CVD in psoriasis

Review information

Authors

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Citation example: [Empty name], TDHaMA. CVD in psoriasis. Cochrane Database of Systematic Reviews [Year], Issue [Issue].

Contact person

Sundhedsstyrelsen

Dates

Assessed as Up-to-date:	
Date of Search:	
Next Stage Expected:	
Protocol First Published:	Not specified
Review First Published:	Not specified
Last Citation Issue:	Not specified

What's new

Date / Event	Description

History

Date / Event	Description

Characteristics of studies

Characteristics of included studies

Abubara

Methods	Prospective cohort
Participants	3603 severe psoriasis/14 330 controls
Interventions	
Outcomes	Cardivascular death
Notes	Risk of bias assessment by QUIPS tool in seperate appendix

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	
Allocation concealment (selection bias)	Unclear risk	
Blinding of participants and personnel (performance bias)	Unclear risk	
Blinding of outcome assessment (detection bias)	Unclear risk	
Incomplete outcome data (attrition bias)	Unclear risk	
Selective reporting (reporting bias)	Unclear risk	
Other bias	Unclear risk	

Ahlenhoff

Methods	Prospective cohort
Participants	34 371 with mild psoriasis/2621 with severe psoriasis
Interventions	
Outcomes	Cardiovascular death, MI, Stroke
Notes	Risk of bias assessment by QUIPS tool in seperate appendix

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	
Allocation concealment (selection bias)	Unclear risk	
Blinding of participants and personnel (performance bias)	Unclear risk	
Blinding of outcome assessment (detection bias)	Unclear risk	
Incomplete outcome data (attrition bias)	Unclear risk	
Selective reporting (reporting bias)	Unclear risk	
Other bias	Unclear risk	

Dowlatshahi

Methods	Prospective cohort
Participants	262 psoriasis (24% systemic/UV treatment)/8009 reference subjects
Interventions	
Outcomes	Stroke
Notes	Risk of bias assessment by QUIPS tool in seperate appendix

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	
Allocation concealment (selection bias)	Unclear risk	
Blinding of participants and personnel (performance bias)	Unclear risk	
Blinding of outcome assessment (detection bias)	Unclear risk	
Incomplete outcome data (attrition bias)	Unclear risk	
Selective reporting (reporting bias)	Unclear risk	
Other bias	Unclear risk	

Dregan

Methods	Prospective cohort
Participants	5648 with severe psoriasis and 85 232 with mild psoriasis
Interventions	
Outcomes	Stroke
Notes	Risk of bias assessment by QUIPS tool in seperate appendix

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	
Allocation concealment (selection bias)	Unclear risk	
Blinding of participants and personnel (performance bias)	Unclear risk	
Blinding of outcome assessment (detection bias)	Unclear risk	
Incomplete outcome data (attrition bias)	Unclear risk	
Selective reporting (reporting bias)	Unclear risk	
Other bias	Unclear risk	

Gelfand

Methods	Prospective cohort
Participants	127 139 Mild psoriasis/3837 severe psoriasis
Interventions	
Outcomes	MI, Stroke
Notes	Risk of bias assessment by QUIPS tool in seperate appendix

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	
Allocation concealment (selection bias)	Unclear risk	
Blinding of participants and personnel (performance bias)	Unclear risk	
Blinding of outcome assessment (detection bias)	Unclear risk	
Incomplete outcome data (attrition bias)	Unclear risk	
Selective reporting (reporting bias)	Unclear risk	
Other bias	Unclear risk	

Levesque

Methods	Prospective cohort
Participants	31,421 patients with psoriasis of which 5,159 had severe psoriasis
Interventions	
Outcomes	MI
Notes	Risk of bias assessment by QUIPS tool in seperate appendix

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	
Allocation concealment (selection bias)	Unclear risk	
Blinding of participants and personnel (performance bias)	Unclear risk	
Blinding of outcome assessment (detection bias)	Unclear risk	
Incomplete outcome data (attrition bias)	Unclear risk	
Selective reporting (reporting bias)	Unclear risk	
Other bias	Unclear risk	

Lin

Methods	Prospective cohort
Participants	4752 with psoriasis (severe, mild) /23 760 controls
Interventions	
Outcomes	MI
Notes	Risk of bias assessment by QUIPS tool in seperate appendix

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	
Allocation concealment (selection bias)	Unclear risk	
Blinding of participants and personnel (performance bias)	Unclear risk	
Blinding of outcome assessment (detection bias)	Unclear risk	
Incomplete outcome data (attrition bias)	Unclear risk	
Selective reporting (reporting bias)	Unclear risk	
Other bias	Unclear risk	

