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# Antithrombotics for stable angina

A systematic review and meta-analysis of randomized clinical trials

2017 - 7 - 1

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This report should be referenced as follows:

TrialResults-center.org; Results of all major randomized clinical trials about Antithrombotics for stable angina.



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## 0.1 Synthesis of the meta-analysis results

In all 15 randomised controlled trials (RCTs) were included. These included 1 studie of **aspirin** involving 2,035 patients, 2 studies of **clopidogrel** involving 20,186 patients, 10 studies of **dipyridamol** involving 401 patients, 1 studie of **oral platelet GP IIb/IIIa receptor inhibitor** involving 120 patients and 1 studie of **ticlopidine** involving 38 patients. Results obtained by the meta-analysis are reported in the following tables, with the endpoints categorized according their results. Three classes are considered: endpoints for wich a benefit effect was detected, endpoints revealing a harmful effect and the other for wich no statistically significant difference was obtained (no evidence).

### 0.1.1 Aspirin

Only one trials including 2035 patients was found.

Among these comparisons, one trial are about aspirin.

No trial was excluded on grounds of potentially flawed methodology or incomplete presentation of results. No ongoing trial was found.

Results obtained with aspirin for all the endpoints with data in at least one trial are summarized table 1.

**Table 1: Results summary - Aspirin**

Benefit	Harmful	No evidence
<i>Aspirin versus placebo</i>		
↓ cardiovascular events RR=0.71 <sup>†</sup> [0.57;0.89] k=1 ↓ non fatal MI RR=0.67* [0.45;0.98] k=1		→ cardiovascular death RR=0.76 <sup>NS</sup> [0.54;1.07] k=1 → non vascular death RR=1.66 <sup>NS</sup> [0.79;3.51] k=1 → non fatal stroke RR=0.79 <sup>NS</sup> [0.45;1.39] k=1

\* p <0.05; † p <0.01; ‡ p <0.001 RR: relative risk

H: heterogeneity with fixed effect model detected (heterogeneity test p <0.05)

### 0.1.2 Clopidogrel

Reports of 2 trials (including 20,186 patients) were identified .

Among these comparisons, two trials are about clopidogrel.

No trial was excluded on grounds of potentially flawed methodology or incomplete presentation of results. No ongoing trial was found.

Results obtained with clopidogrel for all the endpoints with data in at least one trial are summarized table 2.

**Table 2: Results summary - Clopidogrel**

Benefit	Harmful	No evidence
<i>Clopidogrel versus aspirin</i>		

continued...

Benefit	Harmful	No evidence
↓ cardiovascular events RR=0.92* [0.85;1.00] k=2		→ cardiovascular death RR=0.92 <sup>NS</sup> [0.80;1.07] k=1
↓ non fatal MI RR=0.84* [0.70;1.00] k=1		→ all cause death RR=0.98 <sup>NS</sup> [0.87;1.10] k=1
		→ non fatal stroke RR=0.94 <sup>NS</sup> [0.82;1.07] k=1
		→ major bleeding RR=0.88 <sup>NS</sup> [0.70;1.12] k=1

\* p <0.05; † p <0.01; ‡ p <0.001 RR: relative risk

H: heterogeneity with fixed effect model detected (heterogeneity test p <0.05)

### 0.1.3 Dipyridamol

Reports of 10 trials (including 401 patients) were identified .

Among these comparisons, 10 trials are about dipyridamol.

No trial was excluded on grounds of potentially flawed methodology or incomplete presentation of results. No ongoing trial was found.

Results obtained with dipyridamol for all the endpoints with data in at least one trial are summarized table 3.

**Table 3: Results summary - Dipyridamol**

Benefit	Harmful	No evidence
<i>Dipyridamol versus control</i>		
		→ cardiovascular events RR=1.28 <sup>NS</sup> [0.43;3.83] k=3
		→ cardiovascular death RR=1.61 <sup>NS</sup> [0.22;12.11] k=3
		→ non vascular death RR=0.98 <sup>NS</sup> [0.10;9.12] k=3
		→ non fatal MI RR=0.79 <sup>NS</sup> [0.23;2.77] k=3
		→ non fatal stroke RR=1.29 <sup>NS</sup> [0.15;10.73] k=3
<i>Dipyridamol versus placebo</i>		

\* p <0.05; † p <0.01; ‡ p <0.001 RR: relative risk

H: heterogeneity with fixed effect model detected (heterogeneity test p <0.05)

### 0.1.4 Oral platelet GP IIb/IIIa receptor inhibitor

Only one trials including 120 patients was found.

Among these comparisons, one trial are about roxifiban .

No trial was excluded on grounds of potentially flawed methodology or incomplete presentation of results. No ongoing trial was found.

Results obtained with roxifiban for all the endpoints with data in at least one trial are summarized table 4.

**Table 4: Results summary - Roxifiban**

Benefit	Harmful	No evidence
<i>Roxifiban versus placebo</i>		

\* p <0.05; † p <0.01; ¶ p <0.001 RR: relative risk

**H:** heterogeneity with fixed effect model detected (heterogeneity test p <0.05)

### 0.1.5 Ticlopidine

Only one trials including 38 patients was found.

Among these comparisons, one trial are about ticlopidine.

No trial was excluded on grounds of potentially flawed methodology or incomplete presentation of results. No ongoing trial was found.

Results obtained with ticlopidine for all the endpoints with data in at least one trial are summarized table 5.

**Table 5: Results summary - Ticlopidine**

Benefit	Harmful	No evidence
<i>Ticlopidine versus placebo</i>		
		→ cardiovascular events RR=0.81 <sup>NS</sup> [0.02;38.71] k=1
		→ cardiovascular death RR=0.81 <sup>NS</sup> [0.02;38.71] k=1
		→ non vascular death RR=0.81 <sup>NS</sup> [0.02;38.71] k=1
		→ non fatal MI RR=0.81 <sup>NS</sup> [0.02;38.71] k=1
		→ non fatal stroke RR=0.81 <sup>NS</sup> [0.02;38.71] k=1

\* p <0.05; † p <0.01; ¶ p <0.001 RR: relative risk

**H:** heterogeneity with fixed effect model detected (heterogeneity test p <0.05)



# 1 Introduction

## 1.1 Aim of the report

This report review all the randomized clinical trials of antithrombotics for the treatment of stable angina. The following classes of treatment are considered:

1. aspirin
2. clopidogrel
3. dipyridamol
4. oral platelet GP IIb/IIIa receptor inhibitor
5. ticlopidine

## 1.2 Search strategy

The search aimed to identify all randomized clinical trials relating to the clinical effectiveness of antithrombotics for the treatment of stable angina in all type of patient.

### 1.2.1 Sources searched

The following electronic databases were searched for relevant published literature for the period up to 2017 - 7 - 1:

- MEDLINE,
- EMBASE,
- Cochrane Database of Systematic Reviews (CDSR),
- Cochrane Central Register of Controlled Trials (CCTR),
- Health Technology Assessment (HTA) database,
- ISI Web of Science Proceedings (Index to Scientific and Technical Proceedings),
- ISI Web of Science Science Citation Index Expanded,

Each database was searched as far back as possible, with no language restrictions. Search strategies of relevant clinical keywords were developed through reference to published strategies, and by iterative searching, whereby keywords identified in references retrieved by initial scoping searches were used to extend the search strategy and so increase the sensitivity of retrieval.

In addition, the reference lists of relevant articles were handsearched.

Attempts to identify further studies were made by consulting health technology assessment and guideline producing agencies, and research and trials registers via the Internet.

Titles and, when available, abstracts of all studies identified in the searches were assessed by a single researcher for relevance to the review. In cases of doubt, the full article was obtained.

### 1.2.2 Search restrictions

No language, study/publication or date restrictions were applied to the main searches.

### 1.3 Inclusion criteria

**Participants** only those studies were included in which the participants had been diagnosed as having established stable angina.

**Interventions** studies in which antithrombotics was used. Studies using other interventions in addition to antithrombotics therapy were included only if the treatment received by the intervention and control groups was identical in all respects other than the use of antithrombotics.

**Methodology** randomised controlled trials (RCTs). Trials were accepted as RCTs if the allocation of subjects to treatment groups was described by the authors as either randomised or double-blind.

### 1.4 Exclusion criteria

Studies considered methodologically unsound. The list of excluded studies with reason of their exclusion are given in a separate section for each treatment categories considered.

### 1.5 Meta-analysis strategy

Studies that met the reviews entry criteria were eligible for inclusion in the meta-analyses provided that they reported outcomes in terms of the number of subjects suffering clinical outcomes, as only this would allow calculation of the relative risk of subjects in the intervention group developing each outcome, compared with subjects in the control group.

Studies that only presented results in the form of relative risks, relative hazards or odds ratios, without the underlying numbers were also include in the meta-analyses.

Binary outcomes were analysed using the fixed-effect model. For continuous outcomes, weighted mean differences (WMDs) were analysed, using a fixed-effect model.

Heterogeneity was tested by the chi-2 test and the I2 statistic was obtained to describe the proportion of the variability.

Where quantitative heterogeneity was indicated, analysis using a random-effects model was conducted for comparison with results of fixed effect-based analysis. Results of the meta-analysis should be considered as being based on fixed-effect model unless stated otherwise.

Meta-analyses were conducted for data on Non vascular death, Cardiovascular death, Non fatal MI, cardiovascular events, Non fatal stroke, .

### 1.6 Structure of the report

Each of the eligible studies is summarised in part ???. A summary of the studies together with an evaluation of their quality is given in part I to ???, listed by therapeutic class. The therapeutic classes included aspirin, clopidogrel, dipyridamol, oral platelet GP IIb/IIIa receptor inhibitor, ticlopidine,

In these sections, studies in which an active intervention was compared with placebo or no treatment are discussed first, by intervention, followed by a discussion of those studies in which two or more active interventions were compared.

**Part I**  
**Aspirin**





## 2 Overview of aspirin

### 2.1 Included trials

Only one trial which randomized 2035 patients was identified. In all, 1 randomized comparison concerned aspirin.

The detailed descriptions of trials and meta-analysis results is given in section 3 (page 19) for aspirin.

This trial included 2035 patients and was published in 1992.

This trial was double blind in design.

It was reported in English language.

The table 2.1 (page 16) summarizes the main characteristics of all the included trials. More detailed description is given in the following section.

### 2.2 Summary of meta-analysis results

The meta-analysis of the available trials about aspirin provide the results listed in tables 2.2 to 2.2 (page 17) and in the following graphs.

#### 2.2.1 Aspirin

**Aspirin** was superior to **placebo** in terms of cardiovascular events (RR=0.71, 95% CI 0.57 to 0.89, p=0.0030, 1 trial) and non fatal MI (RR=0.67, 95% CI 0.45 to 0.98, p=0.0412, 1 trial). However, no significant difference was found on cardiovascular death (RR=0.76, 95% CI 0.54 to 1.07, p=0.1173, 1 trial), non vascular death (RR=1.66, 95% CI 0.79 to 3.51, p=0.1804, 1 trial) and non fatal stroke (RR=0.79, 95% CI 0.45 to 1.39, p=0.4146, 1 trial).

**Table 2.1: Main study characteristics - aspirin**

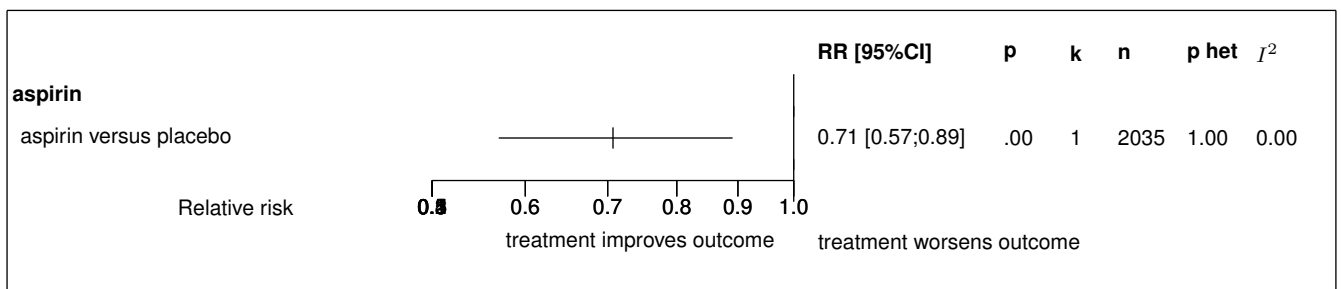
<b>Trial</b>	<b>Patients</b>	<b>Treatments</b>	<b>Trial design and method</b>
<b>Aspirin</b>			
<b><i>Aspirin versus placebo</i></b>			
SAPAT, 1992 [1] n = 1009 vs. 1026	patients with stable chronic angina pectoris	aspirin 75 mg daily <b>versus</b> placebo	double blind parallel groups Primary endpoint: myocardial infarction and sudden death Sweden

**Table 2.2:** Summary of all results for aspirin

Endpoint	Effect	95% CI	p ass	p het ( $I^2$ )	k	n
<b>aspirin versus placebo</b>						
cardiovascular events	RR=0.71	0.57;0.89	0.0030	1.0000 (0.00)	1	2035
cardiovascular death	RR=0.76	0.54;1.07	0.1173	1.0000 (0.00)	1	2035
non vascular death	RR=1.66	0.79;3.51	0.1804	1.0000 (0.00)	1	2035
non fatal MI	RR=0.67	0.45;0.98	0.0412	1.0000 (0.00)	1	2035
non fatal stroke	RR=0.79	0.45;1.39	0.4146	1.0000 (0.00)	1	2035

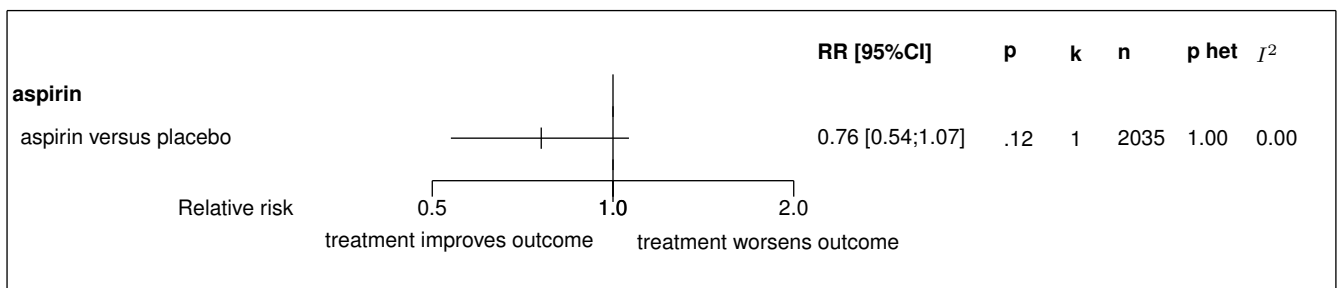
CI: confidence interval; p ass: p-value of association test; p het: p-value of the heterogeneity test; k: number of trials; n: total number of patients

