Cochrane Clinical Answers

Question:

How does endovascular coiling compare with neurosurgical clipping for people with aneurysmal subarachnoid hemorrhage (SAH)?

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Answer

Among adolescents and adults with aneurysmal subarachnoid hemorrhage (SAH) within the prior 28 days and mostly World Federation of Neurological Surgeons (WFNS) grade I or II severity, fewer people died or became dependent when treated with endovascular coiling than with neurosurgical clipping at two to three months (264 vs 369 per 1000 people; all values on average) through to 10 years (347 vs 431 per 1000 people); certainty of the evidence decreased over time from moderate to low. Moderate-certainty evidence shows that fewer people developed delayed cerebral ischemia at two to three months (223 vs 265 per 1000 people) and mortality was lower at one year (79 vs 100 per 1000 people) with endovascular coiling. In contrast, more people had non-complete obliteration after one year (336 vs 167 per 1000 people), and more people experienced post-procedure rebleeding at one year (19 vs 10 per 1000 people; high-certainty evidence) through to 10 years (61 vs 23 per 1000 people; low-certainty evidence) with endovascular coiling than with neurosurgical clipping, although rebleeding rates were low in both groups. Complication rates were similar for the two surgical techniques. No trial reported on quality of life.

Comparisons

1. Endovascular coil versus neurosurgical clipping

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OUTCOME 1.1 Death or dependence in activities of daily living (ADL)

Narrative result

Death or dependence in ADL was assessed at four time points between 2 months and 10 years; fewer people died or were dependent with endovascular coiling than with neurosurgical clipping, although the result at 5 years did not quite reach statistical significance. Click below for details.[1]

Reference

Lindgren A, Vergouwen MDI, van der Schaaf I, Algra A, Wermer M, Clarke MJ, Rinkel GJE. Endovascular coiling versus neurosurgical clipping for people with aneurysmal subarachnoid haemorrhage. *Cochrane Database of Systematic Reviews* 2018, Issue 8. Art. No.: CD003085. DOI: 10.1002/14651858.CD003085.pub3. Search date March 2018

Subgroup analysis 1.1.1 Death or dependence in ADL – [subgroup: 2 to 3 months]

Narrative result

Three RCTs with 2257 participants found that fewer people died or were dependent at 2 to 3 months with endovascular coiling than with neurosurgical clipping.[2]

Risk of bias of studies

The reviewers did not perform a GRADE assessment of the quality/certainty of the evidence. All three studies used adequate allocation concealment, random sequence generation, and blinding of participants/carers, but none reported blinding of outcome assessors and one had unclear numbers of withdrawals.

Relative effect or mean difference

There was a statistically significant difference between groups, in favor of endovascular coiling (RR 0.71, 95% CI 0.63 to 0.81; absolute risk reduction 10%, 95% CI 7% to 14%).

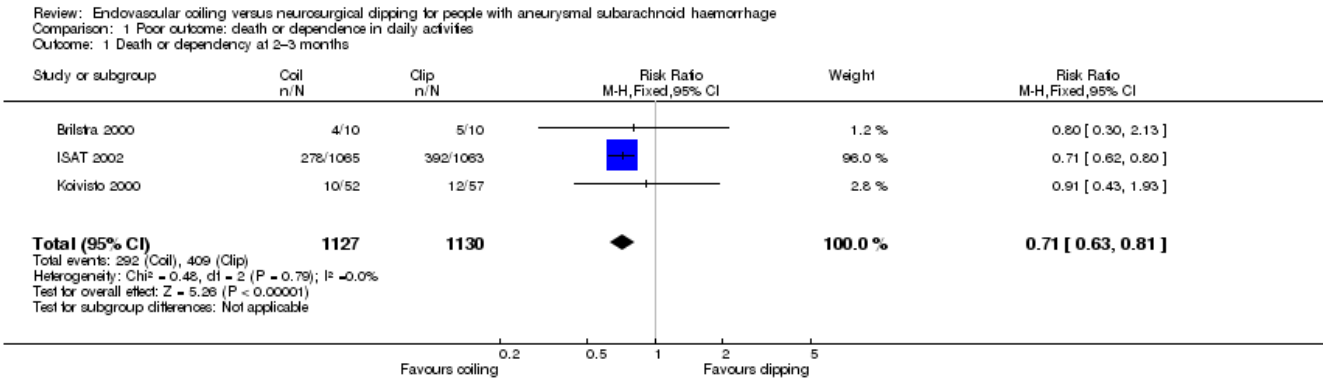

Figure 1 Open in figure viewer

Forest plot from Cochrane Review

Absolute effect

264 per 1000 people (95% CI 233 to 299) with endovascular coiling compared with 369 per 1000 people with neurosurgical clipping (calculated using median event rate).

Reference

Lindgren A, Vergouwen MDI, van der Schaaf I, Algra A, Wermer M, Clarke MJ, Rinkel GJE. Endovascular coiling versus neurosurgical clipping for people with aneurysmal subarachnoid haemorrhage. *Cochrane Database of Systematic Reviews* 2018, Issue 8. Art. No.: CD003085. DOI: 10.1002/14651858.CD003085.pub3. Search date March 2018

› Subgroup analysis 1.1.2 Death or dependence in ADL – [subgroup: 12 months]

Narrative result

Four RCTs with 2429 participants found that fewer people died or were dependent at 12 months after SAH with endovascular coiling than with neurosurgical clipping. Subgroup analyses by location of hemorrhage (posterior or anterior circulation) showed similar results to the main analysis.[3]

Quality of the evidence

The reviewers performed a GRADE assessment of the quality of evidence for this outcome at this time point and stated that the evidence was moderate certainty. See Summary of findings from Cochrane Review

Relative effect or mean difference

There was a statistically significant difference between groups, in favor of endovascular coiling (RR 0.77, 95% CI 0.67 to 0.87; absolute risk reduction 7%, 95% CI 4% to 11%).

