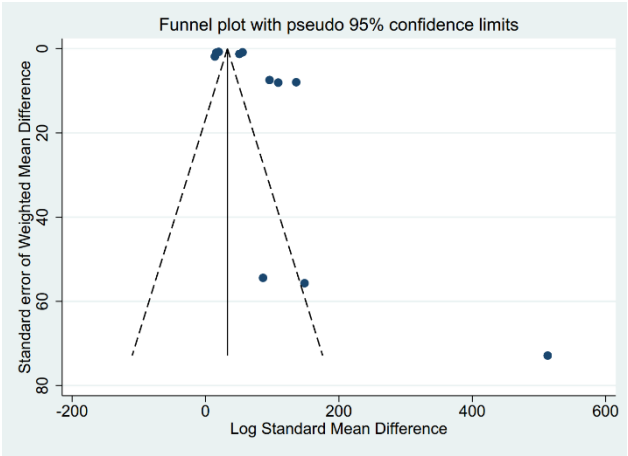
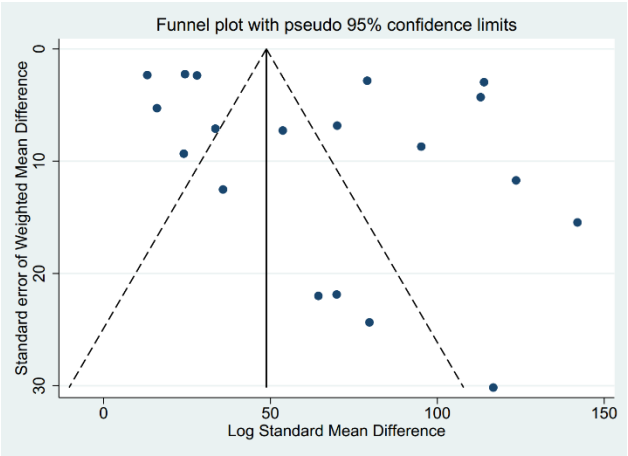


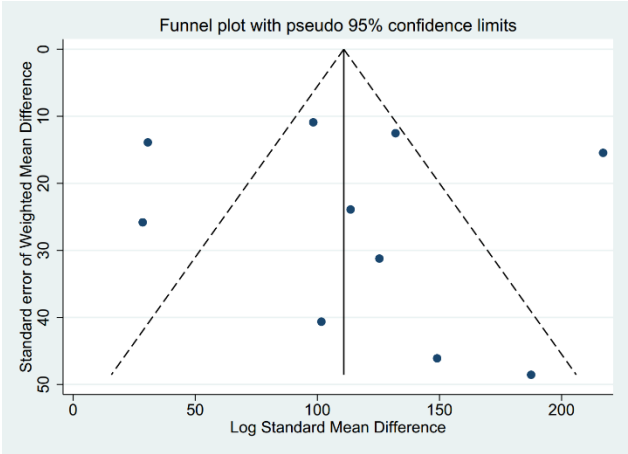
Fig. S3 Evaluation of publication bias of four biomarkers



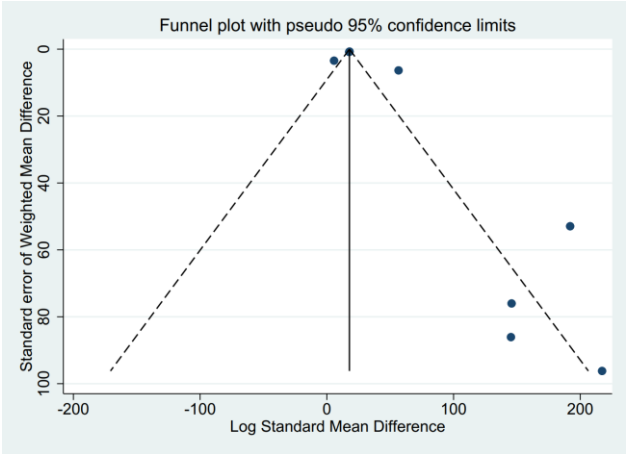
E-selectin



P-selectin



ICAM-1



VCAM-1

Fig. S4 Trim-and-fill analysis for publication bias of flow-mediated dilatation in the acute phase