**Figure 2.1:** Forest's plot for cardiovascular events



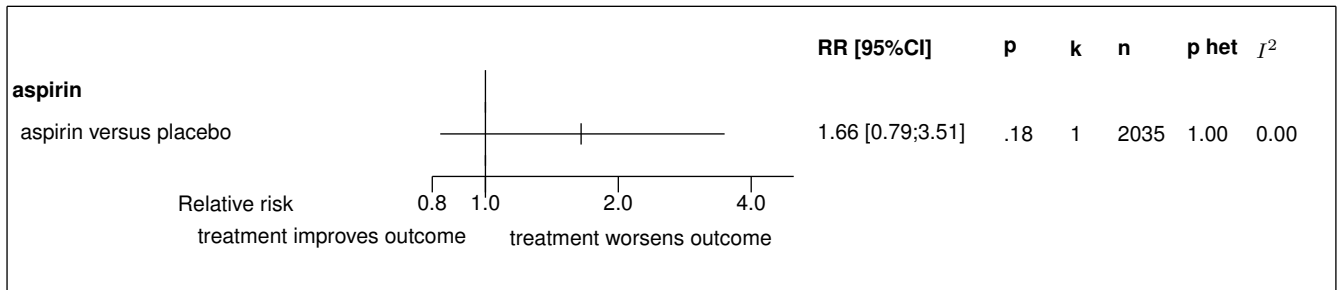
Results obtained with a fixed effect model except in case of heterogeneity where a random model was used  
 RR: relative risk; 95% CI: 95% confidence interval; p: p-value of the association test; k: number of trials; n: total number of patients involving in the pooled trials; p het: p-value of the heterogeneity test;  $I^2$ : random effect model used

**Figure 2.2:** Forest's plot for cardiovascular death



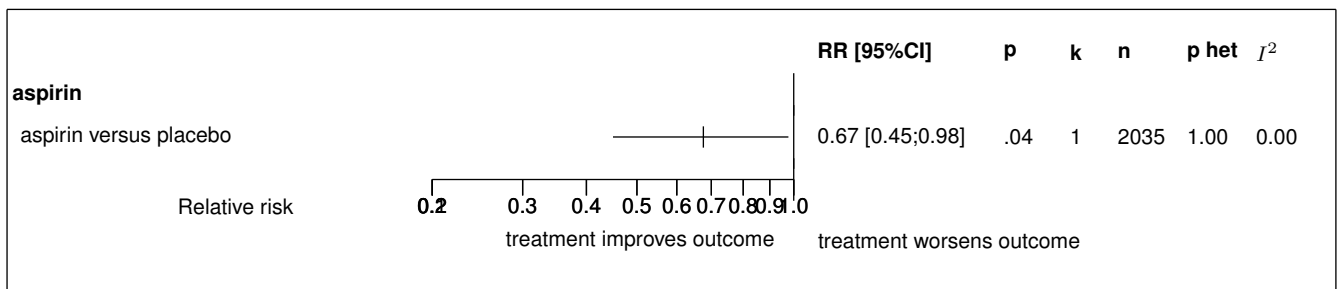
Results obtained with a fixed effect model except in case of heterogeneity where a random model was used  
 RR: relative risk; 95% CI: 95% confidence interval; p: p-value of the association test; k: number of trials; n: total number of patients involving in the pooled trials; p het: p-value of the heterogeneity test;  $I^2$ : random effect model used

**Figure 2.3: Forest's plot for non vascular death**



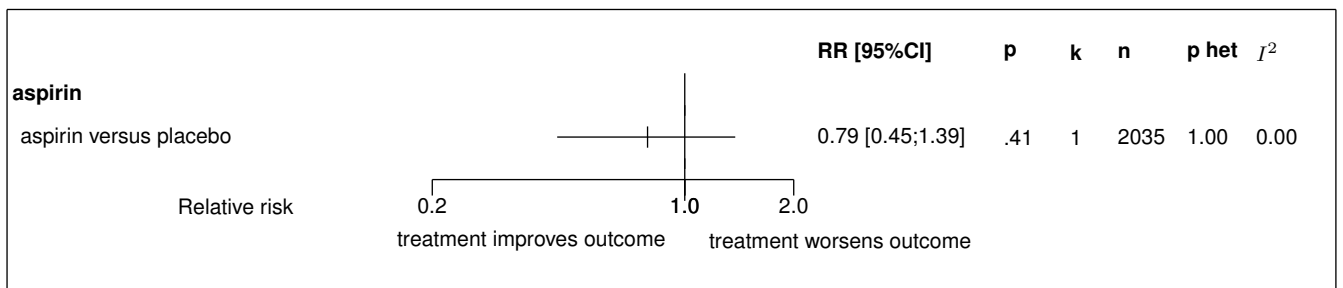
Results obtained with a fixed effect model except in case of heterogeneity where a random model was used  
 RR: relative risk; 95% CI: 95% confidence interval; p: p-value of the association test; k: number of trials; n: total number of patients involving in the pooled trials; p het: p-value of the heterogeneity test; †: random effect model used

**Figure 2.4: Forest's plot for non fatal MI**



Results obtained with a fixed effect model except in case of heterogeneity where a random model was used  
 RR: relative risk; 95% CI: 95% confidence interval; p: p-value of the association test; k: number of trials; n: total number of patients involving in the pooled trials; p het: p-value of the heterogeneity test; †: random effect model used

**Figure 2.5: Forest's plot for non fatal stroke**



Results obtained with a fixed effect model except in case of heterogeneity where a random model was used  
 RR: relative risk; 95% CI: 95% confidence interval; p: p-value of the association test; k: number of trials; n: total number of patients involving in the pooled trials; p het: p-value of the heterogeneity test; †: random effect model used

## 3 Details

### 3.1 Available trials

Only one trial which randomized 2035 patients was identified: it compared aspirin with placebo. This trial included 2035 patients and was published in 1992.

This trial was double blind in design.

It was reported in English language.

Non vascular death data was reported in 1 trials; 1 trials reported data on cardiovascular death; 1 trials reported data on non fatal MI; 1 trials reported data on cardiovascular events; and 1 trials reported data on non fatal stroke.

Following tables 3.1 (page 19), 3.2 (page 19), 3.4 (page 21), and 3.3 (page 19) summarized the main characteristics of the trial including in this systematic review of randomized trials of aspirin.

**Table 3.1:** Treatment description - aspirin - aspirin

Trial	Studied treatment	Control treatment
<b>Aspirin versus placebo</b>		
SAPAT (1992) [1]	aspirin 75 mg daily	placebo
<b>Concomittant treatment:</b> sotalol for control of symptoms		

**Table 3.2:** Descriptions of participants - aspirin - aspirin

Trial	Patients
<b>Aspirin versus placebo</b>	
SAPAT (1992) [1]	Patients with stable chronic angina pectoris

**Table 3.3:** Design and methodological quality of trials - aspirin - aspirin

Trial	Design	Duration	Centre	Primary end-point
<b>Aspirin versus placebo</b>				

continued...

<b>Trial</b>	<b>Design</b>	<b>Duration</b>	<b>Centre</b>	<b>Primary end-point</b>
SAPAT, 1992 [1] n=2035	Parallel groups double blind confirmatory trial at low risk of bias	50 months	Sweden	myocardial in- farction and sud- den death

**Table 3.4:** *Trial characteristics - aspirin - aspirin*

<b>Trial</b>
<b>Aspirin versus placebo</b>
SAPAT, 1992 [1]

## 3.2 Meta-analysis results

The results are detailed in table 3.5 (page 22). This table is followed by the Forest's plot corresponding to each endpoint.

### Aspirin versus placebo

The single study eligible for this comparison provided data on **cardiovascular events**. The analysis detected a statistically significant difference in favor of aspirin in cardiovascular events, with a RR of 0.71 (95% CI 0.57 to 0.89,  $p=0.0030$ ).

The single study eligible for this comparison provided data on **cardiovascular death**. No statistically significant difference between the groups was found in cardiovascular death, with a RR of 0.76 (95% CI 0.54 to 1.07,  $p=0.1173$ ).

The single study eligible for this comparison provided data on **non vascular death**. No statistically significant difference between the groups was found in non vascular death, with a RR of 1.66 (95% CI 0.79 to 3.51,  $p=0.1804$ ).

The single study eligible for this comparison provided data on **non fatal MI**. The analysis detected a statistically significant difference in favor of aspirin in non fatal MI, with a RR of 0.67 (95% CI 0.45 to 0.98,  $p=0.0412$ ).

The single study eligible for this comparison provided data on **non fatal stroke**. No statistically significant difference between the groups was found in non fatal stroke, with a RR of 0.79 (95% CI 0.45 to 1.39,  $p=0.4146$ ).

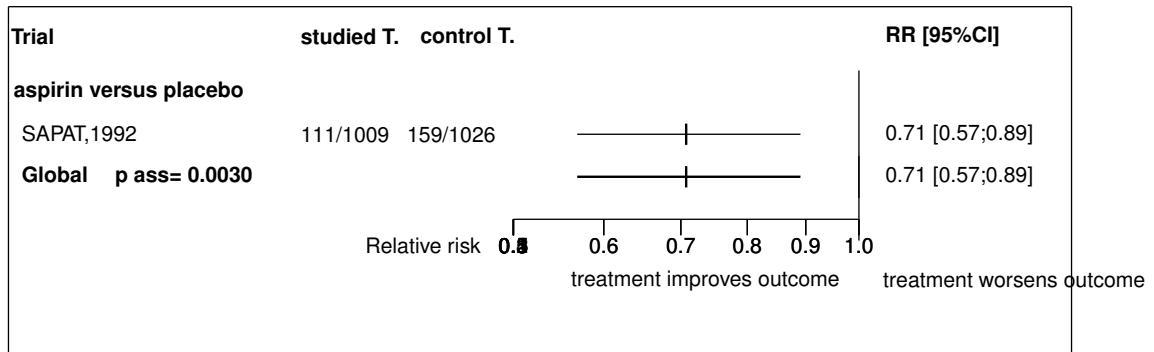
**Table 3.5:** Results details - aspirin - aspirin

Comparison Endpoint	Effect	95% CI	p ass	p het	k	n
<i>aspirin versus placebo</i>						
cardiovascular events	RR=0.71	[0.57;0.89]	0.0030	1.0000 ( $I^2=0.00$ )	1	2035
cardiovascular death	RR=0.76	[0.54;1.07]	0.1173	1.0000 ( $I^2=0.00$ )	1	2035
non vascular death	RR=1.66	[0.79;3.51]	0.1804	1.0000 ( $I^2=0.00$ )	1	2035
non fatal MI	RR=0.67	[0.45;0.98]	0.0412	1.0000 ( $I^2=0.00$ )	1	2035
non fatal stroke	RR=0.79	[0.45;1.39]	0.4146	1.0000 ( $I^2=0.00$ )	1	2035

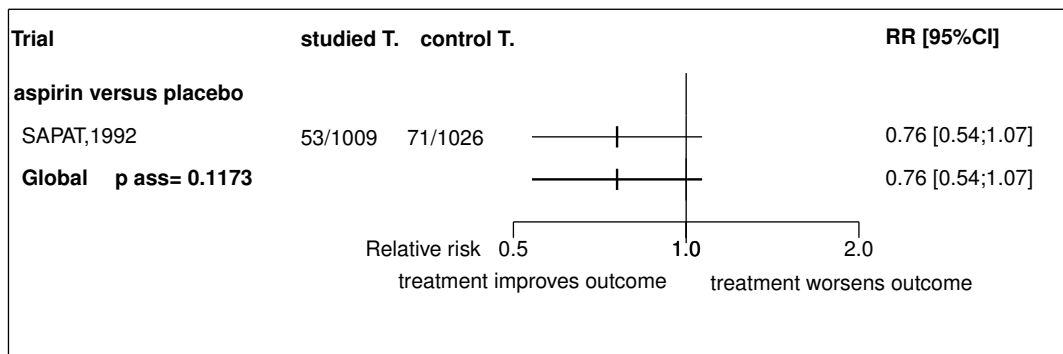
CI: confidence interval; p ass: p-value of association test; p het: p-value of the heterogeneity test; k: number of trials; n: total number of patients; ES: effect size;  $I^2$ : inconsistency degree



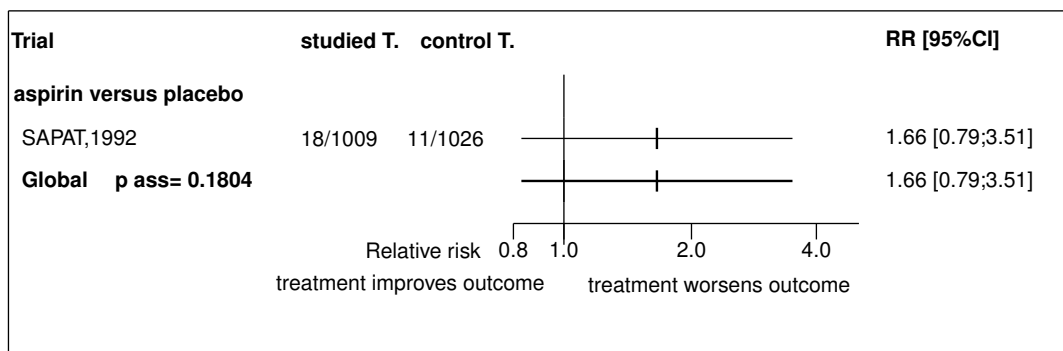
**Figure 3.1:** Forest's plot for cardiovascular events