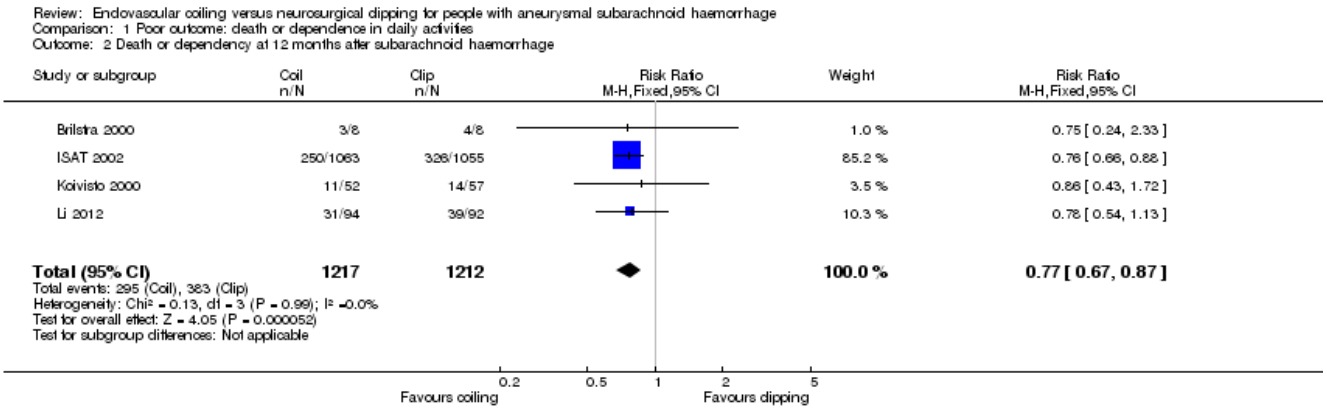

Figure 2 Open in figure viewer

Forest plot from Cochrane Review

Absolute effect

237 per 1000 people (95% CI 208 to 269) with endovascular coiling compared with 309 per 1000 people with neurosurgical clipping (calculated using median event rate).

Reference

Lindgren A, Vergouwen MDI, van der Schaaf I, Algra A, Wermer M, Clarke MJ, Rinkel GJE. Endovascular coiling versus neurosurgical clipping for people with aneurysmal subarachnoid haemorrhage. *Cochrane Database of Systematic Reviews* 2018, Issue 8. Art. No.: CD003085. DOI: 10.1002/14651858.CD003085.pub3. Search date March 2018

› Subgroup analysis 1.1.3 Death or dependence in ADL – [subgroup: 5 years]

Narrative result

One RCT with 1724 participants found that fewer people died or were dependent at 5 years after SAH with endovascular coiling than with neurosurgical clipping, although the result did not quite reach statistical significance.[4]

Risk of bias of studies

The reviewers did not perform a GRADE assessment of the quality/certainty of the evidence. The study used adequate allocation concealment, random sequence generation, and blinding of participants/carers, but did not report blinding of outcome assessors and had unclear numbers of withdrawals.

Relative effect or mean difference

There was no statistically significant difference between groups (RR 0.87, 95% CI 0.75 to 1.01; absolute risk reduction 4%, 95% CI 0% to 8%).

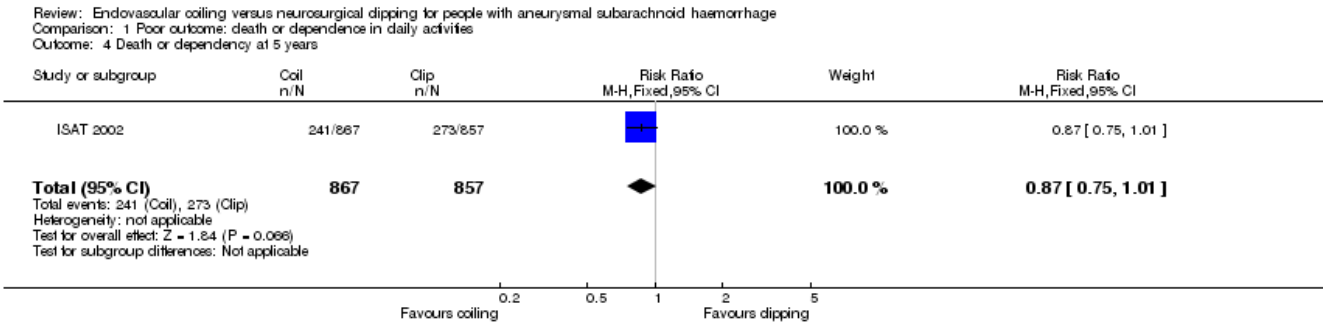

Figure 3 Open in figure viewer

Forest plot from Cochrane Review

Absolute effect

278 per 1000 people (95% CI 240 to 321) with endovascular coiling compared with 319 per 1000 people with neurosurgical clipping (calculated using median event rate).

Reference

Lindgren A, Vergouwen MDI, van der Schaaf I, Algra A, Wermer M, Clarke MJ, Rinkel GJE. Endovascular coiling versus neurosurgical clipping for people with aneurysmal subarachnoid haemorrhage. *Cochrane Database of Systematic Reviews* 2018, Issue 8. Art. No.: CD003085. DOI: 10.1002/14651858.CD003085.pub3. Search date March 2018

Subgroup analysis 1.1.4 Death or dependence in ADL – [subgroup: 10 years]

Narrative result

One RCT with 1316 participants found that fewer people died or were dependent at 10 years with endovascular coiling than with neurosurgical clipping.[5]

Quality of the evidence

The reviewers performed a GRADE assessment of the quality of evidence for this outcome at this time point and stated that the evidence was low certainty. See Summary of findings from Cochrane Review

Relative effect or mean difference

There was a statistically significant difference between groups, in favor of endovascular coiling (RR 0.81, 95% CI 0.70 to 0.92; absolute risk reduction 8%, 95% CI 3% to 14%).

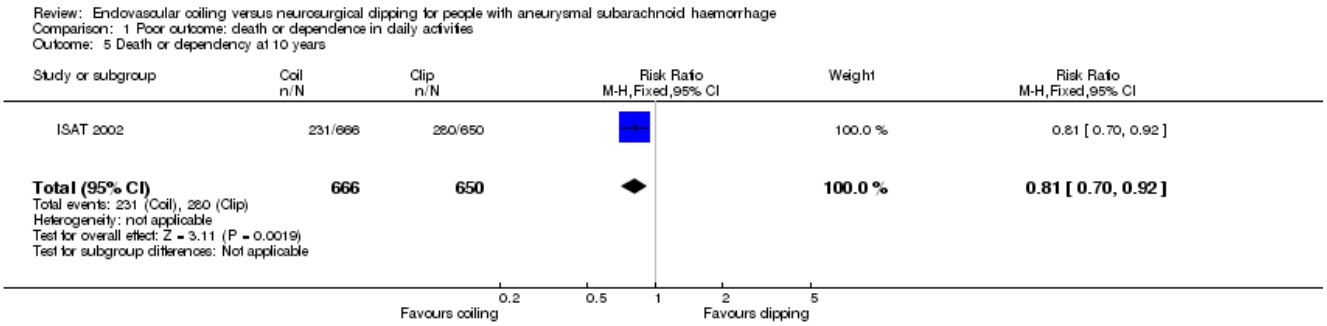

Figure 4 Open in figure viewer

Forest plot from Cochrane Review

Absolute effect

347 per 1000 people (95% CI 303 to 398) with endovascular coiling compared with 431 per 1000 people with neurosurgical clipping (calculated using median event rate).