Mallbris

Methods	Prospective cohort
Participants	8991 with severe psoriasis/19,757 with mild psoriasis
Interventions	
Outcomes	Cardiovascular death
Notes	Risk of bias assessment by QUIPS tool in seperate appendix

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	
Allocation concealment (selection bias)	Unclear risk	
Blinding of participants and personnel (performance bias)	Unclear risk	
Blinding of outcome assessment (detection bias)	Unclear risk	
Incomplete outcome data (attrition bias)	Unclear risk	
Selective reporting (reporting bias)	Unclear risk	
Other bias	Unclear risk	

Ogdie

Methods	Prospective controls
Participants	138 424 with psoriasis/81 573 controls
Interventions	
Outcomes	Cardiovascular death, MI, Stroke
Notes	Risk of bias assessment by QUIPS tool in seperate appendix

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	
Allocation concealment (selection bias)	Unclear risk	
Blinding of participants and personnel (performance bias)	Unclear risk	
Blinding of outcome assessment (detection bias)	Unclear risk	
Incomplete outcome data (attrition bias)	Unclear risk	
Selective reporting (reporting bias)	Unclear risk	
Other bias	Unclear risk	

Stern

Methods	Prospective cohort
Participants	1380 patients with severe psoriasis
Interventions	
Outcomes	Cardiovascular death
Notes	Risk of bias assessment by QUIPS tool in seperate appendix

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	
Allocation concealment (selection bias)	Unclear risk	
Blinding of participants and personnel (performance bias)	Unclear risk	
Blinding of outcome assessment (detection bias)	Unclear risk	
Incomplete outcome data (attrition bias)	Unclear risk	
Selective reporting (reporting bias)	Unclear risk	
Other bias	Unclear risk	

wakkee

Methods	Prospective cohort
Participants	15,820 psoriasis patients and 27,577 reference subjects
Interventions	
Outcomes	MI
Notes	Risk of bias assessment by QUIPS tool in seperate appendix

Risk of bias table

Bias	Authors' judgement	Support for judgement
Random sequence generation (selection bias)	Unclear risk	
Allocation concealment (selection bias)	Unclear risk	
Blinding of participants and personnel (performance bias)	Unclear risk	
Blinding of outcome assessment (detection bias)	Unclear risk	
Incomplete outcome data (attrition bias)	Unclear risk	
Selective reporting (reporting bias)	Unclear risk	
Other bias	Unclear risk	

Footnotes

Characteristics of excluded studies

Footnotes

Characteristics of studies awaiting classification

Footnotes

Characteristics of ongoing studies

Footnotes

Summary of findings tables

Additional tables

References to studies

Included studies

Abubara

[Empty]

Ahlenhoff

[Empty]

Dowlatshahi

[Empty]

Dregan

[Empty]

Gelfand

[Empty]

Levesque

[Empty]

Lin

[Empty]

Mallbris

[Empty]

*Ogdie*

[Empty]

Stern

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[Empty]

Excluded studies

Studies awaiting classification

Ongoing studies

Other references

Additional references

Other published versions of this review

Data and analyses

1 Psoriasis, mild

Outcome or Subgroup	Studies	Participants	Statistical Method	Effect Estimate
1.1 Cardiovascular death	3		Hazard Ratio (IV, Random, 95% CI)	1.06 [0.90, 1.24]
1.2 CVD death, severe	5		Hazard Ratio (IV, Random, 95% CI)	1.37 [1.13, 1.67]
1.3 MI in mild psoriasis	6		Hazard Ratio (IV, Random, 95% CI)	1.20 [1.06, 1.35]
1.4 MI, severe psoriasis	5		Hazard Ratio (IV, Random, 95% CI)	1.70 [1.18, 2.43]