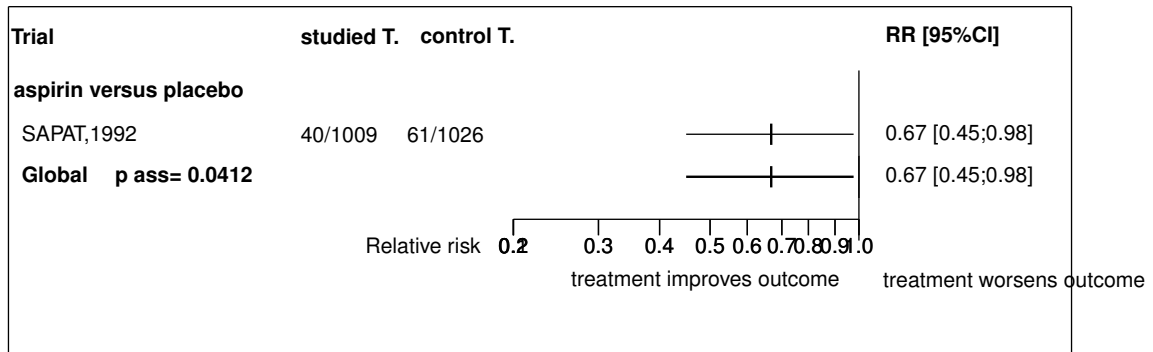
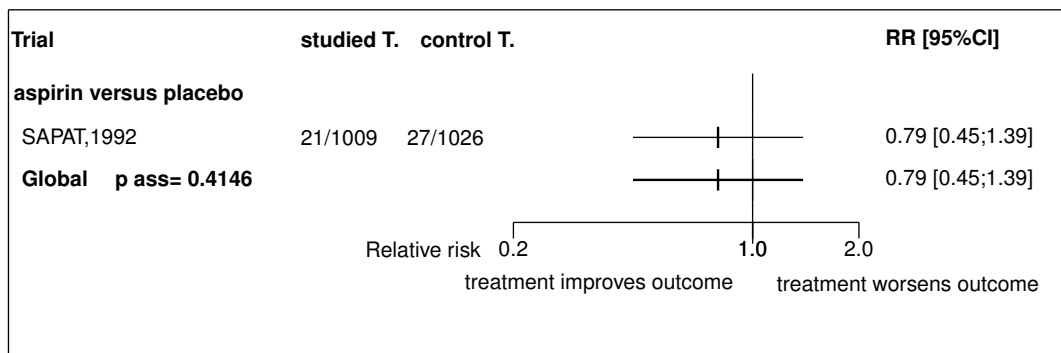


**Figure 3.2:** Forest's plot for cardiovascular death



**Figure 3.3:** Forest's plot for non vascular death



**Figure 3.4: Forest's plot for non fatal MI****Figure 3.5: Forest's plot for non fatal stroke**

## References

- [1] Juul-Möller S, Edvardsson N, Jahnmatz B, Rosn A, Srensen S, Omblus R. Double-blind trial of aspirin in primary prevention of myocardial infarction in patients with stable chronic angina pectoris. The Swedish Angina Pectoris Aspirin Trial (SAPAT) Group. *Lancet* 1992;340:1421-5. [PMID=1360557]

### **3.3 Individual trial summaries**

**Table 3.6:** SAPAT, 1992 - Trial synopsis

Trial details	Patients	Treatments	Outcomes
n=2035 (1009 vs. 1026) <b>Follow-up duration:</b> 50 months <b>Study design:</b> Randomized controlled trial Parallel groups Double blind Confirmatory trial at low risk of bias Sweden	Patients with stable chronic angina pectoris	<b>Studied treatment:</b> aspirin 75 mg daily <b>Control treatment:</b> placebo <b>Concomittant treat.:</b> sotalol for control of symptoms	Cardiovascular events RR=0.71 [0.57;0.89] Cardiovascular death RR=0.76 [0.54;1.07] Non vascular death RR=1.66 [0.79;3.51] Non fatal MI RR=0.67 [0.45;0.98] Non fatal stroke RR=0.79 [0.45;1.39]
<b>Reference</b>	Juul-Möller S, Edvardsson N, Jahnmatz B, Rosn A, Srensen S, Omblus R. Double-blind trial of aspirin in primary prevention of myocardial infarction in patients with stable chronic angina pectoris. The Swedish Angina Pectoris Aspirin Trial (SAPAT) Group. <i>Lancet</i> 1992;340:1421-5 [PMID=1360557]		

## 4 Global meta-analysis: all aspirin

### 4.1 Global meta-analysis: all aspirin versus placebo

**Table 4.1:** All aspirin versus placebo

Endpoint	Effect	95% CI	p ass	p het ( $I^2$ )	k	n
cardiovascular events	RR=0.71	0.57;0.89	0.0030	1.0000 (0.00)	1	2035
cardiovascular death	RR=0.76	0.54;1.07	0.1173	1.0000 (0.00)	1	2035
non vascular death	RR=1.66	0.79;3.51	0.1804	1.0000 (0.00)	1	2035
non fatal MI	RR=0.67	0.45;0.98	0.0412	1.0000 (0.00)	1	2035
non fatal stroke	RR=0.79	0.45;1.39	0.4146	1.0000 (0.00)	1	2035

CI: confidence interval; p ass: p-value of association test; p het: p-value of the heterogeneity test; k: number of trials; n: total number of patients; ES: effect size;  $I^2$ : inconsistency degree

## 5 Ongoing studies of aspirin

No ongoing trial was identified.

## 6 Excluded studies for aspirin

No trial was excluded.

## References



**Part II**

**Clopidogrel**





## 7 Overview of clopidogrel

### 7.1 Included trials

A total of 2 randomized comparisons which enrolled 20186 patients were identified. In all, 2 randomized comparisons concerned clopidogrel.

The detailed descriptions of trials and meta-analysis results is given in section 8 (page 36) for clopidogrel.

The average study size was 10093 patients (range 1001 to 19185). The first study was published in 1996, and the last study was published in 1996.

A total of 1 trials were double blind and 1 were open-label in design. All included studies were reported in English language. We did not found any unpublished trial.

The table 7.1 (page 32) summarizes the main characteristics of all the included trials. More detailed description is given in the following section.

### 7.2 Summary of meta-analysis results

The meta-analysis of the available trials about clopidogrel provide the results listed in tables 7.2 to 7.2 (page 33) and in the following graphs.

#### 7.2.1 Clopidogrel

**Clopidogrel** was superior to **aspirin** in terms of cardiovascular events (RR=0.92, 95% CI 0.85 to 1.00, p=0.0393, 2 trials) and non fatal MI (RR=0.84, 95% CI 0.70 to 1.00, p=0.0440, 1 trial). However, no significant difference was found on cardiovascular death (RR=0.92, 95% CI 0.80 to 1.07, p=0.2818, 1 trial), all cause death (RR=0.98, 95% CI 0.87 to 1.10, p=0.7184, 1 trial), non fatal stroke (RR=0.94, 95% CI 0.82 to 1.07, p=0.3657, 1 trial) and major bleeding (RR=0.88, 95% CI 0.70 to 1.12, p=0.3019, 1 trial).

Table 7.1: Main study characteristics - clopidogrel

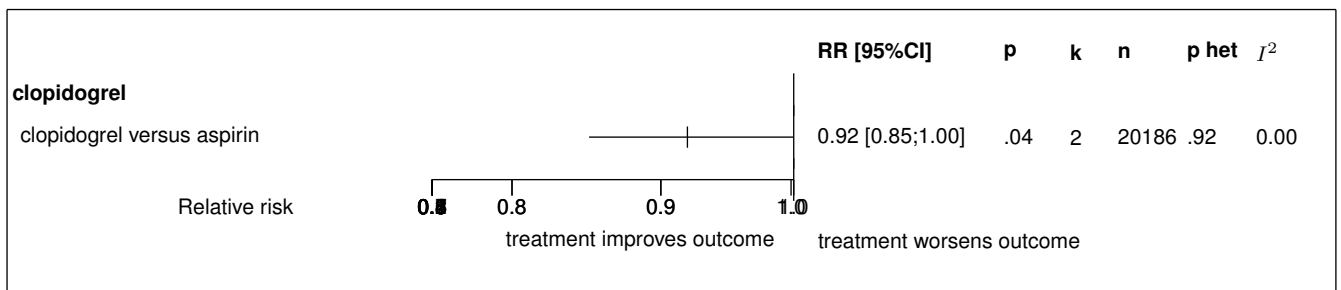
Trial	Patients	Treatments	Trial design and method
<b>Clopidogrel</b>			
<b>Clopidogrel versus aspirin</b>			
ASCET, n = 498 vs. 503	patients with documented coronary heart disease and treated with aspirin	clopidogrel 75 mg once daily for two years <b>versus</b> aspirin 160 mg once daily for two years	open parallel groups Primary endpoint: all-cause death, nonfatal MI, ischemic stroke, and unstable angina
CAPRIE, 1996 [1] n = 9599 vs. 9586	patients with atherosclerotic vascular disease manifested as either recent ischaemic stroke, recent myocardial infarction, or symptomatic peripheral arterial disease	clopidogrel 75 mg once daily <b>versus</b> aspirin 325 mg once daily	double blind parallel groups Primary endpoint: ischaemic stroke, myocardial infarction, or vascular death 384 centres, 16 countries

**Table 7.2:** Summary of all results for clopidogrel

Endpoint	Effect	95% CI	p ass	p het ( $I^2$ )	k	n
<b><i>clopidogrel versus aspirin</i></b>						
cardiovascular events	RR=0.92	0.85;1.00	0.0393	0.9230 (0.00)	2	20186
cardiovascular death	RR=0.92	0.80;1.07	0.2818	1.0000 (0.00)	1	19185
non fatal MI	RR=0.84	0.70;1.00	0.0440	1.0000 (0.00)	1	19185
all cause death	RR=0.98	0.87;1.10	0.7184	1.0000 (0.00)	1	19185
non fatal stroke	RR=0.94	0.82;1.07	0.3657	1.0000 (0.00)	1	19185
major bleeding	RR=0.88	0.70;1.12	0.3019	1.0000 (0.00)	1	19185

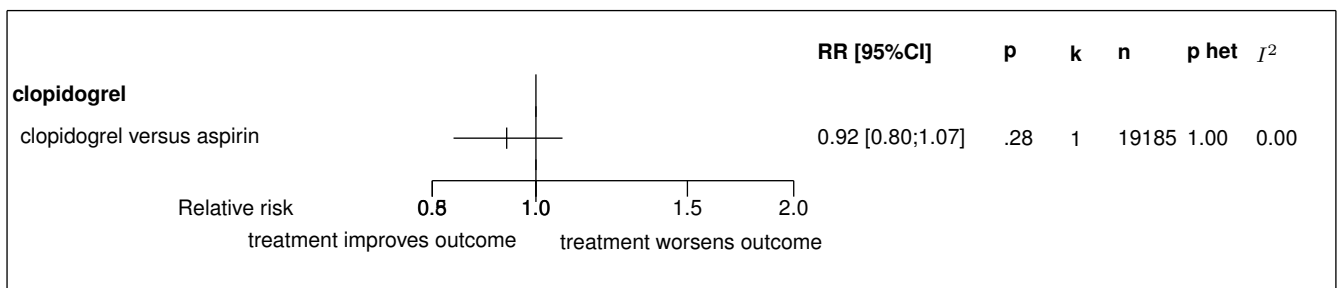
CI: confidence interval; p ass: p-value of association test; p het: p-value of the heterogeneity test; k: number of trials; n: total number of patients

**Figure 7.1:** Forest's plot for cardiovascular events



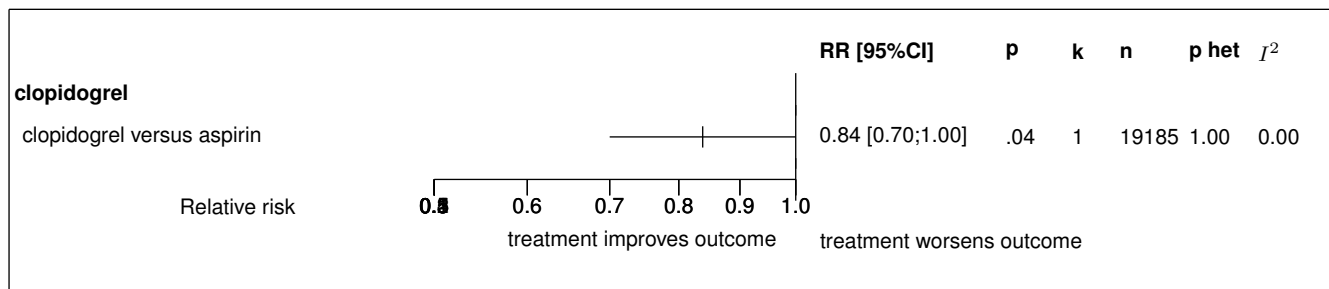
Results obtained with a fixed effect model except in case of heterogeneity where a random model was used  
 RR: relative risk; 95% CI: 95% confidence interval; p: p-value of the association test; k: number of trials; n: total number of patients involving in the pooled trials; p het: p-value of the heterogeneity test;  $I^2$ : random effect model used

**Figure 7.2:** Forest's plot for cardiovascular death



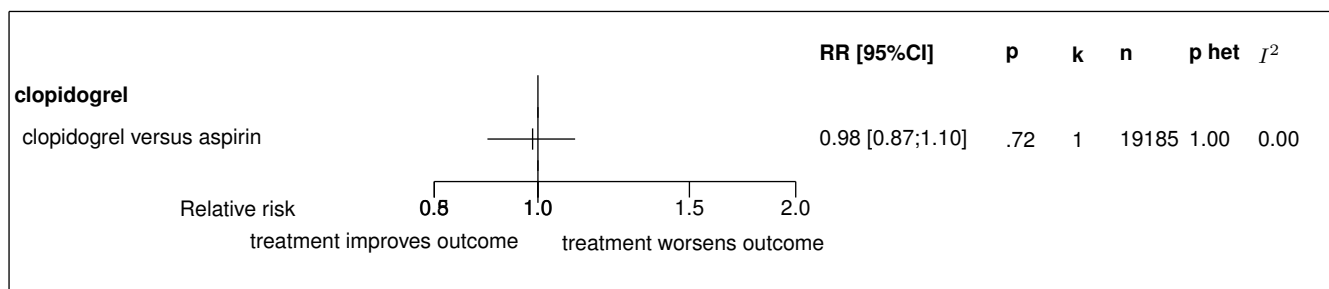
Results obtained with a fixed effect model except in case of heterogeneity where a random model was used  
 RR: relative risk; 95% CI: 95% confidence interval; p: p-value of the association test; k: number of trials; n: total number of patients involving in the pooled trials; p het: p-value of the heterogeneity test;  $I^2$ : random effect model used