Reference

Lindgren A, Vergouwen MDI, van der Schaaf I, Algra A, Wermer M, Clarke MJ, Rinkel GJE. Endovascular coiling versus neurosurgical clipping for people with aneurysmal subarachnoid haemorrhage. *Cochrane Database of Systematic Reviews* 2018, Issue 8. Art. No.: CD003085. DOI: 10.1002/14651858.CD003085.pub3. Search date March 2018

› OUTCOME 1.2 Delayed cerebral ischemia (DCI; 2 to 3 months)

Narrative result

Four RCTs with 2450 participants found that fewer people developed DCI with endovascular coiling than with neurosurgical clipping.[6]

Quality of the evidence

The reviewers performed a GRADE assessment of the quality of evidence for this outcome at this time point and stated that the evidence was moderate certainty. See Summary of findings from Cochrane Review

Relative effect or mean difference

There was a statistically significant difference between groups, in favor of endovascular coiling (RR 0.84, 95% CI 0.74 to 0.96; absolute risk reduction 4%, 95% CI 0% to 7%).

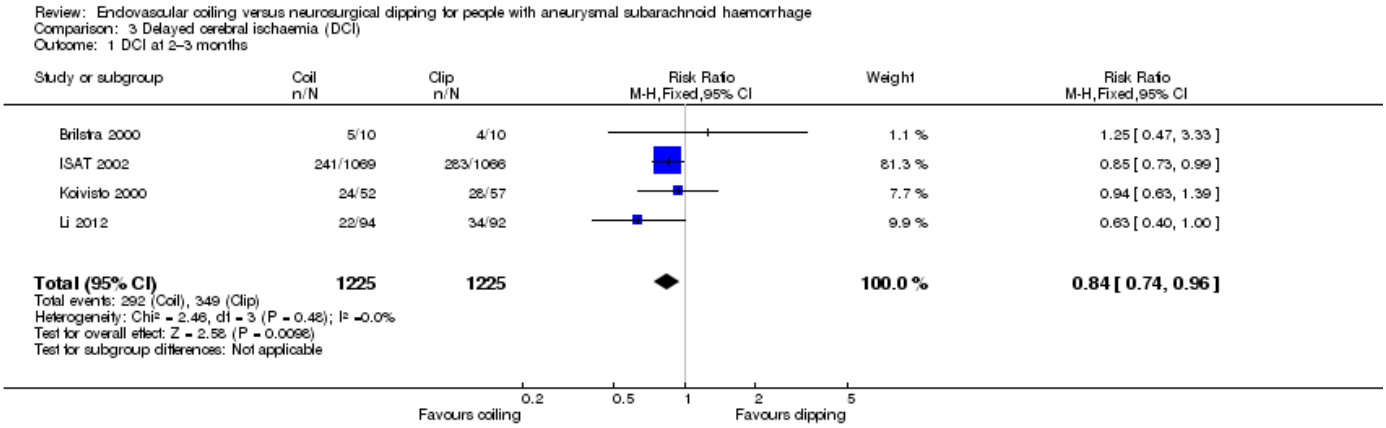

Figure 5 Open in figure viewer

Forest plot from Cochrane Review

Absolute effect

223 per 1000 people (95% CI 195 to 255) with endovascular coiling compared with 265 per 1000 people with neurosurgical clipping (calculated using median event rate).

Reference

Lindgren A, Vergouwen MDI, van der Schaaf I, Algra A, Wermer M, Clarke MJ, Rinkel GJE. Endovascular coiling versus neurosurgical clipping for people with aneurysmal subarachnoid haemorrhage. *Cochrane Database of Systematic Reviews* 2018, Issue 8. Art. No.: CD003085. DOI: 10.1002/14651858.CD003085.pub3. Search date March 2018

› OUTCOME 1.3 Rebleeding post-procedure

Narrative result

Rebleeding was assessed at four time points between 3 months and 10 years; more people had rebleeding at the three longer-term time points with endovascular coiling than with neurosurgical clipping. Click below for details.[7]

Reference

Lindgren A, Vergouwen MDI, van der Schaaf I, Algra A, Wermer M, Clarke MJ, Rinkel GJE. Endovascular coiling versus neurosurgical clipping for people with aneurysmal subarachnoid haemorrhage. *Cochrane Database of Systematic Reviews* 2018, Issue 8. Art. No.: CD003085. DOI: 10.1002/14651858.CD003085.pub3. Search date March 2018

› Subgroup analysis 1.3.1 Rebleeding post-procedure – [subgroup: within 3 months]

Narrative result

Three RCTs with 2272 participants found no statistically significant difference between groups.[8]

Risk of bias of studies

The reviewers did not perform a GRADE assessment of the quality/certainty of the evidence. All three studies used adequate allocation concealment, random sequence generation, and blinding of participants/carers, but none reported blinding of outcome assessors and one had unclear numbers of withdrawals.

Relative effect or mean difference

There was no statistically significant difference between groups (RR 2.66, 95% CI 0.71 to 10.00; absolute risk reduction 0%, 95% CI 0% to 1%).

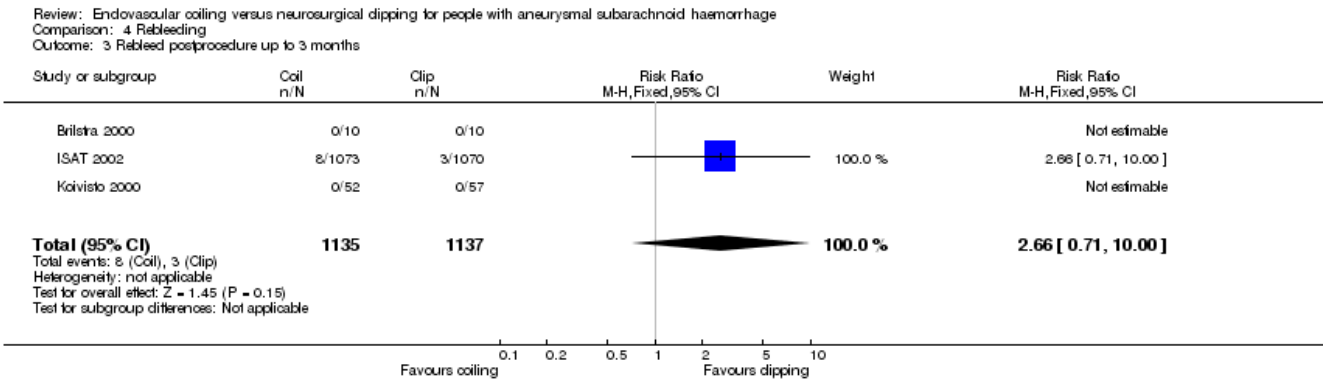

Figure 6 Open in figure viewer

Forest plot from Cochrane Review

Absolute effect

7 per 1000 people (95% CI 2 to 28) with endovascular coiling compared with 3 per 1000 people with neurosurgical clipping (calculated using median event rate).