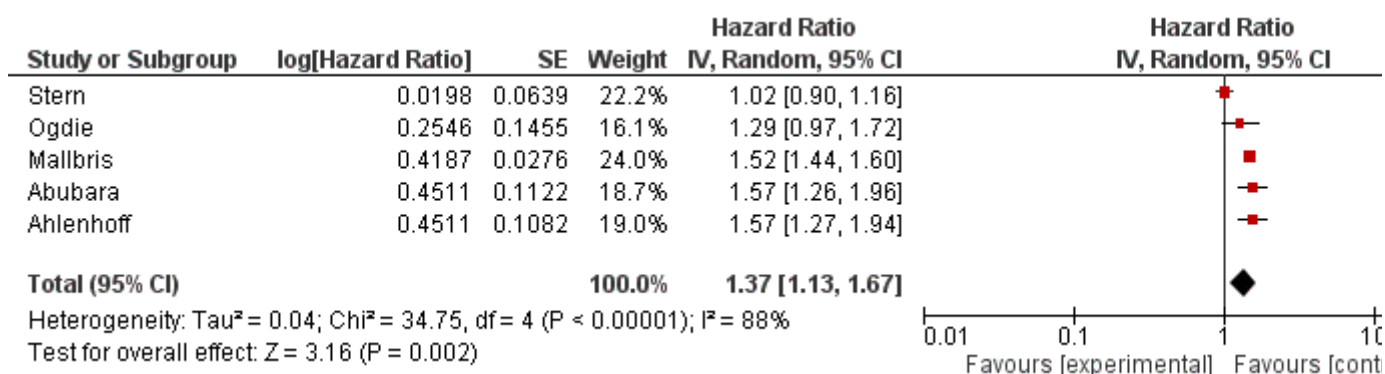| 1.5 Stroke, mild psoriaisi	5		Hazard Ratio (IV, Random, 95% CI)	1.10 [1.01, 1.19]
1.6 Stroke, severe psoriasis	5		Hazard Ratio (IV, Random, 95% CI)	1.38 [1.20, 1.60]

Figures
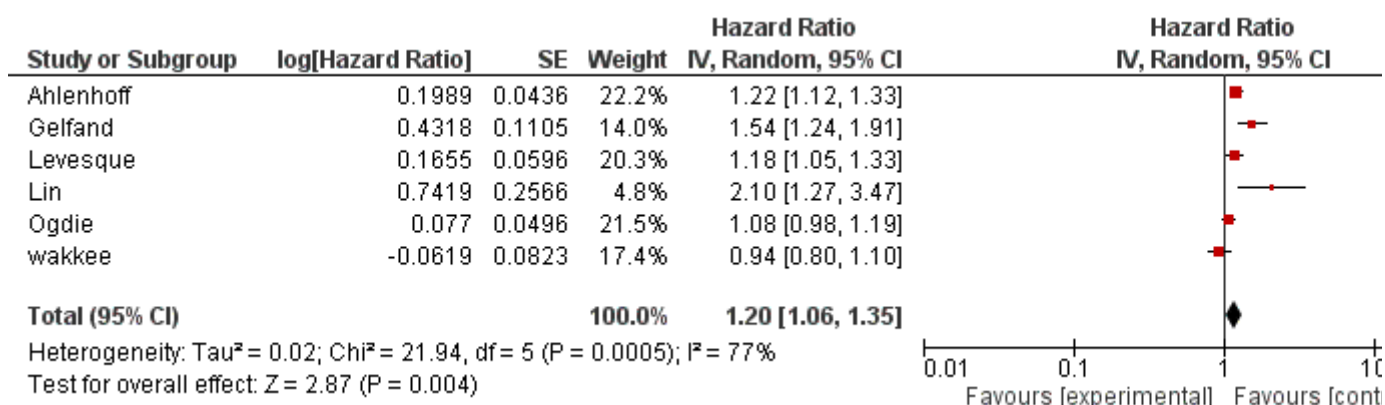
Figure 1 (Analysis 1.1)
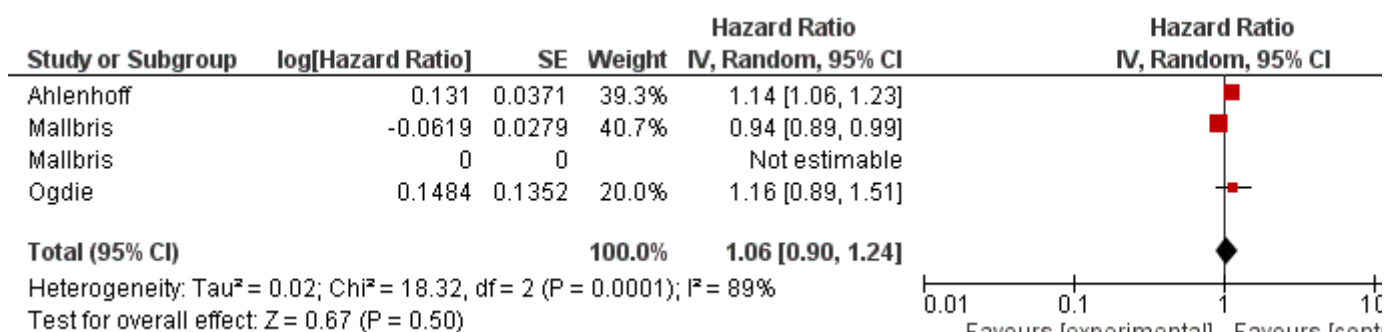
Forest plot of comparison: 1 Psoriasis, mild, outcome: 1.1 Cardiovascular death.