**Figure 7.3: Forest's plot for non fatal MI**



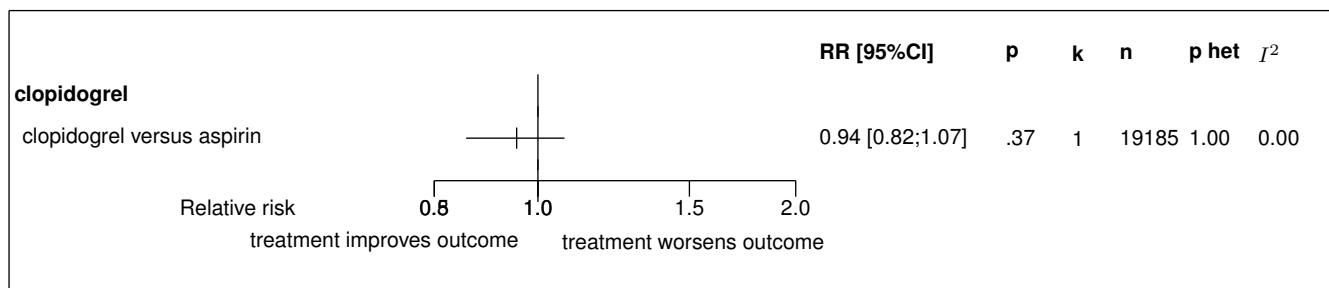
Results obtained with a fixed effect model except in case of heterogeneity where a random model was used  
 RR: relative risk; 95% CI: 95% confidence interval; p: p-value of the association test; k: number of trials; n: total number of patients involving in the pooled trials; p het: p-value of the heterogeneity test; I<sup>2</sup>: random effect model used

**Figure 7.4: Forest's plot for all cause death**



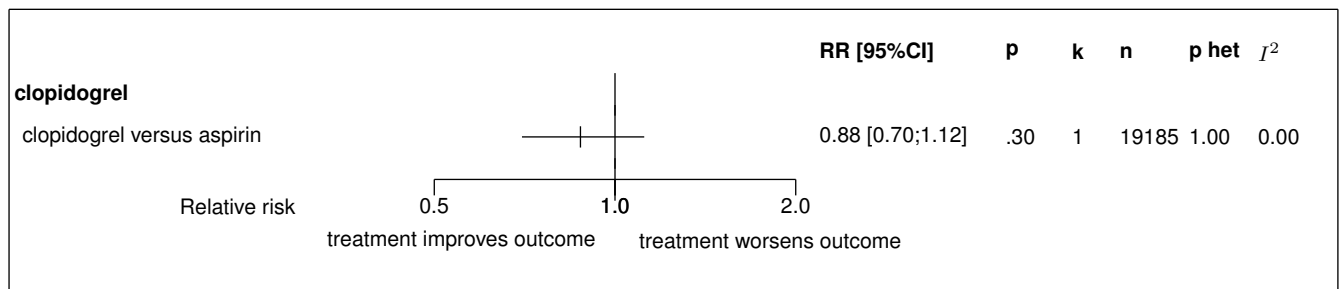
Results obtained with a fixed effect model except in case of heterogeneity where a random model was used  
 RR: relative risk; 95% CI: 95% confidence interval; p: p-value of the association test; k: number of trials; n: total number of patients involving in the pooled trials; p het: p-value of the heterogeneity test; I<sup>2</sup>: random effect model used

**Figure 7.5: Forest's plot for non fatal stroke**



Results obtained with a fixed effect model except in case of heterogeneity where a random model was used  
 RR: relative risk; 95% CI: 95% confidence interval; p: p-value of the association test; k: number of trials; n: total number of patients involving in the pooled trials; p het: p-value of the heterogeneity test; I<sup>2</sup>: random effect model used

**Figure 7.6:** Forest's plot for major bleeding



Results obtained with a fixed effect model except in case of heterogeneity where a random model was used  
 RR: relative risk; 95% CI: 95% confidence interval; p: p-value of the association test; k: number of trials; n: total number of patients involving in the pooled trials; p het: p-value of the heterogeneity test; I<sup>2</sup>: random effect model used

## 8 Details

### 8.1 Available trials

A total of 2 RCTs which randomized 20186 patients were identified: all compared clopidogrel with aspirin.

The average study size was 10093 patients (range 1001 to 19185). The first study was published in 1996, and the last study was published in 1996.

A total of 1 trials were double blind and 1 were open-label in design. All included studies were reported in English language. We did not found any unpublished trial.

Cardiovascular events data was reported in 2 trials; 1 trials reported data on major bleeding; 1 trials reported data on non fatal MI; 1 trials reported data on all cause death; 1 trials reported data on non fatal stroke; and 1 trials reported data on cardiovascular death.

Following tables 8.1 (page 36), 8.2 (page 36), 8.4 (page 38), and 8.3 (page 37) summarized the main characteristics of the trials including in this systematic review of randomized trials of clopidogrel.

**Table 8.1:** Treatment description - clopidogrel - clopidogrel

<b>Trial</b>	<b>Studied treatment</b>	<b>Control treatment</b>
<b>Clopidogrel versus aspirin</b>		
ASCET ()	clopidogrel 75 mg once daily for two years	Aspirin 160 mg once daily for two years
CAPRIE (1996) [1]	clopidogrel 75 mg once daily	aspirin 325 mg once daily

**Table 8.2:** Descriptions of participants - clopidogrel - clopidogrel

<b>Trial</b>	<b>Patients</b>
<b>Clopidogrel versus aspirin</b>	
ASCET () <sup>a</sup>	Patients with documented coronary heart disease and treated with aspirin

continued...

Trial	Patients
CAPRIE (1996) [1]	<p>Patients with atherosclerotic vascular disease manifested as either recent ischaemic stroke, recent myocardial infarction, or symptomatic peripheral arterial disease</p> <p><b>Inclusion criteria:</b> ischaemic stroke (including retinal origin and lacunar infarction): Focal neurological deficit likely to be of atherothrombotic; Onset <math>\geq 1</math> week and <math>\leq 6</math> months before randomisation; Neurological signs persisting <math>\geq 1</math> week from stroke onset, CT or MRI ruling out haemorrhage or non-relevant disease-Myocardial infarction: Onset <math>\leq 35</math> days before randomisation; Two of: Characteristic ischaemic pain for <math>\geq 20</math> min, Elevation of CK, CK-MB, LDH, or AST to 2x upper limit of laboratory normal with no other explanation, Development of new <math>\geq 40</math> Q waves in at least two adjacent ECG leads or new dominant R wave in V1 (R <math>\geq 1</math> mm <math>\geq S</math> in V1)Atherosclerotic peripheral: Intermittent claudication (WHO: leg pain on walking, arterial disease disappearing in <math>&lt; 10</math> min on standing) of presumed atherosclerotic origin; and ankle/arm systolic BP ratio <math>\leq 0.85</math> in either leg at rest (two assessments on separate days); or history of intermittent claudication with previous leg amputation, reconstructive surgery, or angioplasty with no persisting complications from intervention</p> <p><b>Exclusion criteria:</b> age <math>&lt; 21</math> years; Severe cerebral deficit likely to lead to patient being bedridden or demented; Carotid endarterectomy after qualifying stroke; Qualifying stroke induced by carotid endarterectomy or angiography; Patient unlikely to be discharged alive after qualifying event; Severe co-morbidity likely to limit patients life expectancy to less than 3 y; Uncontrolled hypertension; Scheduled for major surgery; Contraindications to study drugs: Severe renal or hepatic insufficiency, Haemostatic disorder or systemic bleeding, History of haemostatic disorder or systemic bleeding, History of thrombocytopenia or neutropenia, History of drug-induced haematologic or hepatic abnormalities, Known to have abnormal WBC, differential, or platelet count, anticipated requirement for long-term anticoagulants, non-study antiplatelet drugs or NSAIDs affecting platelet function, History of aspirin sensitivity</p>

a) platelet function was also assessed at randomization with the PFA100 method and platelet aggregometry

**Table 8.3:** Design and methodological quality of trials - clopidogrel - clopidogrel

Trial	Design	Duration	Centre	Primary endpoint
<b>Clopidogrel versus aspirin</b>				
ASCET, n=1001	Parallel groups open confirmatory trial at risk of bias			all-cause death, nonfatal MI, ischemic stroke, and unstable angina
CAPRIE, 1996 [1] n=19185	Parallel groups Double blind confirmatory trial at low risk of bias	mean 1.91 years inclusion period: Mar 1992 - Feb 1995	16 countries 384 centres	ischaemic stroke, myocardial infarction, or vascular death

**Table 8.4:** *Trial characteristics - clopidogrel - clopidogrel - clopidogrel*

Trial
<b>Clopidogrel versus aspirin</b>
ASCET,
CAPRIE, 1996
[1]



## 8.2 Meta-analysis results

The results are detailed in table 8.5 (page 39). This table is followed by the Forest's plot corresponding to each endpoint.

### Clopidogrel versus aspirin

All the 2 studies had extractable data about the number of participants with **cardiovascular events**. The analysis detected a statistically significant difference in favor of clopidogrel in cardiovascular events, with a RR of 0.92 (95% CI 0.85 to 1.00,  $p=0.0393$ ). No heterogeneity was detected ( $p = 0.9230$ ,  $I^2 = 0.00\%$ ).

Only one of the 2 studies eligible for this comparison provided data on **cardiovascular death**. No statistically significant difference between the groups was found in cardiovascular death, with a RR of 0.92 (95% CI 0.80 to 1.07,  $p=0.2818$ ).

Only one of the 2 studies eligible for this comparison provided data on **non fatal MI**. The analysis detected a statistically significant difference in favor of clopidogrel in non fatal MI, with a RR of 0.84 (95% CI 0.70 to 1.00,  $p=0.0440$ ).

Only one of the 2 studies eligible for this comparison provided data on **all cause death**. No statistically significant difference between the groups was found in all cause death, with a RR of 0.98 (95% CI 0.87 to 1.10,  $p=0.7184$ ).

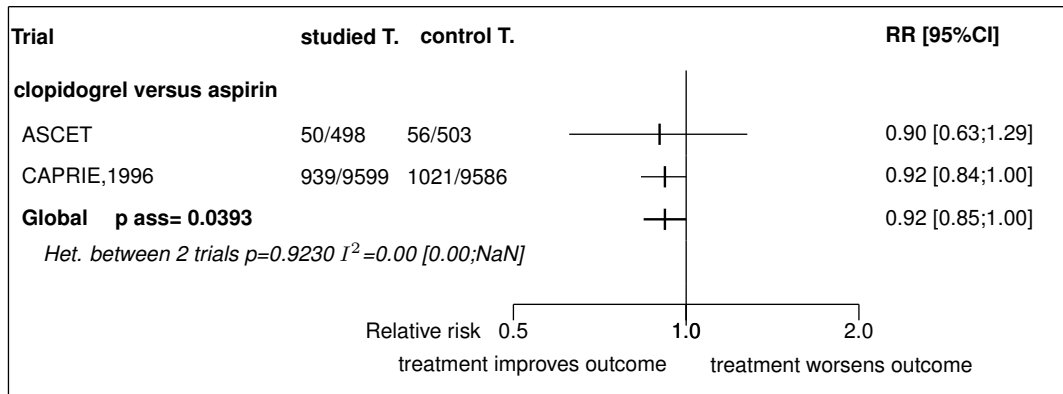
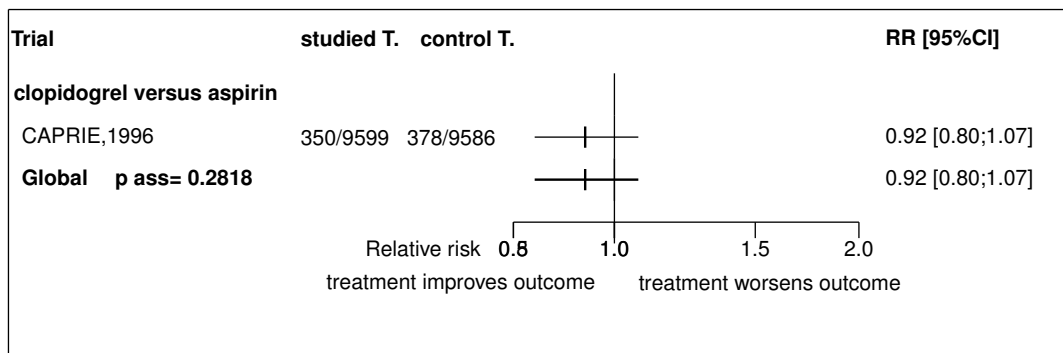
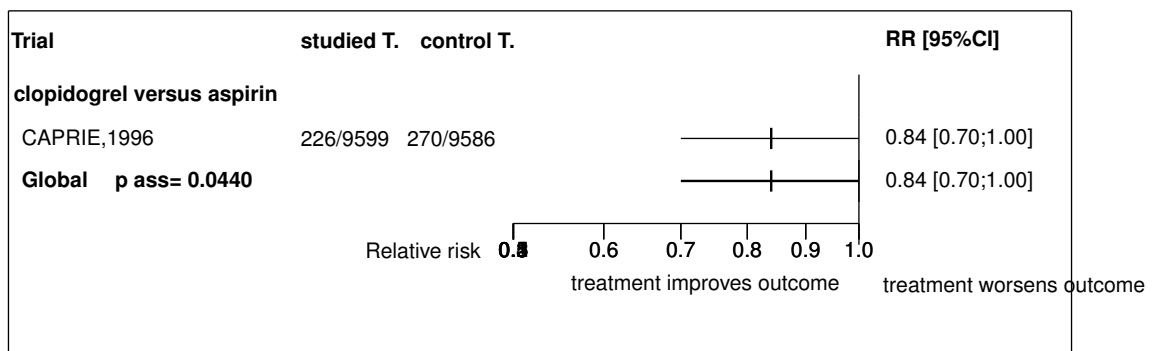
Only one of the 2 studies eligible for this comparison provided data on **non fatal stroke**. No statistically significant difference between the groups was found in non fatal stroke, with a RR of 0.94 (95% CI 0.82 to 1.07,  $p=0.3657$ ).

Only one of the 2 studies eligible for this comparison provided data on **major bleeding**. No statistically significant difference between the groups was found in major bleeding, with a RR of 0.88 (95% CI 0.70 to 1.12,  $p=0.3019$ ).