Reference

Lindgren A, Vergouwen MDI, van der Schaaf I, Algra A, Wermer M, Clarke MJ, Rinkel GJE. Endovascular coiling versus neurosurgical clipping for people with aneurysmal subarachnoid haemorrhage. *Cochrane Database of Systematic Reviews* 2018, Issue 8. Art. No.: CD003085. DOI: 10.1002/14651858.CD003085.pub3. Search date March 2018

› Subgroup analysis 1.3.2 Rebleeding post-procedure – [subgroup: within 1 year]

Narrative result

Four RCTs with 2458 participants found that more people had rebleeding within 1 year of the procedure with endovascular coiling than with neurosurgical clipping.[9]

Quality of the evidence

The reviewers performed a GRADE assessment of the quality of evidence for this outcome at this time point and stated that the evidence was high certainty. See Summary of findings from Cochrane Review

Relative effect or mean difference

There was a statistically significant difference between groups, in favor of neurosurgical clipping (RR 1.83, 95% CI 1.04 to 3.23; absolute risk reduction 1%, 95% CI 0% to 2%).

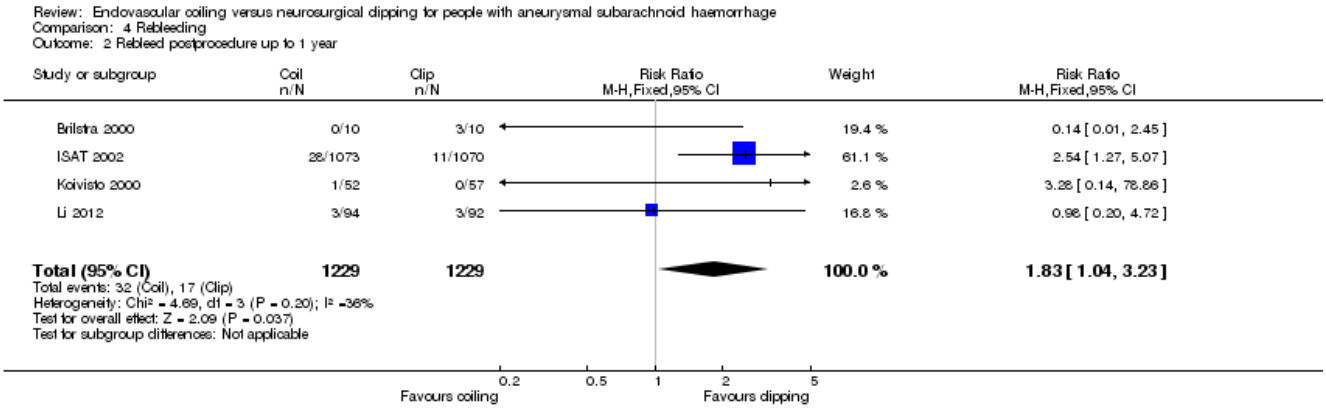

Figure 7 Open in figure viewer

Forest plot from Cochrane Review

Absolute effect

19 per 1000 people (95% CI 11 to 33) with endovascular coiling compared with 10 per 1000 people with neurosurgical clipping (calculated using median event rate).

Reference

Lindgren A, Vergouwen MDI, van der Schaaf I, Algra A, Wermer M, Clarke MJ, Rinkel GJE. Endovascular coiling versus neurosurgical clipping for people with aneurysmal subarachnoid haemorrhage. *Cochrane Database of Systematic Reviews* 2018, Issue 8. Art. No.: CD003085. DOI: 10.1002/14651858.CD003085.pub3. Search date March 2018

› Subgroup analysis 1.3.3 Rebleeding post-procedure – [subgroup: within 5 years]

Narrative result

One RCT with 1448 participants found that more people had rebleeding within 5 years of the procedure with endovascular coiling than with neurosurgical clipping.[10]

Risk of bias of studies

The reviewers did not perform a GRADE assessment of the quality/certainty of the evidence. The study used adequate allocation concealment, random sequence generation, and blinding of participants/carers, but did not report blinding of outcome assessors and had unclear numbers of withdrawals.

Relative effect or mean difference

There was a statistically significant difference between groups, in favor of neurosurgical clipping (RR 2.75, 95% CI 1.51 to 5.02; absolute risk reduction 3%, 95% CI 1% to 5%).

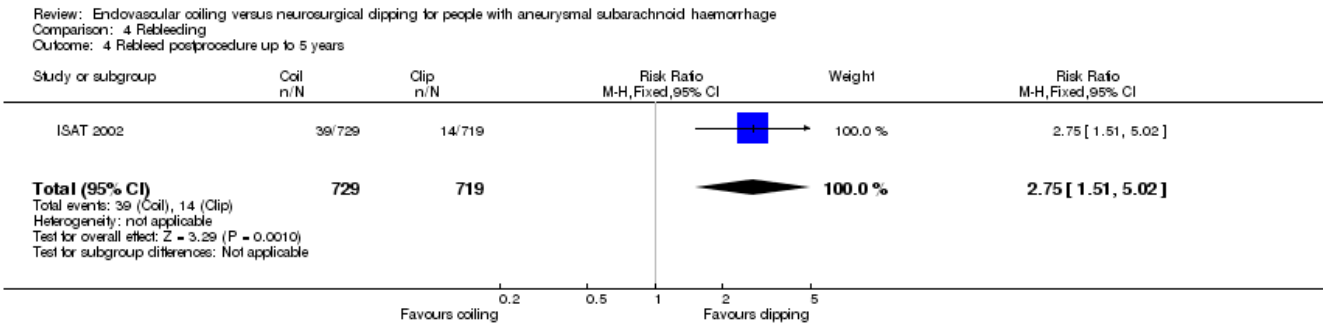

Figure 8 Open in figure viewer

Forest plot from Cochrane Review

Absolute effect

53 per 1000 people (95% CI 29 to 98) with endovascular coiling compared with 19 per 1000 people with neurosurgical clipping (calculated using median event rate).