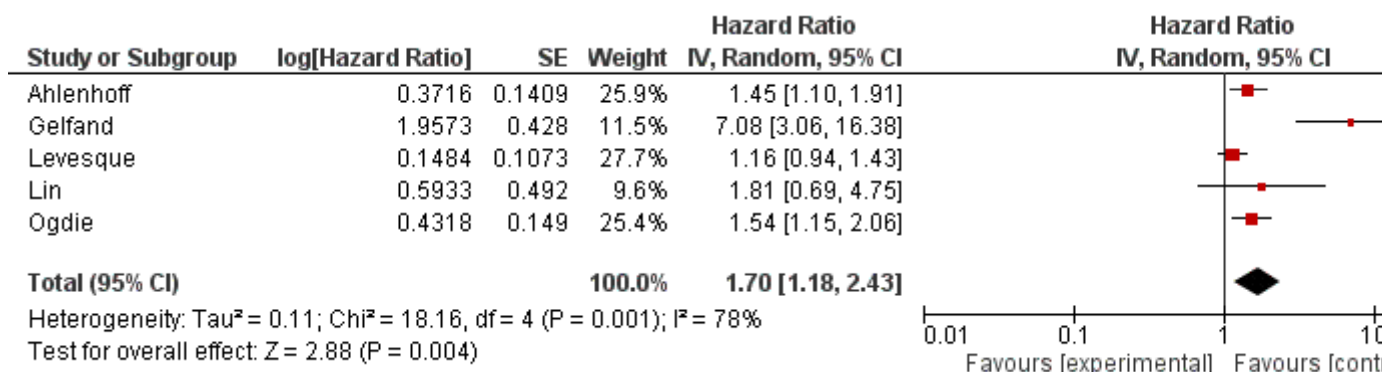## Figure 2 (Analysis 1.2)

Forest plot of comparison: 1 Psoriasis, mild, outcome: 1.2 CVD death, severe.
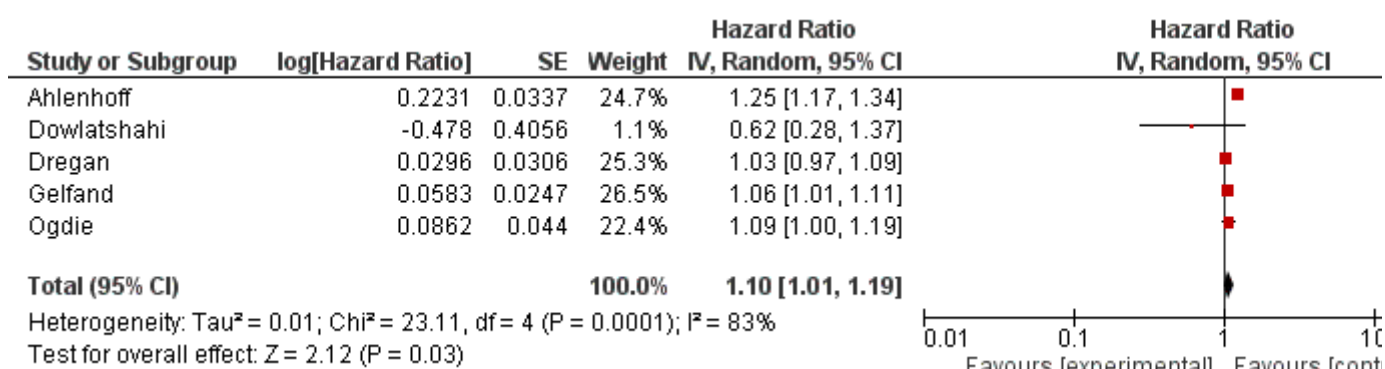
Figure 3 (Analysis 1.3)