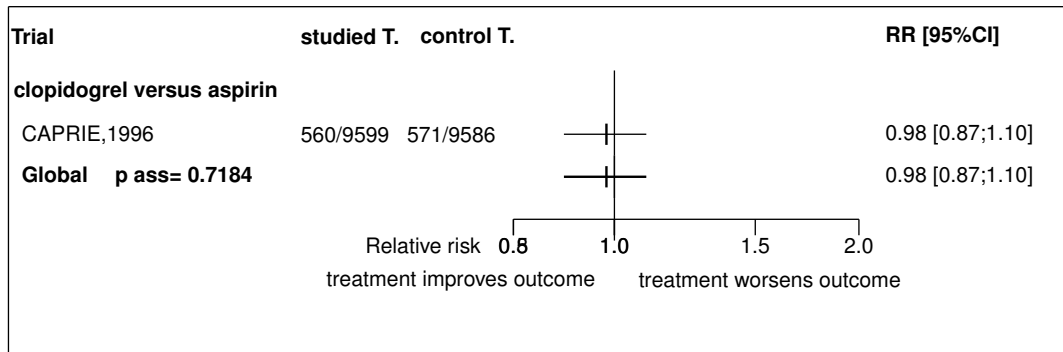
**Table 8.5: Results details - clopidogrel - clopidogrel**

Comparison Endpoint	Effect	95% CI	p ass	p het	k	n
<i>clopidogrel versus aspirin</i>						
cardiovascular events	RR=0.92	[0.85;1.00]	0.0393	0.9230 ( $I^2=0.00$ )	2	20186
cardiovascular death	RR=0.92	[0.80;1.07]	0.2818	1.0000 ( $I^2=0.00$ )	1	19185
non fatal MI	RR=0.84	[0.70;1.00]	0.0440	1.0000 ( $I^2=0.00$ )	1	19185
all cause death	RR=0.98	[0.87;1.10]	0.7184	1.0000 ( $I^2=0.00$ )	1	19185
non fatal stroke	RR=0.94	[0.82;1.07]	0.3657	1.0000 ( $I^2=0.00$ )	1	19185
major bleeding	RR=0.88	[0.70;1.12]	0.3019	1.0000 ( $I^2=0.00$ )	1	19185

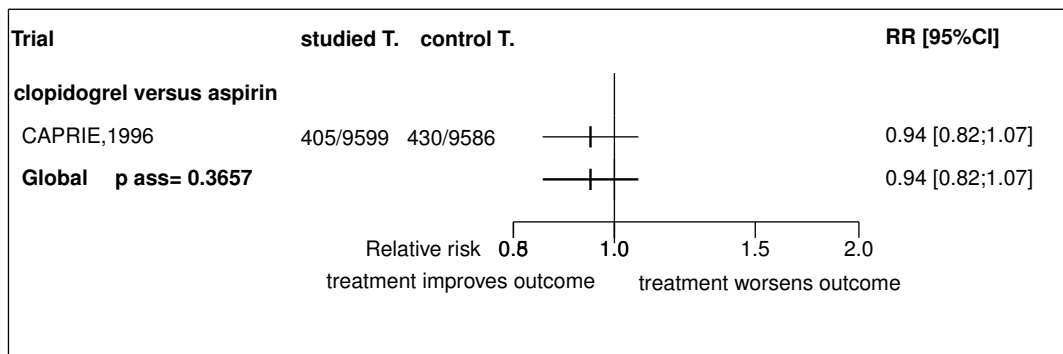
CI: confidence interval; p ass: p-value of association test; p het: p-value of the heterogeneity test; k: number of trials; n: total number of patients; ES: effect size;  $I^2$ : inconsistency degree

**Figure 8.1:** Forest's plot for cardiovascular events**Figure 8.2:** Forest's plot for cardiovascular death**Figure 8.3:** Forest's plot for non fatal MI

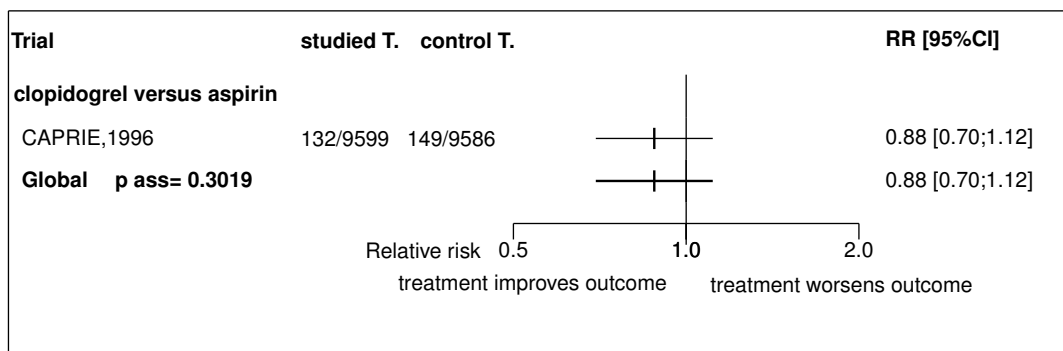
**Figure 8.4:** Forest's plot for all cause death



**Figure 8.5:** Forest's plot for non fatal stroke



**Figure 8.6:** Forest's plot for major bleeding



## References

- [1] . A randomised, blinded, trial of clopidogrel versus aspirin in patients at risk of ischaemic events (CAPRIE). CAPRIE Steering Committee. Lancet 1996 Nov 16;348:1329-39. [PMID=8918275]

### **8.3 Individual trial summaries**

**Table 8.6:** ASCET, - Trial synopsis

Trial details	Patients	Treatments	Outcomes
<p>n=1001 (498 vs. 503)</p> <p><b>Follow-up duration:</b></p> <p><b>Study design:</b> Randomized controlled trial Parallel groups Open</p> <p>Confirmatory trial at risk of bias</p>	<p>Patients with documented coronary heart disease and treated with aspirin</p> <p><b>note:</b> platelet function was also assessed at randomization with the PFA100 method and platelet aggregometry</p>	<p><b>Studied treatment:</b> clopidogrel 75 mg once daily for two years</p> <p><b>Control treatment:</b> Aspirin 160 mg once daily for two years</p>	<p>Cardiovascular events RR=0.90 [0.63;1.29] (all-cause death, nonfatal MI, ischemic stroke, and unstable angina)</p>
<b>Reference</b>			

**Table 8.7: CAPRIE, 1996 - Trial synopsis**

Trial details	Patients	Treatments	Outcomes
<p>n=19185 (9599 vs. 9586)</p> <p><b>Follow-up duration:</b> mean 1.91 years</p> <p><b>Study design:</b> Randomized controlled trial</p> <p>Parallel groups</p> <p>Double blind</p> <p>Confirmatory trial at low risk of bias</p> <p>16 countries, 384 centres</p> <p><b>Inclusion period:</b> Mar 1992 - Feb 1995</p>	<p>Patients with atherosclerotic vascular disease manifested as either recent ischaemic stroke, recent myocardial infarction, or symptomatic peripheral arterial disease</p> <p><b>Inclusion criteria:</b> Ischaemic stroke (including retinal origin and lacunar infarction): Focal neurological deficit likely to be of atherothrombotic; Onset <math>&gt;=1</math> week and <math>&lt;=6</math> months before randomisation; Neurological signs persisting <math>&gt;=1</math> week from stroke onset, CT or MRI ruling out haemorrhage or non-relevant disease; Myocardial infarction: Onset <math>&lt;=35</math> days before randomisation; Two of: Characteristic ischaemic pain for <math>&gt;=20</math> min, Elevation of CK, CK-MB, LDH, or AST to 2x upper limit of laboratory normal with no other explanation, Development of new</p>	<p><b>Studied treatment:</b> clopidogrel 75 mg once daily</p> <p><b>Control treatment:</b> aspirin 325 mg once daily</p>	<p>Cardiovascular events RR=0.92 [0.84;1.00]</p> <p>Cardiovascular death RR=0.92 [0.80;1.07] (vascular death)</p> <p>Non fatal MI RR=0.84 [0.70;1.00]</p> <p>All cause death RR=0.98 [0.87;1.10]</p> <p>Non fatal stroke RR=0.94 [0.82;1.07]</p> <p>Major bleeding RR=0.88 [0.70;1.12]</p>

continued...

trial details	Patients	Treatments	Outcomes
<b>Reference</b>	. A randomised, blinded, trial of clopidogrel versus aspirin in patients at risk of ischaemic events (CAPRIE). CAPRIE Steering Committee. Lancet 1996 Nov 16;348:1329-39 [PMID=8918275]		



## 9 Global meta-analysis: all clopidogrel

### 9.1 Global meta-analysis: all clopidogrel versus aspirin

**Table 9.1:** All clopidogrel versus aspirin

Endpoint	Effect	95% CI	p ass	p het ( $I^2$ )	k	n
cardiovascular events	RR=0.92	0.85;1.00	0.0393	0.9230 (0.00)	2	20186
cardiovascular death	RR=0.92	0.80;1.07	0.2818	1.0000 (0.00)	1	19185
non fatal MI	RR=0.84	0.70;1.00	0.0440	1.0000 (0.00)	1	19185
all cause death	RR=0.98	0.87;1.10	0.7184	1.0000 (0.00)	1	19185
non fatal stroke	RR=0.94	0.82;1.07	0.3657	1.0000 (0.00)	1	19185
major bleeding	RR=0.88	0.70;1.12	0.3019	1.0000 (0.00)	1	19185

CI: confidence interval; p ass: p-value of association test; p het: p-value of the heterogeneity test; k: number of trials; n: total number of patients; ES: effect size;  $I^2$ : inconsistency degree

## 10 Ongoing studies of clopidogrel

No ongoing trial was identified.

## 11 Excluded studies for clopidogrel

No trial was excluded.

## References



## **Part III**

# **Dipyridamol**



## 12 Overview of dipyridamol

### 12.1 Included trials

A total of 10 randomized comparisons which enrolled 401 patients were identified. In all, 10 randomized comparisons concerned dipyridamol.

The detailed descriptions of trials and meta-analysis results is given in section 13 (page 56) for dipyridamol.

The average study size was 40 patients (range 26 to 60). The first study was published in 1960, and the last study was published in 1970.

All trials were double blind in design. All included studies were reported in English language. We did not found any unpublished trial.

The table 12.1 (page 52) summarizes the main characteristics of all the included trials. More detailed description is given in the following section.

### 12.2 Summary of meta-analysis results

The meta-analysis of the available trials about dipyridamol provide the results listed in tables 12.2 to 12.2 (page 54) and in the following graphs.

#### 12.2.1 Dipyridamol

No significant difference was found between **dipyridamol** and **control** in terms of cardiovascular events (RR=1.28, 95% CI 0.43 to 3.83, p=0.6557, 3 trials), cardiovascular death (RR=1.61, 95% CI 0.22 to 12.11, p=0.6411, 3 trials), non vascular death (RR=0.98, 95% CI 0.10 to 9.12, p=0.9825, 3 trials), non fatal MI (RR=0.79, 95% CI 0.23 to 2.77, p=0.7128, 3 trials) and non fatal stroke (RR=1.29, 95% CI 0.15 to 10.73, p=0.8144, 3 trials).

Data were insufficient to compare **dipyridamol** to **placebo**. There were 7 eligible trials but none provided sufficient information about the endpoints considered by this meta-analysis.

Table 12.1: Main study characteristics - dipyridamol

Trial	Patients	Treatments	Trial design and method
<b>Dipyridamol</b>			
<b>Dipyridamol versus control</b>			
Atlanta (Sbar), 1967 [1] n = 30 vs. 30	patients with angina pectoris	dipyridamole 150mg daily <b>versus</b> placebo	double-blind parallel groups Primary endpoint: not defined
Wirecki, 1967 [2] n = 28 vs. 28	patients with angina pectoris	dipyridamole 150mg daily <b>versus</b> placebo	double blind parallel groups Primary endpoint: not defined
Becker, 1967 [3] n = 14 vs. 13		dipyridamole 225mg daily <b>versus</b> placebo	double-blind parallel groups Primary endpoint: not defined
<b>Dipyridamol versus placebo</b>			
Kinsella, 1962 [4] n = 13 vs. 13		dipyridamole 37.5 mg and 100mg daily <b>versus</b> placebo	double-blind parallel groups Primary endpoint: not defined
Leiberman, 1964 [5] n = 19 vs. 19		dipyridamole 100mg daily <b>versus</b> placebo	double blind parallel groups Primary endpoint: not defined
Zion, 1961 [6] n = 14 vs. 14	patients with angina pectoris	dipyridamole 37.5mg <b>versus</b> placebo	double-blind cross-over Primary endpoint: not defined
Dewar, 1961 [7] n = 17 vs. 17	patients with angina pectoris	dipyridamole 100mg daily <b>versus</b> placebo	double-blind parallel groups Primary endpoint: not defined
Neumann, 1964 [8] n = 20 vs. 16	elderly with precordial pain	dipyridamole 150mg daily <b>versus</b> placebo	double-blind parallel groups Primary endpoint: not defined

continued...

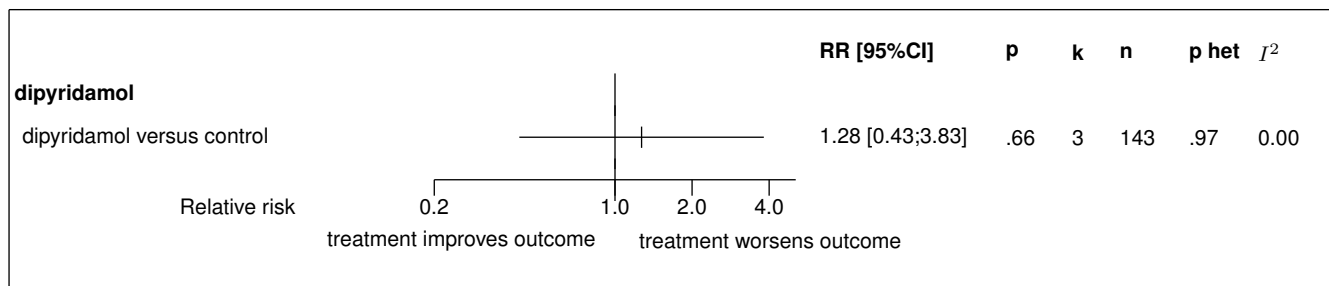
<b>Trial</b>	<b>Patients</b>	<b>Treatments</b>	<b>Trial design and method</b>
Foulds, 1960 [9] n = 24 vs. 24	patients with angina pectoris	dipyridamole 200mg daily <b>versus</b> placebo	double-blind parallel groups Primary endpoint: not defined
Igloe, 1970 [10] n = 26 vs. 22	patients with angina pectoris	dipyridamole 200mg daily <b>versus</b> placebo	double blind parallel groups Primary endpoint: not defined

**Table 12.2:** Summary of all results for dipyridamol

Endpoint	Effect	95% CI	p ass	p het ( $I^2$ )	k	n
<b>dipyridamol versus control</b>						
cardiovascular events	RR=1.28	0.43;3.83	0.6557	0.9678 (0.00)	3	143
cardiovascular death	RR=1.61	0.22;12.11	0.6411	0.9604 (0.00)	3	143
non vascular death	RR=0.98	0.10;9.12	0.9825	0.9995 (0.00)	3	143
non fatal MI	RR=0.79	0.23;2.77	0.7128	0.9870 (0.00)	3	143
non fatal stroke	RR=1.29	0.15;10.73	0.8144	0.9464 (0.00)	3	143
<b>dipyridamol versus placebo</b>						
No data were presented in the trial identified						