Reference

Lindgren A, Vergouwen MDI, van der Schaaf I, Algra A, Wermer M, Clarke MJ, Rinkel GJE. Endovascular coiling versus neurosurgical clipping for people with aneurysmal subarachnoid haemorrhage. *Cochrane Database of Systematic Reviews* 2018, Issue 8. Art. No.: CD003085. DOI: 10.1002/14651858.CD003085.pub3. Search date March 2018

› Subgroup analysis 1.3.4 Rebleeding post-procedure – [subgroup: within 10 years]

Narrative result

One RCT with 1323 participants found that more people had rebleeding within 10 years of the procedure with endovascular coiling than with neurosurgical clipping.[11]

Quality of the evidence

The reviewers performed a GRADE assessment of the quality of evidence for this outcome at this time point and stated that the evidence was low certainty. See Summary of findings from Cochrane Review

Relative effect or mean difference

There was a statistically significant difference between groups, in favor of neurosurgical clipping (RR 2.69, 95% CI 1.50 to 4.81; absolute risk reduction 4%, 95% CI 2% to 6%).

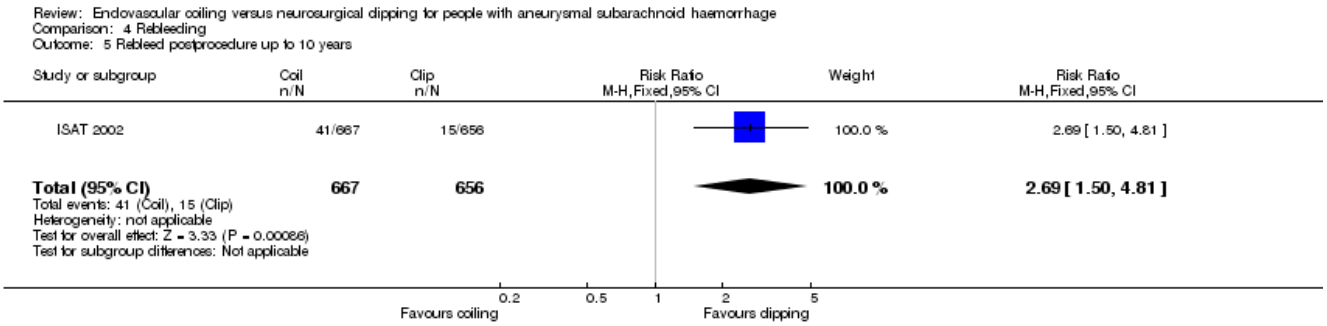

Figure 9 Open in figure viewer

Forest plot from Cochrane Review

Absolute effect

61 per 1000 people (95% CI 34 to 110) with endovascular coiling compared with 23 per 1000 people with neurosurgical clipping (calculated using median event rate).

Reference

Lindgren A, Vergouwen MDI, van der Schaaf I, Algra A, Wermer M, Clarke MJ, Rinkel GJE. Endovascular coiling versus neurosurgical clipping for people with aneurysmal subarachnoid haemorrhage. *Cochrane Database of Systematic Reviews* 2018, Issue 8. Art. No.: CD003085. DOI: 10.1002/14651858.CD003085.pub3. Search date March 2018

› OUTCOME 1.4 Degree of obliteration (at 1 year)

Narrative result

Two measures of obliteration were assessed: < 100% obliteration and < 90% occlusion. More people had non-complete obliteration with endovascular coiling than with neurosurgical clipping, but there was no statistically significant difference between groups in the number of people with < 90% occlusion. Click below for details.

Proportions of people with different levels of angiographic occlusion were reported at 1 year (2 RCTs with 1440 participants). For endovascular coiling vs neurosurgical clipping, these were: 67% vs 83% had 100% obliteration, 26% vs 12% had 90% to 100% obliteration and 8% vs 5% had < 90% obliteration.[12]

Reference

Lindgren A, Vergouwen MDI, van der Schaaf I, Algra A, Wermer M, Clarke MJ, Rinkel GJE. Endovascular coiling versus neurosurgical clipping for people with aneurysmal subarachnoid haemorrhage. *Cochrane Database of Systematic Reviews* 2018, Issue 8. Art. No.: CD003085. DOI: 10.1002/14651858.CD003085.pub3. Search date March 2018

› Subgroup analysis 1.4.1 Degree of obliteration [subgroup: Non-complete (< 100%) obliteration]

Narrative result

Three RCTs with 1626 participants found that more people had non-complete obliteration after 1 year with endovascular coiling than with neurosurgical clipping.[13]

Risk of bias of studies

The reviewers did not perform a GRADE assessment of the quality/certainty of the evidence. All three studies used adequate allocation concealment, random sequence generation, and blinding of participants/carers, but none reported blinding of outcome assessors and one had unclear numbers of withdrawals.

Relative effect or mean difference

There was a statistically significant difference between groups, in favor of neurosurgical clipping (RR 2.02, 95% CI 1.65 to 2.47; absolute risk increase 17%, 95% CI 12% to 22%).

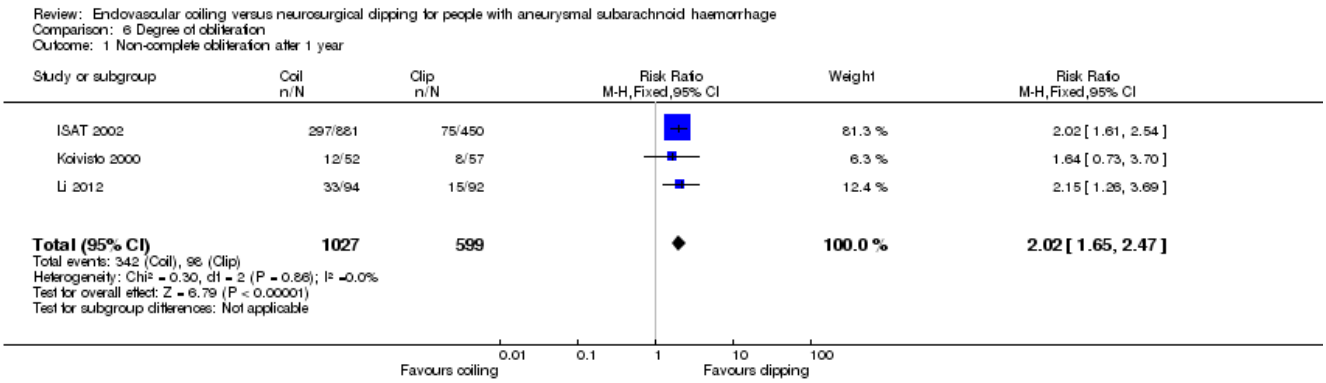

Figure 10 Open in figure viewer

Forest plot from Cochrane Review

Absolute effect

336 per 1000 people (95% CI 274 to 411) with endovascular coiling compared with 167 per 1000 people with neurosurgical clipping (calculated using median event rate).