Forest plot of comparison: 1 Psoriasis, mild, outcome: 1.3 MI in mild psoriasis.
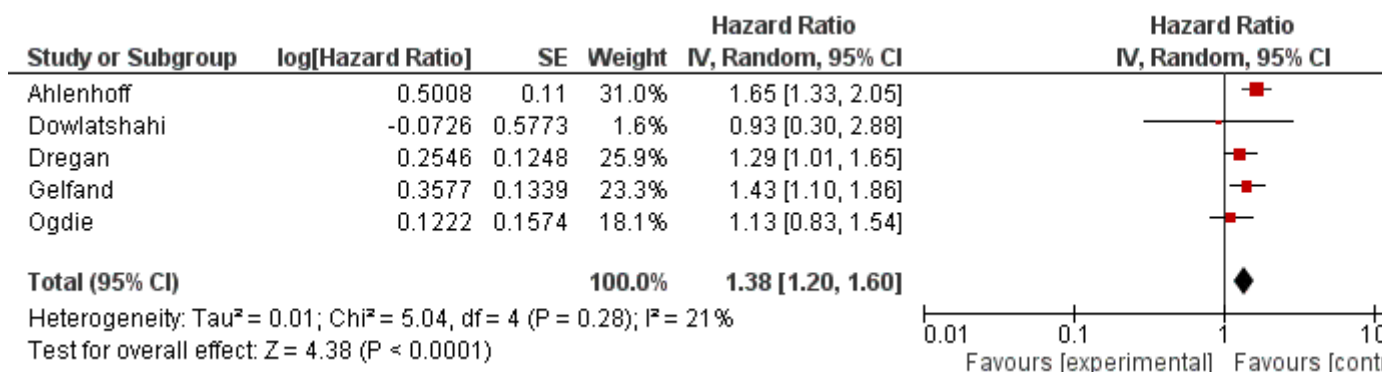
Figure 4 (Analysis 1.4)

				Hazard Ratio	Hazard Ratio
Study or Subgroup	log[Hazard Ratio]	SE	Weight	IV, Random, 95% CI	IV, Random, 95% CI
Ahlenhoff	0.3716	0.1409	25.9%	1.45 [1.10, 1.91]	
Gelfand	1.9573	0.428	11.5%	7.08 [3.06, 16.38]	
Levesque	0.1484	0.1073	27.7%	1.16 [0.94, 1.43]	
Lin	0.5933	0.492	9.6%	1.81 [0.69, 4.75]	
Ogdie	0.4318	0.149	25.4%	1.54 [1.15, 2.06]	
Total (95% CI)			100.0%	1.70 [1.18, 2.43]	

Heterogeneity: Tau² = 0.11; Chi² = 18.16, df = 4 (P = 0.001); I² = 78%
Test for overall effect: Z = 2.88 (P = 0.004)

0.01　0.1　1　10
Favours [experimental]　Favours [control]

Forest plot of comparison: 1 Psoriasis, mild, outcome: 1.4 MI, severe psoriasis.

Figure 5 (Analysis 1.5)

				Hazard Ratio	Hazard Ratio
Study or Subgroup	log[Hazard Ratio]	SE	Weight	IV, Random, 95% CI	IV, Random, 95% CI
Ahlenhoff	0.2231	0.0337	24.7%	1.25 [1.17, 1.34]	
Dowlatshahi	-0.478	0.4056	1.1%	0.62 [0.28, 1.37]	
Dregan	0.0296	0.0306	25.3%	1.03 [0.97, 1.09]	
Gelfand	0.0583	0.0247	26.5%	1.06 [1.01, 1.11]	
Ogdie	0.0862	0.044	22.4%	1.09 [1.00, 1.19]	
Total (95% CI)			100.0%	1.10 [1.01, 1.19]	

Heterogeneity: Tau² = 0.01; Chi² = 23.11, df = 4 (P = 0.0001); I² = 83%
Test for overall effect: Z = 2.12 (P = 0.03)

0.01　0.1　1　10
Favours [experimental]　Favours [control]

Forest plot of comparison: 1 Psoriasis, mild, outcome: 1.5 Stroke, mild psoriaisi.

Figure 6 (Analysis 1.6)

				Hazard Ratio	Hazard Ratio
Study or Subgroup	log[Hazard Ratio]	SE	Weight	IV, Random, 95% CI	IV, Random, 95% CI
Ahlenhoff	0.5008	0.11	31.0%	1.65 [1.33, 2.05]	
Dowlatshahi	-0.0726	0.5773	1.6%	0.93 [0.30, 2.88]	
Dregan	0.2546	0.1248	25.9%	1.29 [1.01, 1.65]	
Gelfand	0.3577	0.1339	23.3%	1.43 [1.10, 1.86]	
Ogdie	0.1222	0.1574	18.1%	1.13 [0.83, 1.54]	
Total (95% CI)			100.0%	1.38 [1.20, 1.60]	

Heterogeneity: Tau² = 0.01; Chi² = 5.04, df = 4 (P = 0.28); I² = 21%
Test for overall effect: Z = 4.38 (P < 0.0001)

0.01　0.1　1　10
Favours [experimental]　Favours [control]

Forest plot of comparison: 1 Psoriasis, mild, outcome: 1.6 Stroke, severe psoriasis.

Appendices