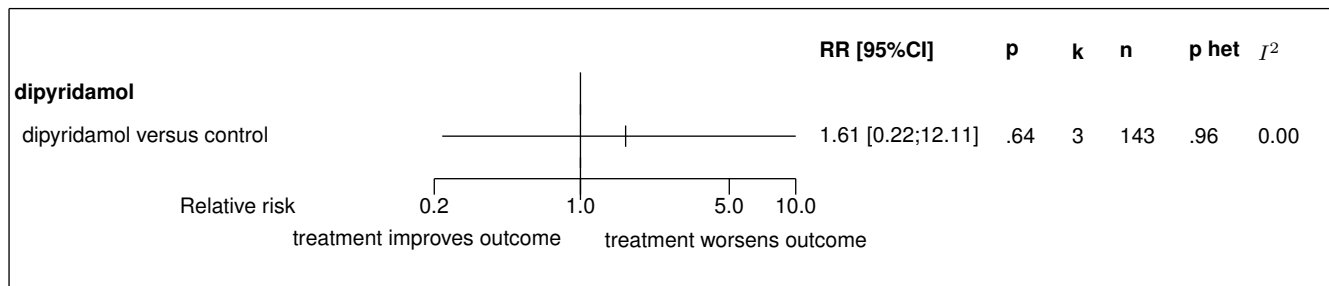
CI: confidence interval; p ass: p-value of association test; p het: p-value of the heterogeneity test; k: number of trials; n: total number of patients

**Figure 12.1:** Forest's plot for cardiovascular events



Results obtained with a fixed effect model except in case of heterogeneity where a random model was used  
 RR: relative risk; 95% CI: 95% confidence interval; p: p-value of the association test; k: number of trials; n: total number of patients involving in the pooled trials; p het: p-value of the heterogeneity test;  $I^2$ : random effect model used

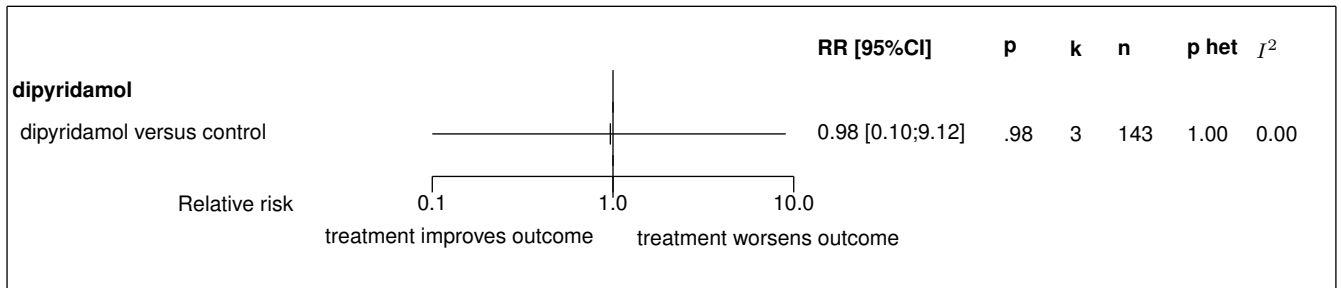
**Figure 12.2:** Forest's plot for cardiovascular death



Results obtained with a fixed effect model except in case of heterogeneity where a random model was used  
 RR: relative risk; 95% CI: 95% confidence interval; p: p-value of the association test; k: number of trials; n: total number of patients involving in the pooled trials; p het: p-value of the heterogeneity test;  $I^2$ : random effect model used

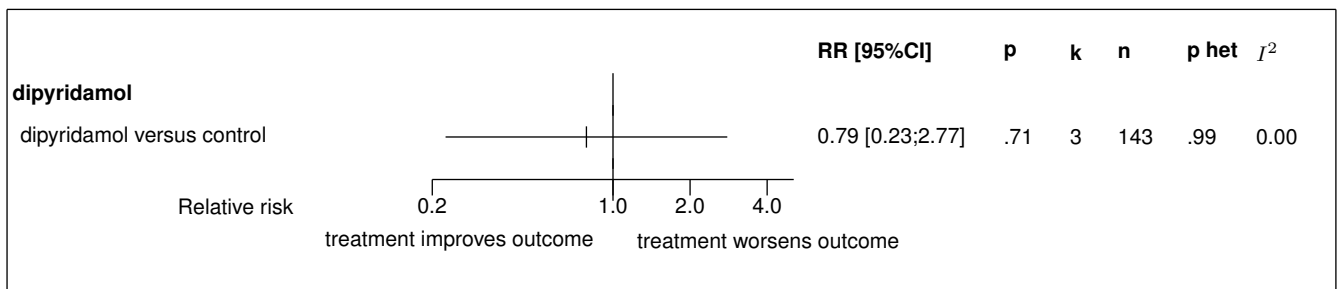


**Figure 12.3:** Forest's plot for non vascular death



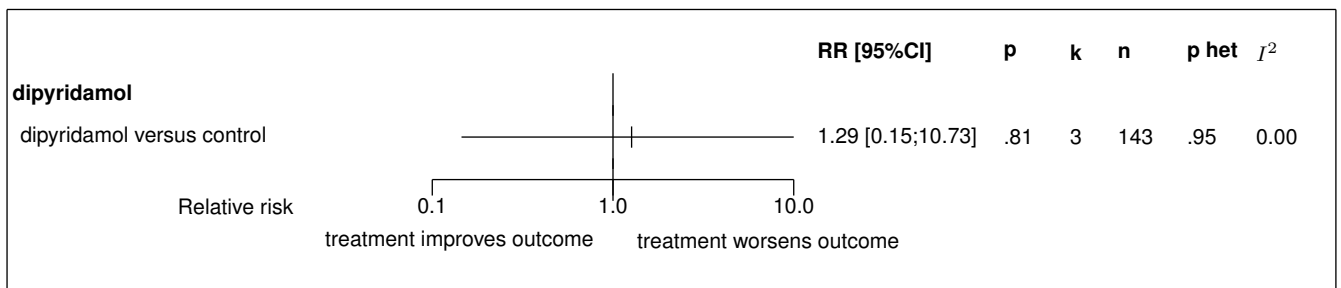
Results obtained with a fixed effect model except in case of heterogeneity where a random model was used  
 RR: relative risk; 95% CI: 95% confidence interval; p: p-value of the association test; k: number of trials; n: total number of patients involving in the pooled trials; p het: p-value of the heterogeneity test; I<sup>2</sup>: random effect model used

**Figure 12.4:** Forest's plot for non fatal MI



Results obtained with a fixed effect model except in case of heterogeneity where a random model was used  
 RR: relative risk; 95% CI: 95% confidence interval; p: p-value of the association test; k: number of trials; n: total number of patients involving in the pooled trials; p het: p-value of the heterogeneity test; I<sup>2</sup>: random effect model used

**Figure 12.5:** Forest's plot for non fatal stroke



Results obtained with a fixed effect model except in case of heterogeneity where a random model was used  
 RR: relative risk; 95% CI: 95% confidence interval; p: p-value of the association test; k: number of trials; n: total number of patients involving in the pooled trials; p het: p-value of the heterogeneity test; I<sup>2</sup>: random effect model used

## 13 Details

### 13.1 Available trials

A total of 10 RCTs which randomized 401 patients were identified: 3 trials compared dipyridamol with control and 7 trials compared dipyridamol with placebo.

The average study size was 40 patients (range 26 to 60). The first study was published in 1960, and the last study was published in 1970.

All trials were double blind in design. All included studies were reported in English language. We did not find any unpublished trial.

Non vascular death data was reported in 3 trials; 3 trials reported data on cardiovascular death; 3 trials reported data on non fatal MI; 3 trials reported data on cardiovascular events; and 3 trials reported data on non fatal stroke.

Following tables 13.1 (page 56), 13.2 (page 57), 13.4 (page 59), and 13.3 (page 57) summarized the main characteristics of the trials including in this systematic review of randomized trials of dipyridamol.

**Table 13.1:** Treatment description - dipyridamol - dipyridamol

<b>Trial</b>	<b>Studied treatment</b>	<b>Control treatment</b>
<b>Dipyridamol versus control</b>		
Atlanta (Sbar) (1967) [1]	dipyridamole 150mg daily	placebo
Wirecki (1967) [2]	dipyridamole 150mg daily	placebo
Becker (1967) [3]	dipyridamole 225mg daily	placebo
<b>Dipyridamol versus placebo</b>		
Kinsella (1962) [4]	dipyridamole 37.5 mg and 100mg daily	placebo
Leiberman (1964) [5]	dipyridamole 100mg daily	placebo
Zion (1961) [6]	Dipyridamole 37.5mg	placebo
Dewar (1961) [7]	Dipyridamole 100mg daily	placebo
Neumann (1964) [8]	dipyridamole 150mg daily	placebo
Foulds (1960) [9]	Dipyridamole 200mg daily	placebo
Igloe (1970) [10]	Dipyridamole 200mg daily	placebo

**Table 13.2:** Descriptions of participants - dipyridamol - dipyridamol

<b>Trial</b>	<b>Patients</b>
<b>Dipyridamol versus control</b>	
Atlanta (Sbar) (1967) [1]	Patients with angina pectoris
Wirecki (1967) [2]	Patients with angina pectoris
Becker (1967) [3]	
<b>Dipyridamol versus placebo</b>	
Kinsella (1962) [4]	
Leiberman (1964) [5]	
Zion (1961) [6]	Patients with angina pectoris
Dewar (1961) [7]	Patients with angina pectoris
Neumann (1964) [8]	Elderly with precordial pain
Foulds (1960) [9]	Patients with angina pectoris
Igloe (1970) [10]	Patients with angina pectoris

**Table 13.3:** Design and methodological quality of trials - dipyridamol - dipyridamol

<b>Trial</b>	<b>Design</b>	<b>Duration</b>	<b>Centre</b>	<b>Primary end-point</b>
<b>Dipyridamol versus control</b>				
Atlanta (Sbar), 1967 [1] n=60	parallel groups double-blind exploratory trial	6 months		not defined
Wirecki, 1967 [2] n=56	parallel groups double blind exploratory trial	7 months		not defined
Becker, 1967 [3] n=27	parallel groups double-blind exploratory trial	5 months		not defined

continued...

<b>Trial</b>	<b>Design</b>	<b>Duration</b>	<b>Centre</b>	<b>Primary end-point</b>
<b>Dipyridamol versus placebo</b>				
Kinsella, 1962 [4] n=26	parallel groups double-blind exploratory trial	0.5 months		not defined
Leiberman, 1964 [5] n=38	parallel groups double blind exploratory trial	>3 months		not defined
Zion, 1961 [6] n=28	cross-over double-blind exploratory trial	0.5 months		not defined
Dewar, 1961 [7] n=34	parallel groups double-blind exploratory trial	0.5 months		not defined
Neumann, 1964 [8] n=36	parallel groups double-blind exploratory trial	1.5 months		not defined
Foulds, 1960 [9] n=48	parallel groups double-blind exploratory trial	1 months		not defined
Igloe, 1970 [10] n=48	parallel groups double blind exploratory trial	2-7 months		not defined

**Table 13.4:** *Trial characteristics - dipyridamol - dipyridamol*

<b>Trial</b>
<b>Dipyridamol versus control</b>
Atlanta (Sbar), 1967 [1]
Wirecki, 1967 [2]
Becker, 1967 [3]
<b>Dipyridamol versus placebo</b>
Kinsella, 1962 [4]
Leiberman, 1964 [5]
Zion, 1961 [6]
Dewar, 1961 [7]
Neumann, 1964 [8]
Foulds, 1960 [9]
Igloe, 1970 [10]

## 13.2 Meta-analysis results

The results are detailed in table 13.5 (page 60). This table is followed by the Forest's plot corresponding to each endpoint.

### Dipyridamol versus control

All the 3 studies had extractable data about the number of participants with **cardiovascular events**. There was no statistically significant difference in cardiovascular events between dipyridamol and control, with a RR of 1.28 (95%CI 0.43 to 3.83,  $p=0.6557$ ) in favour of control. In other words, cardiovascular events was slightly lower in the control group, but this was not statistically significant. No heterogeneity was detected ( $p = 0.9678$ ,  $I^2 = 0.00\%$ ).

All the 3 studies had extractable data about the number of participants with **cardiovascular death**. When pooled together, there was no statistically significant difference between the groups in cardiovascular death, with a RR of 1.61 (95% CI 0.22 to 12.11,  $p=0.6411$ ). No heterogeneity was detected ( $p = 0.9604$ ,  $I^2 = 0.00\%$ ).

All the 3 studies had extractable data about the number of participants with **non vascular death**. When pooled together, there was no statistically significant difference between the groups in non vascular death, with a RR of 0.98 (95% CI 0.10 to 9.12,  $p=0.9825$ ). No heterogeneity was detected ( $p = 0.9995$ ,  $I^2 = 0.00\%$ ).

All the 3 studies had extractable data about the number of participants with **non fatal MI**. When pooled together, there was no statistically significant difference between the groups in non fatal MI, with a RR of 0.79 (95% CI 0.23 to 2.77,  $p=0.7128$ ). No heterogeneity was detected ( $p = 0.9870$ ,  $I^2 = 0.00\%$ ).

All the 3 studies had extractable data about the number of participants with **non fatal stroke**. When pooled together, there was no statistically significant difference between the groups in non fatal stroke, with a RR of 1.29 (95% CI 0.15 to 10.73,  $p=0.8144$ ). No heterogeneity was detected ( $p = 0.9464$ ,  $I^2 = 0.00\%$ ).