Reference

Lindgren A, Vergouwen MDI, van der Schaaf I, Algra A, Wermer M, Clarke MJ, Rinkel GJE. Endovascular coiling versus neurosurgical clipping for people with aneurysmal subarachnoid haemorrhage. *Cochrane Database of Systematic Reviews* 2018, Issue 8. Art. No.: CD003085. DOI: 10.1002/14651858.CD003085.pub3. Search date March 2018

› Subgroup analysis 1.4.2 Degree of obliteration [subgroup: < 90% occlusion]

Narrative result

Two RCTs with 1440 participants found no statistically significant difference between groups.[14]

Risk of bias of studies

The reviewers did not perform a GRADE assessment of the quality/certainty of the evidence. Both studies used adequate allocation concealment, random sequence generation, and blinding of participants/carers, but none reported blinding of outcome assessors and one had unclear numbers of withdrawals.

Relative effect or mean difference

There was no statistically significant difference between groups (RR 1.43, 95% CI 0.93 to 2.21; absolute risk increase 2%, 95% CI 0% to 5%).

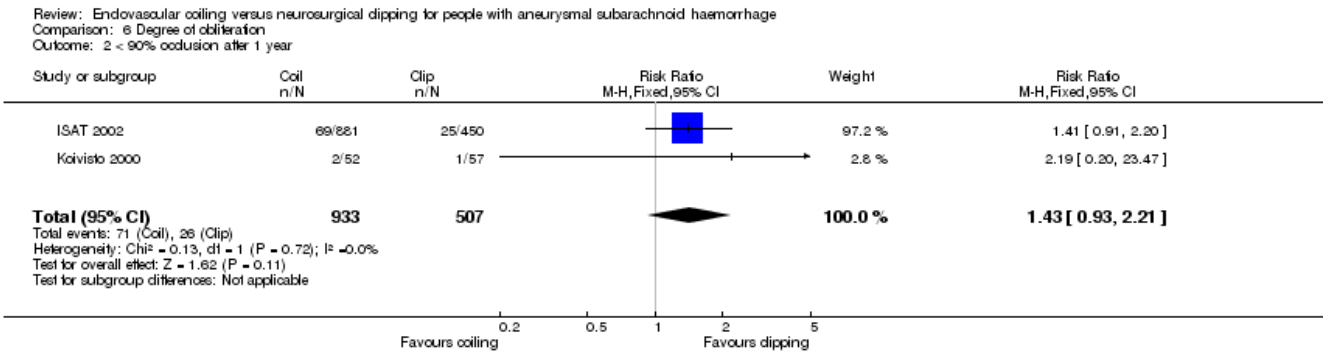

Figure 11 Open in figure viewer

Forest plot from Cochrane Review

Absolute effect

80 per 1000 people (95% CI 51 to 123) with endovascular coiling compared with 56 per 1000 people with neurosurgical clipping (calculated using median event rate).

Reference

Lindgren A, Vergouwen MDI, van der Schaaf I, Algra A, Wermer M, Clarke MJ, Rinkel GJE. Endovascular coiling versus neurosurgical clipping for people with aneurysmal subarachnoid haemorrhage. *Cochrane Database of Systematic Reviews* 2018, Issue 8. Art. No.: CD003085. DOI: 10.1002/14651858.CD003085.pub3. Search date March 2018

OUTCOME 1.5 All-cause mortality

Narrative result

All-cause mortality was assessed at four time points between 2 months and 10 years; fewer people died with endovascular coiling than with neurosurgical clipping at the three longer-term time points, although the 1-year analysis did not quite reach statistical significance. Click below for details.[15]

Reference

Lindgren A, Vergouwen MDI, van der Schaaf I, Algra A, Wermer M, Clarke MJ, Rinkel GJE. Endovascular coiling versus neurosurgical clipping for people with aneurysmal subarachnoid haemorrhage. *Cochrane Database of Systematic Reviews* 2018, Issue 8. Art. No.: CD003085. DOI: 10.1002/14651858.CD003085.pub3. Search date March 2018

› Subgroup analysis 1.5.1 All-cause mortality – [subgroup: within 2 to 3 months]

Narrative result

Three RCTs with 2257 participants found no statistically significant difference between groups.[16]

Risk of bias of studies

The reviewers did not perform a GRADE assessment of the quality/certainty of the evidence. All three studies used adequate allocation concealment, random sequence generation, and blinding of participants/carers, but none reported blinding of outcome assessors and one had unclear numbers of withdrawals.

Relative effect or mean difference

There was no statistically significant difference between groups (RR 0.88, 95% CI 0.66 to 1.18; absolute risk reduction 1%, 95% CI 3% decrease to 1% increase).

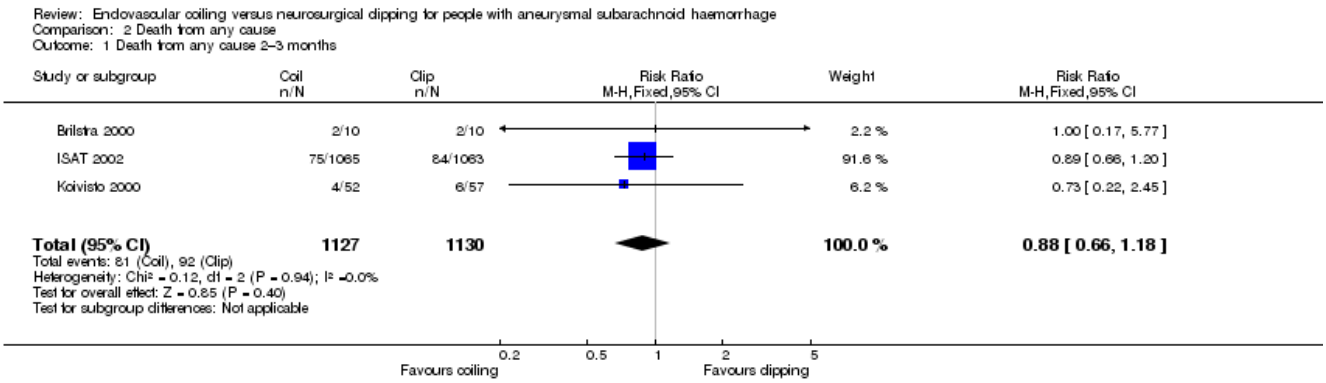

Figure 12 Open in figure viewer

Forest plot from Cochrane Review

Absolute effect

70 per 1000 people (95% CI 52 to 93) with endovascular coiling compared with 79 per 1000 people with neurosurgical clipping (calculated using median event rate).

Reference

Lindgren A, Vergouwen MDI, van der Schaaf I, Algra A, Wermer M, Clarke MJ, Rinkel GJE. Endovascular coiling versus neurosurgical clipping for people with aneurysmal subarachnoid haemorrhage. *Cochrane Database of Systematic Reviews* 2018, Issue 8. Art. No.: CD003085. DOI: 10.1002/14651858.CD003085.pub3. Search date March 2018

› **Subgroup analysis 1.5.2 All-cause mortality – [subgroup: within 1 year]**

Narrative result

Four RCTs with 2429 participants found that fewer people died with coil than with neurosurgical clipping although the result did not quite reach statistical significance.[17]

Quality of the evidence

The reviewers performed a GRADE assessment of the quality of evidence for this outcome at this time point and stated that the evidence was moderate certainty. See Summary of findings from Cochrane Review

Relative effect or mean difference

There was no statistically significant difference between groups (RR 0.80, 95% CI 0.63 to 1.02; absolute risk reduction 2%, 95% CI 0% to 5%).

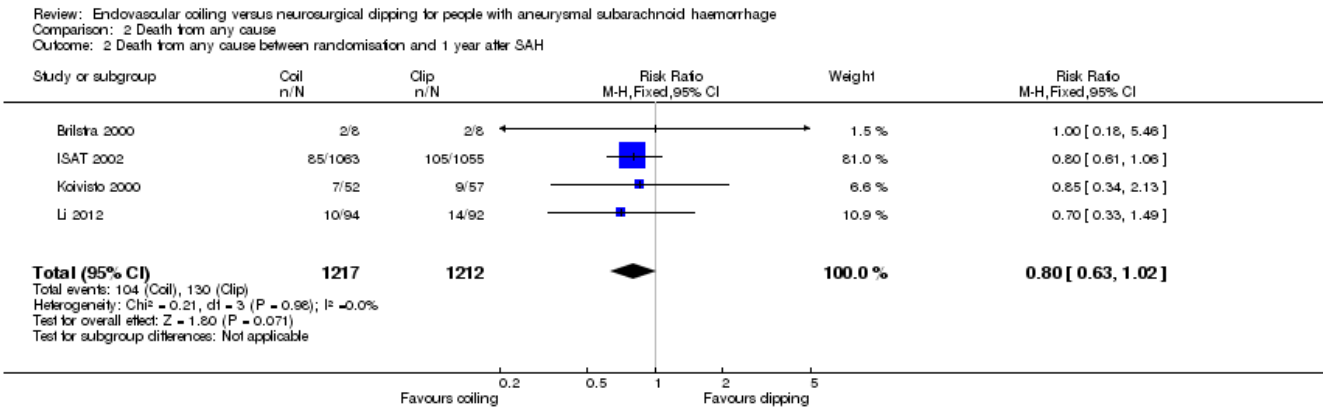

Figure 13 Open in figure viewer

Forest plot from Cochrane Review

Absolute effect

79 per 1000 people (95% CI 62 to 101) with endovascular coiling compared with 100 per 1000 people with neurosurgical clipping (calculated using median event rate).

Reference

Lindgren A, Vergouwen MDI, van der Schaaf I, Algra A, Wermer M, Clarke MJ, Rinkel GJE. Endovascular coiling versus neurosurgical clipping for people with aneurysmal subarachnoid haemorrhage. *Cochrane Database of Systematic Reviews* 2018, Issue 8. Art. No.: CD003085. DOI: 10.1002/14651858.CD003085.pub3. Search date March 2018

› **Subgroup analysis 1.5.3 All-cause mortality – [subgroup: within 5 years]**

Narrative result

One RCT with 2087 participants found that fewer people died with coil than with neurosurgical clipping.[18]

Risk of bias of studies

The reviewers did not perform a GRADE assessment of the quality/certainty of the evidence. The study studies used adequate allocation concealment, random sequence generation, and blinding of participants/carers, but did not report blinding of outcome assessors and had unclear numbers of withdrawals.

Relative effect or mean difference

There was a statistically significant difference between groups, in favor of endovascular coiling (RR 0.77, 95% CI 0.61 to 0.98; absolute risk reduction 3%, 95% CI not reported).

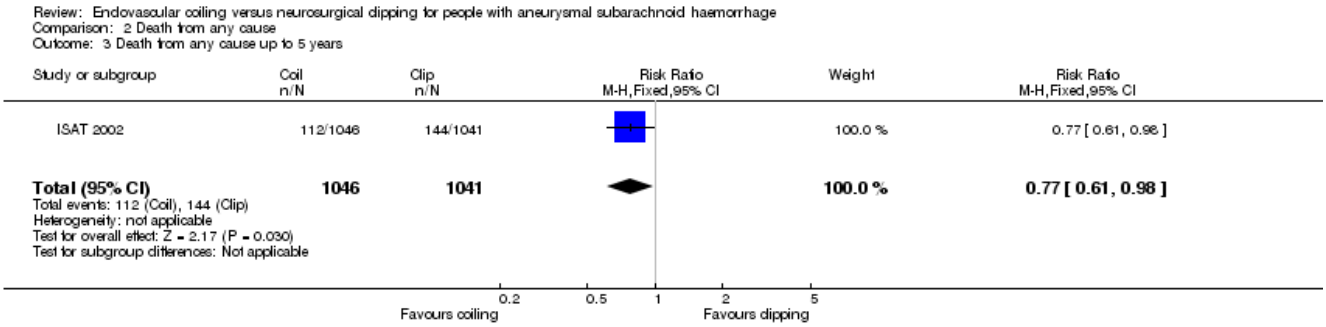

Figure 14 Open in figure viewer

Forest plot from Cochrane Review

Absolute effect

107 per 1000 people (95% CI 85 to 135) with endovascular coiling compared with 138 per 1000 people with neurosurgical clipping (calculated using median event rate).

Reference

Lindgren A, Vergouwen MDI, van der Schaaf I, Algra A, Wermer M, Clarke MJ, Rinkel GJE. Endovascular coiling versus neurosurgical clipping for people with aneurysmal subarachnoid haemorrhage. *Cochrane Database of Systematic Reviews* 2018, Issue 8. Art. No.: CD003085. DOI: 10.1002/14651858.CD003085.pub3. Search date March 2018

› Subgroup analysis 1.5.4 All-cause mortality – [subgroup: within 10 years]

Narrative result

One RCT with 1644 participants found that fewer people died with endovascular coiling than with neurosurgical clipping.[19]

Risk of bias of studies

The reviewers did not perform a GRADE assessment of the quality/certainty of the evidence. The study studies used adequate allocation concealment, random sequence generation, and blinding of participants/carers, but did not report blinding of outcome assessors and had unclear numbers of withdrawals.