### Dipyridamol versus placebo

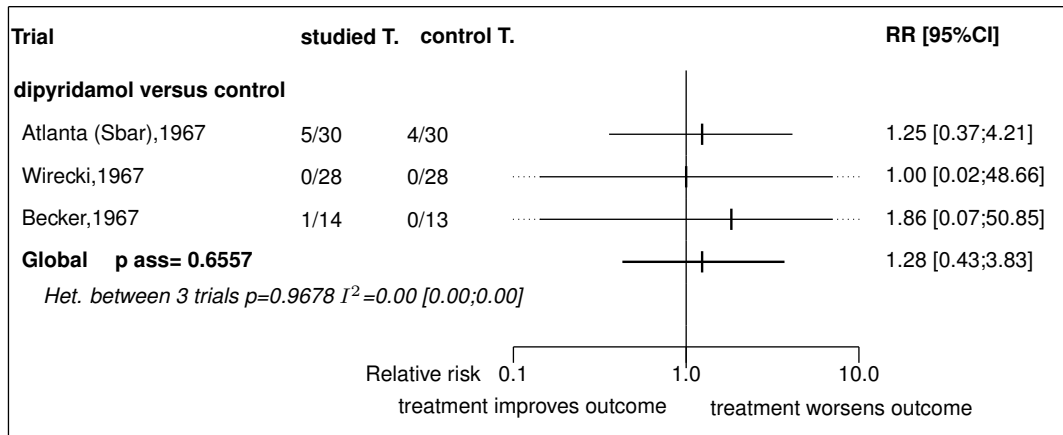
No data were presented in the 7 trials identified

**Table 13.5: Results details - dipyridamol - dipyridamol**

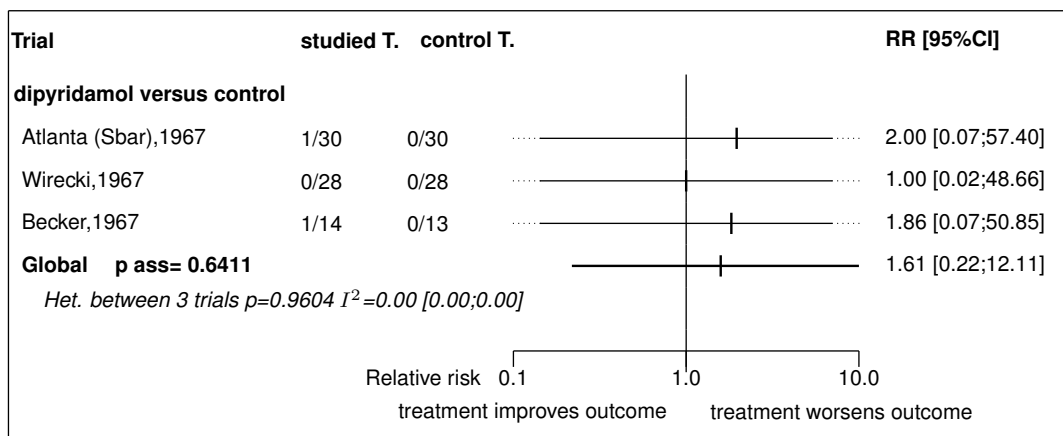
Comparison Endpoint	Effect	95% CI	p ass	p het	k	n
<b>dipyridamol versus control</b>						
cardiovascular events	RR=1.28	[0.43;3.83]	0.6557	0.9678 ( $I^2=0.00$ )	3	143
cardiovascular death	RR=1.61	[0.22;12.11]	0.6411	0.9604 ( $I^2=0.00$ )	3	143
non vascular death	RR=0.98	[0.10;9.12]	0.9825	0.9995 ( $I^2=0.00$ )	3	143
non fatal MI	RR=0.79	[0.23;2.77]	0.7128	0.9870 ( $I^2=0.00$ )	3	143
non fatal stroke	RR=1.29	[0.15;10.73]	0.8144	0.9464 ( $I^2=0.00$ )	3	143
<b>dipyridamol versus placebo</b>						
No data were presented in the trial identified						

CI: confidence interval; p ass: p-value of association test; p het: p-value of the heterogeneity test; k: number of trials; n: total number of patients; ES: effect size;  $I^2$ : inconsistency degree

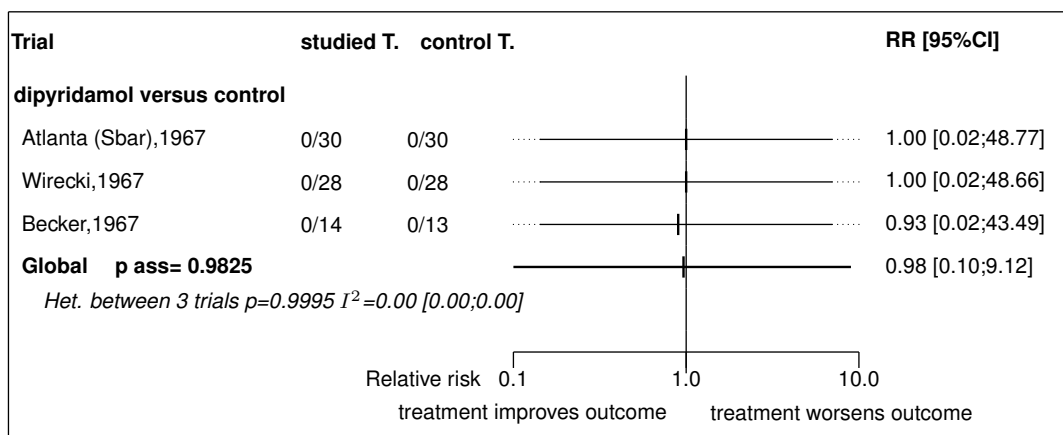
**Figure 13.1:** Forest's plot for cardiovascular events

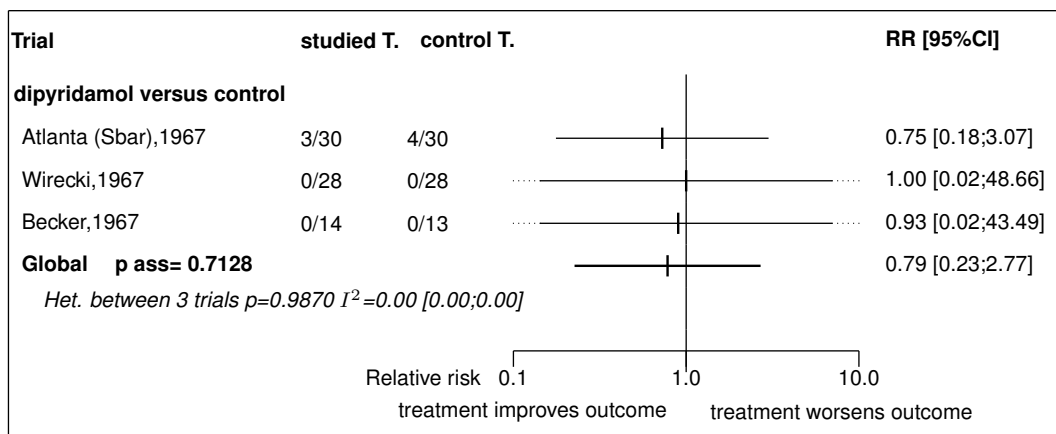
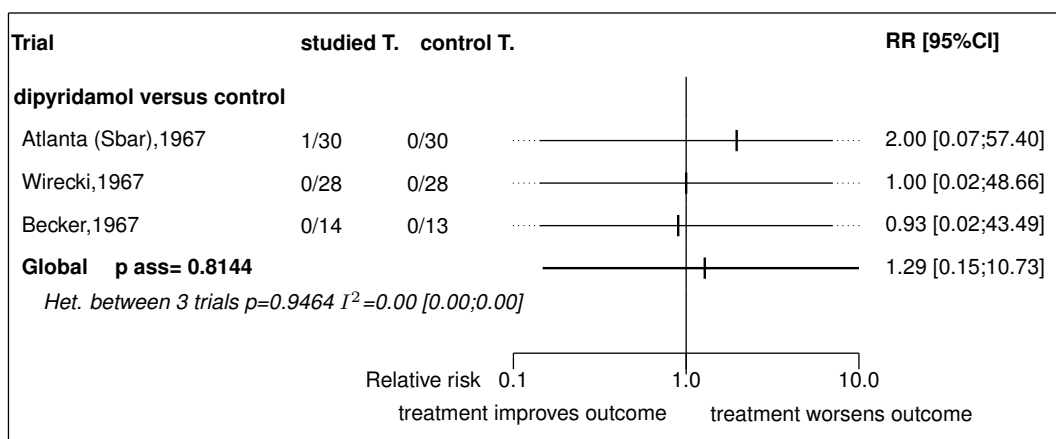


**Figure 13.2:** Forest's plot for cardiovascular death



**Figure 13.3:** Forest's plot for non vascular death



**Figure 13.4:** Forest's plot for non fatal MI**Figure 13.5:** Forest's plot for non fatal stroke

## References

- [1] Sbar S, Schlant RC. Dipyridamole in the treatment of angina pectoris. A double-blind evaluation. JAMA 1967;201:865-7. [PMID=5340622]
- [2] Wirecki M. Treatment of angina pectoris with dipyridamole: a long-term double blind study. J Chronic Dis 1967;20:139-45. [PMID=5336520]
- [3] Becker MC. Angina pectoris: A double blind study with dipyridamole. Journal of the Newark Beth Israel Hospital 1967;18:88-94.
- [4] KINSELLA D, TROUP W, MCGREGOR M. Studies with a new coronary vasodilator drug: persantin. Am Heart J 1962;63:146-51. [PMID=14456202]



- [5] LEIBERMAN A, GUGLIELMELLI S. PERSANTIN- A DOUBLE BLIND STUDY. *Angiology* 1964;15:290-2. [PMID=14170587]
- [6] ZION MM, BRADLOW BA. A controlled clinical trial of 'persantin' (R A 8) in angina pectoris. *S Afr Med J* 1961;35:11-3. [PMID=13788617]
- [7] DEWAR HA, HORLER AR. A clinical trial of Persantin and Crodimyl in the treatment of angina of effort. *Scott Med J* 1961;6:149-52. [PMID=13722387]
- [8] NEUMANN M, LUISADA AA. EFFECT OF RAPID AND SLOW-ACTING "CORONARY" DRUGS ON PRE-CORDIAL PAIN OF THE AGED. *Am J Med Sci* 1964;247:156-63. [PMID=14124704]
- [9] FOULDS T, MACKINNON J. Controlled double-blind trial of "persantin" in treatment of angina pectoris. *Br Med J* 1960;2:835. [PMID=13824151]
- [10] Igloe MC. Treatment of angina pectoris with dipyridamole: a double-blind study. *J Am Geriatr Soc* 1970;18:233-41. [PMID=4984849]

### **13.3 Individual trial summaries**

**Table 13.6:** Atlanta (Sbar), 1967 - Trial synopsis

Trial details	Patients	Treatments	Outcomes
n=60 (30 vs. 30) <b>Follow-up duration:</b> 6 months <b>Study design:</b> Randomized controlled trial parallel groups Double-blind Exploratory trial	Patients with angina pectoris	<b>Studied treatment:</b> dipyridamole 150mg daily <b>Control treatment:</b> placebo	Cardiovascular events RR=1.25 [0.37;4.21] Non fatal MI RR=0.75 [0.18;3.07]
<b>Reference</b> Sbar S, Schiant RC. Dipyridamole in the treatment of angina pectoris. A double-blind evaluation. JAMA 1967;201:865-7 [PMID=5340622]			

**Table 13.7:** Wirecki, 1967 - Trial synopsis

Trial details	Patients	Treatments	Outcomes
n=56 (28 vs. 28)	Patients with angina pectoris	<b>Studied treatment:</b> dipyridamole 150mg daily <b>Control treatment:</b> placebo	
<b>Follow-up duration:</b> 7 months			
<b>Study design:</b> Randomized controlled trial parallel groups Double blind Exploratory trial			
<b>Reference</b>	Wirecki M. Treatment of angina pectoris with dipyridamole: a long-term double blind study. J Chronic Dis 1967;20:139-45 [PMID=5336520]		

**Table 13.8: Becker, 1967 - Trial synopsis**

Trial details	Patients	Treatments	Outcomes
n=27 (14 vs. 13)	Follow-up duration: 5 months	<b>Studied treatment:</b> dipyridamole 225mg daily <b>Control treatment:</b> placebo	
<b>Study design:</b> Randomized controlled trial parallel groups Double-blind Exploratory trial			
<b>Reference</b> Becker MC. Angina pectoris: A double blind study with dipyridamole. Journal of the Newark Beth Israel Hospital 1967;18:88-94			

**Table 13.9:** Kinsella, 1962 - Trial synopsis

Trial details	Patients	Treatments	Outcomes
n=26 (13 vs. 13)	<b>Follow-up duration:</b> 0.5 months	<b>Studied treatment:</b> dipyridamole 37.5 mg and 100mg daily <b>Control treatment:</b> placebo	
<b>Study design:</b> Randomized controlled trial parallel groups Double-blind Exploratory trial			
<b>Reference</b>	KINSELLA D, TROUP W, MCGREGOR M. Studies with a new coronary vasodilator drug: persantin. Am Heart J 1962;63:146-51 [PMID=14456202]		

**Table 13.10:** Leiberman, 1964 - Trial synopsis

Trial details	Patients	Treatments	Outcomes
n=38 (19 vs. 19)	Follow-up duration: >3 months	Studied treatment: dipyridamole 100mg daily Control treatment: placebo	
Study design: Randomized controlled trial parallel groups Double blind Exploratory trial			
<b>Reference</b>	LEIBERMAN A, GUGLIELMELLI S. PERSANTIN- A DOUBLE BLIND STUDY. Angiology 1964;15:290-2		
[PMID=14170587]			

**Table 13.11:** Zion, 1961 - Trial synopsis

Trial details	Patients	Treatments	Outcomes
n=28 (14 vs. 14)	Patients with angina pectoris	<b>Studied treatment:</b> Dipyridamole 37.5mg <b>Control treatment:</b> placebo	
<b>Follow-up duration:</b> 0.5 months			
<b>Study design:</b> Randomized controlled trial cross-over Double-blind Exploratory trial			
<b>Reference</b>	ZION MM, BRADLOW BA. A controlled clinical trial of 'persantin' (R A 8) in angina pectoris. S Afr Med J 1961;35:11-3 [PMID=13788617]		



**Table 13.12:** Dewar, 1961 - Trial synopsis

Trial details	Patients	Treatments	Outcomes
n=34 (17 vs. 17)	Patients with angina pectoris	<b>Studied treatment:</b> Dipyridamole 100mg daily <b>Control treatment:</b> placebo	
<b>Follow-up duration:</b> 0.5 months			
<b>Study design:</b> Randomized controlled trial parallel groups Double-blind Exploratory trial			
<b>Reference</b>			
DEWAR HA, HORLER AR. A clinical trial of Persantin and Crodimyl in the treatment of angina of effort. Scott Med J 1961;6:149-52 [PMID=13722387]			

**Table 13.13:** Neumann, 1964 - Trial synopsis

Trial details	Patients	Treatments	Outcomes
n=36 (20 vs. 16)	Elderly with precordial pain	<b>Studied treatment:</b> dipyridamole 150mg daily <b>Control treatment:</b> placebo	
<b>Follow-up duration:</b> 1.5 months			
<b>Study design:</b> Randomized controlled trial parallel groups Double-blind Exploratory trial			
<b>Reference</b>	NEUMANN M, LUISADA AA. EFFECT OF RAPID AND SLOW-ACTING "CORONARY" DRUGS ON PRECORDIAL PAIN OF THE AGED. Am J Med Sci. 1964;247:156-63 [PMID=14124704]		