Relative effect or mean difference

There was a statistically significant difference between groups, in favor of endovascular coiling (RR 0.78, 95% CI 0.64 to 0.96; absolute risk reduction 4%, 95% CI not reported).

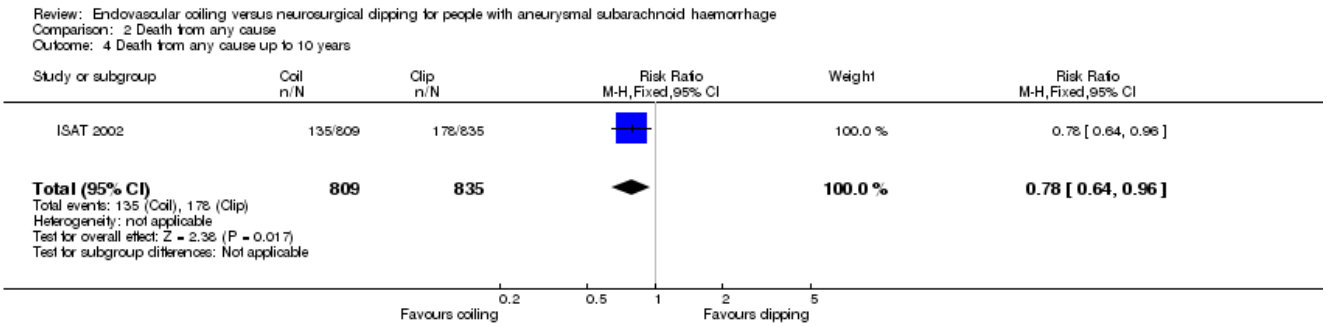

Figure 15 Open in figure viewer

Forest plot from Cochrane Review

Absolute effect

167 per 1000 people (95% CI 136 to 204) with endovascular coiling compared with 213 per 1000 people with neurosurgical clipping (calculated using median event rate).

Reference

Lindgren A, Vergouwen MDI, van der Schaaf I, Algra A, Wermer M, Clarke MJ, Rinkel GJE. Endovascular coiling versus neurosurgical clipping for people with aneurysmal subarachnoid haemorrhage. *Cochrane Database of Systematic Reviews* 2018, Issue 8. Art. No.: CD003085. DOI: 10.1002/14651858.CD003085.pub3. Search date March 2018

OUTCOME 1.6 Complications

Narrative result

Two RCTs with 129 participants found no statistically significant difference between groups.[20]

Quality of the evidence

The reviewers performed a GRADE assessment of the quality of evidence for this outcome at this time point and stated that the evidence was low certainty. See Summary of findings from Cochrane Review

Relative effect or mean difference

There was no statistically significant difference between groups (RR 1.05, 95% CI 0.44 to 2.53; absolute risk increase 1%, 95% CI 10% decrease to 12% increase).

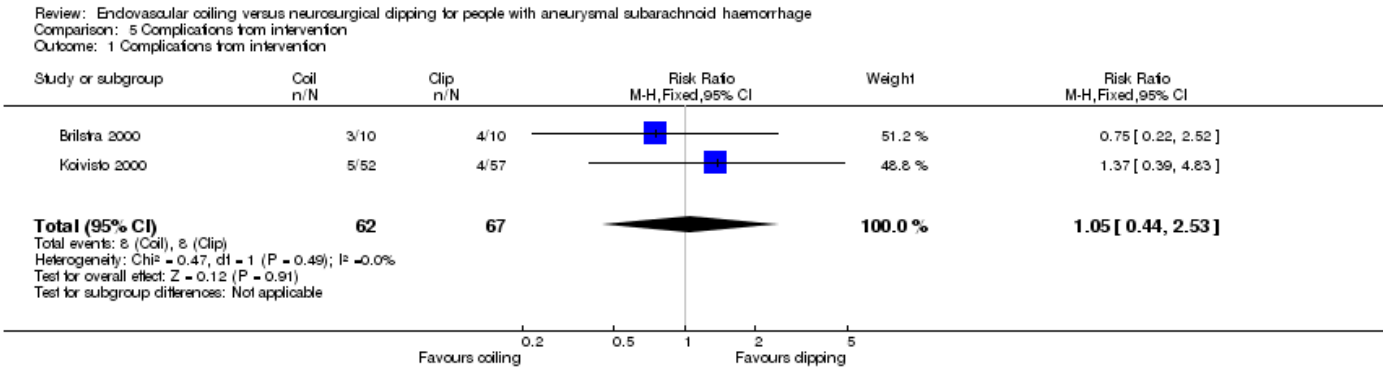

Figure 16 Open in figure viewer

Forest plot from Cochrane Review

Absolute effect

74 per 1000 people (95% CI 31 to 177) with endovascular coiling compared with 70 per 1000 people with neurosurgical clipping (calculated using median event rate).

Reference

Lindgren A, Vergouwen MDI, van der Schaaf I, Algra A, Wermer M, Clarke MJ, Rinkel GJE. Endovascular coiling versus neurosurgical clipping for people with aneurysmal subarachnoid haemorrhage. *Cochrane Database of Systematic Reviews* 2018, Issue 8. Art. No.: CD003085. DOI: 10.1002/14651858.CD003085.pub3. Search date March 2018

OUTCOME 1.7 Quality of life

Narrative result

Reviewers did not assess this outcome.[21]

Reference

Lindgren A, Vergouwen MDI, van der Schaaf I, Algra A, Wermer M, Clarke MJ, Rinkel GJE. Endovascular coiling versus neurosurgical clipping for people with aneurysmal subarachnoid haemorrhage. *Cochrane Database of Systematic Reviews* 2018, Issue 8. Art. No.: CD003085. DOI: 10.1002/14651858.CD003085.pub3. Search date March 2018

Population, Intervention, Comparator

Population

Adolescents and adults (age range 14 to 87 years or mean age 55 years) with aneurysmal subarachnoid hemorrhage (SAH), 3 to 28 days or mean of 3 days prior to recruitment. SAH was confirmed either by compute tomography (CT) or lumbar puncture, and aneurysms were confirmed by CT-angiography or angiography. Severity at baseline was World Federation of Neurological Surgeons (WFNS) grade I to V (mostly I or II; 88% of participants) or Hunt and Hess grade I to V (mostly I to III). RCTs were conducted between 1994 and 2009 in The Netherlands, Finland, China or multinationally

Intervention

Endovascular coil (no further details provided)

Comparator

Neurosurgical clipping (no further details provided)

Additional Information

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