**Table 13.14: Foulds, 1960 - Trial synopsis**

Trial details	Patients	Treatments	Outcomes
n=48 (24 vs. 24)	Patients with angina pectoris	<b>Studied treatment:</b> Dipyridamole 200mg daily <b>Control treatment:</b> placebo	
<b>Follow-up duration:</b> 1 months			
<b>Study design:</b> Randomized controlled trial parallel groups Double-blind Exploratory trial			
<b>Reference</b>	FOULDS T, MACKINNON J. Controlled double-blind trial of "persantin" in treatment of angina pectoris. Br Med J 1960;2:835 [PMID=13824151]		

**Table 13.15:** *Igloe, 1970 - Trial synopsis*

Trial details	Patients	Treatments	Outcomes
n=48 (26 vs. 22)	Patients with angina pectoris	<b>Studied treatment:</b> Dipyridamole 200mg daily <b>Control treatment:</b> placebo	
<b>Follow-up duration:</b> 2-7 months			
<b>Study design:</b> Randomized controlled trial parallel groups Double blind Exploratory trial			
<b>Reference</b>	Igloe MC. Treatment of angina pectoris with dipyridamole: a double-blind study. J Am Geriatr Soc 1970;18:233-41 [PMID=4984849]		

## 14 Global meta-analysis: all dipyridamol

### 14.1 Global meta-analysis: all dipyridamol versus control

**Table 14.1:** All dipyridamol versus control

Endpoint	Effect	95% CI	p ass	p het ( $I^2$ )	k	n
cardiovascular events	RR=1.28	0.43;3.83	0.6557	0.9678 (0.00)	3	143
cardiovascular death	RR=1.61	0.22;12.11	0.6411	0.9604 (0.00)	3	143
non vascular death	RR=0.98	0.10;9.12	0.9825	0.9995 (0.00)	3	143
non fatal MI	RR=0.79	0.23;2.77	0.7128	0.9870 (0.00)	3	143
non fatal stroke	RR=1.29	0.15;10.73	0.8144	0.9464 (0.00)	3	143

CI: confidence interval; p ass: p-value of association test; p het: p-value of the heterogeneity test; k: number of trials; n: total number of patients; ES: effect size;  $I^2$ : inconsistency degree

### 14.2 Global meta-analysis: all dipyridamol versus placebo

**Table 14.2:** All dipyridamol versus placebo

Endpoint	Effect	95% CI	p ass	p het ( $I^2$ )	k	n
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CI: confidence interval; p ass: p-value of association test; p het: p-value of the heterogeneity test; k: number of trials; n: total number of patients; ES: effect size;  $I^2$ : inconsistency degree

## 15 Ongoing studies of dipyridamol

No ongoing trial was identified.

## 16 Excluded studies for dipyridamol

No trial was excluded.

## References

## **Part IV**

# **Oral platelet GP IIb/IIIa receptor inhibitor**





# 17 Overview of oral platelet GP IIB/IIIa receptor inhibitor

## 17.1 Included trials

Only one trial which randomized 120 patients was identified. In all, 1 randomized comparison concerned roxifiban .

The detailed descriptions of trials and meta-analysis results is given in section 18 (page 82) for roxifiban .

This trial included 120 patients and was published in 2003.

This trial was double blind in design.

It was reported in English language.

The table 17.1 (page 80) summarizes the main characteristics of all the included trials. More detailed description is given in the following section.

## 17.2 Summary of meta-analysis results

The meta-analysis of the available trials about oral platelet GP IIB/IIIa receptor inhibitor provide the results listed in tables 17.2 to 17.2 (page 81) and in the following graphs.

### 17.2.1 Roxifiban

Data were insufficient to compare **roxifiban** to **placebo**. There was an eligible trial but it did not provided sufficient information about the endpoints considered by this meta-analysis.

**Table 17.1: Main study characteristics - oral platelet GP IIB/IIIa receptor inhibitor**

<b>Trial</b>	<b>Patients</b>	<b>Treatments</b>	<b>Trial design and method</b>
<b>Roxifiban</b>			
<b>Roxifiban versus placebo</b>			
Murphy, 2003 [1] n= 120	patients with stable coronary artery disease	roxifiban 0.25, 0.5, 0.75, 1, 1.25, 1.5, 2, or 2.5 mg/day for up to 30 days <b>versus</b> placebo	double blind parallel groups

**Table 17.2:** Summary of all results for roxifiban

Endpoint	Effect	95% CI	p ass	p het ( $I^2$ )	k	n
<b><i>roxifiban versus placebo</i></b>						
No data were presented in the trial identified						

CI: confidence interval; p ass: p-value of association test; p het: p-value of the heterogeneity test; k: number of trials; n: total number of patients

## 18 Details

### 18.1 Available trials

Only one trial which randomized 120 patients was identified: it compared roxifiban with placebo. This trial included 120 patients and was published in 2003.

This trial was double blind in design.

It was reported in English language.

data was reported in trials;

Following tables 18.1 (page 82), 18.2 (page 82), 18.4 (page 83), and 18.3 (page 82) summarized the main characteristics of the trial including in this systematic review of randomized trials of roxifiban .

**Table 18.1:** Treatment description - oral platelet GP IIb/IIIa receptor inhibitor - roxifiban

Trial	Studied treatment	Control treatment
<b>Roxifiban versus placebo</b>		
Murphy (2003) [1]	roxifiban 0.25, 0.5, 0.75, 1, 1.25, 1.5, 2, or 2.5 mg/day for up to 30 days	placebo

**Table 18.2:** Descriptions of participants - oral platelet GP IIb/IIIa receptor inhibitor - roxifiban

Trial	Patients
<b>Roxifiban versus placebo</b>	
Murphy (2003) [1]	Patients with stable coronary artery disease

**Table 18.3:** Design and methodological quality of trials - oral platelet GP IIb/IIIa receptor inhibitor - roxifiban

Trial	Design	Duration	Centre	Primary end-point
<b>Roxifiban versus placebo</b>				
Murphy, 2003 [1] n=120	Parallel groups double blind exploratory trial	30 days		

**Table 18.4:** *Trial characteristics - oral platelet GP IIb/IIIa receptor inhibitor - roxifiban*

<b>Trial</b>
<b>Roxifiban versus placebo</b>
Murphy, 2003 [1]

## 18.2 Meta-analysis results

The results are detailed in table 18.5 (page 84). This table is followed by the Forest's plot corresponding to each endpoint.

### Roxifiban versus placebo

No data were presented in the 1 trial identified

**Table 18.5:** Results details - oral platelet GP IIb/IIIa receptor inhibitor - roxifiban

Comparison Endpoint	Effect	95% CI	p ass	p het	k	n
<i>roxifiban versus placebo</i>						
No data were presented in the trial identified						
CI: confidence interval; p ass: p-value of association test; p het: p-value of the heterogeneity test; k: number of trials; n: total number of patients; ES: effect size; $I^2$ : inconsistency degree						

## References

- [1] Murphy J, Wright RS, Gussak I, Williams B, Daly RN, Cain VA, Pieniaszek HJ, Sy SK, Ebling W, Simonson K, Wilcox RA, Kopecky SL. The use of roxifiban (DMP754), a novel oral platelet glycoprotein IIb/IIIa receptor inhibitor, in patients with stable coronary artery disease. *Am J Cardiovasc Drugs* 2003;3:101-12. [PMID=14727937]

### **18.3 Individual trial summaries**

Table 18.6: Murphy, 2003 - Trial synopsis

Trial details	Patients	Treatments	Outcomes
n=0 (120 vs. 0)	Patients with stable coronary artery disease	<b>Studied treatment:</b> roxifiban 0.25, 0.5, 0.75, 1, 1.25, 1.5, 2, or 2.5 mg/day for up to 30 days <b>Control treatment:</b> placebo	
<b>Follow-up duration:</b> 30 days			
<b>Study design:</b> Randomized controlled trial Parallel groups Double blind Exploratory trial			
<b>Reference</b>	Murphy J, Wright RS, Gussak I, Williams B, Daly RN, Cain VA, Pieniaszek HJ, Sy SK, Ebling W, Simonson K, Wilcox RA, Kopecky SL. The use of roxifiban (DMP754), a novel oral platelet glycoprotein IIb/IIIa receptor inhibitor, in patients with stable coronary artery disease. <i>Am J Cardiovasc Drugs</i> 2003;3:101-12 [PMID=14727937]		



## 19 Global meta-analysis: all oral platelet GP IIb/IIIa receptor inhibitor

### 19.1 Global meta-analysis: all oral platelet GP IIb/IIIa receptor inhibitor versus placebo

*Table 19.1: All oral platelet GP IIb/IIIa receptor inhibitor versus placebo*

Endpoint	Effect	95% CI	p ass	p het ( $I^2$ )	k	n
CI: confidence interval; p ass: p-value of association test; p het: p-value of the heterogeneity test; k: number of trials; n: total number of patients; ES: effect size; $I^2$ : inconsistency degree						

## 20 Ongoing studies of oral platelet GP IIb/IIIa receptor inhibitor

No ongoing trial was identified.

## 21 Excluded studies for oral platelet GP IIb/IIIa receptor inhibitor

No trial was excluded.

## References



**Part V**

**Ticlopidine**



## 22 Overview of ticlopidine

### 22.1 Included trials

Only one trial which randomized 38 patients was identified. In all, 1 randomized comparison concerned ticlopidine.

The detailed descriptions of trials and meta-analysis results is given in section 23 (page 95) for ticlopidine.

This trial included 38 patients and was published in 1985.

This trial was double blind in design.

It was reported in English language.

The table 22.1 (page 92) summarizes the main characteristics of all the included trials. More detailed description is given in the following section.

### 22.2 Summary of meta-analysis results

The meta-analysis of the available trials about ticlopidine provide the results listed in tables 22.2 to 22.2 (page 93) and in the following graphs.

#### 22.2.1 Ticlopidine

No significant difference was found between **ticlopidine** and **placebo** in terms of cardiovascular events (RR=0.81, 95% CI 0.02 to 38.71, p=0.9147, 1 trial), cardiovascular death (RR=0.81, 95% CI 0.02 to 38.71, p=0.9147, 1 trial), non vascular death (RR=0.81, 95% CI 0.02 to 38.71, p=0.9147, 1 trial), non fatal MI (RR=0.81, 95% CI 0.02 to 38.71, p=0.9147, 1 trial) and non fatal stroke (RR=0.81, 95% CI 0.02 to 38.71, p=0.9147, 1 trial).

**Table 22.1: Main study characteristics - ticlopidine**

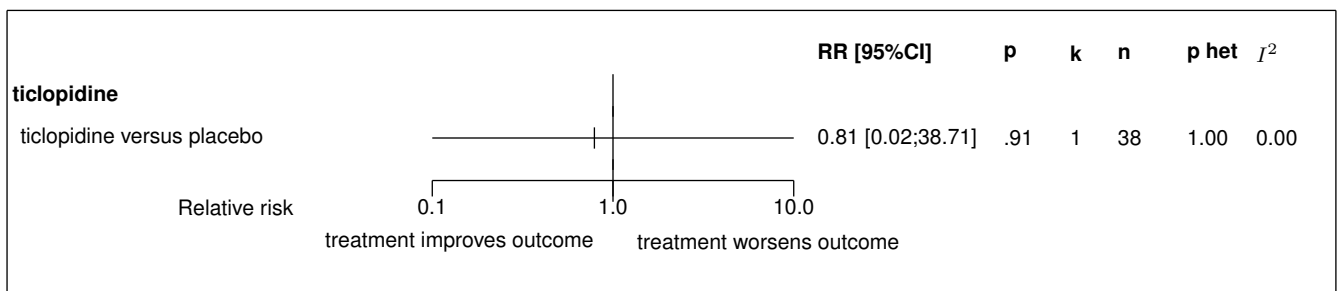
<b>Trial</b>	<b>Patients</b>	<b>Treatments</b>	<b>Trial design and method</b>
<b>Ticlopidine</b>			
<b><i>Ticlopidine versus placebo</i></b>			
Berglund, 1985 [1] n = 21 vs. 17	middle-aged men with stable incapacitating angina pectoris	ticlopidine 500 mg daily <b>versus</b> placebo	double blind parallel groups Primary endpoint: not defined

**Table 22.2:** Summary of all results for ticlopidine

Endpoint	Effect	95% CI	p ass	p het ( <i>I</i> <sup>2</sup> )	k	n
<i>ticlopidine versus placebo</i>						
cardiovascular events	RR=0.81	0.02;38.71	0.9147	1.0000 (0.00)	1	38
cardiovascular death	RR=0.81	0.02;38.71	0.9147	1.0000 (0.00)	1	38
non vascular death	RR=0.81	0.02;38.71	0.9147	1.0000 (0.00)	1	38
non fatal MI	RR=0.81	0.02;38.71	0.9147	1.0000 (0.00)	1	38
non fatal stroke	RR=0.81	0.02;38.71	0.9147	1.0000 (0.00)	1	38

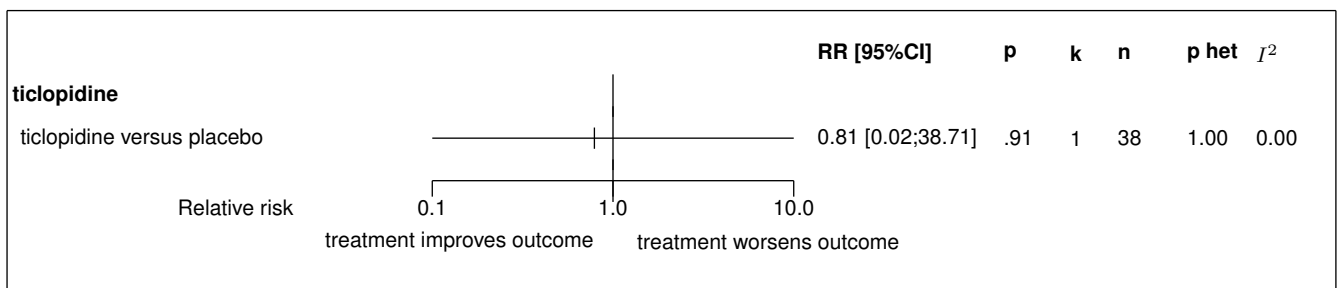
CI: confidence interval; p ass: p-value of association test; p het: p-value of the heterogeneity test; k: number of trials; n: total number of patients

**Figure 22.1:** Forest's plot for cardiovascular events



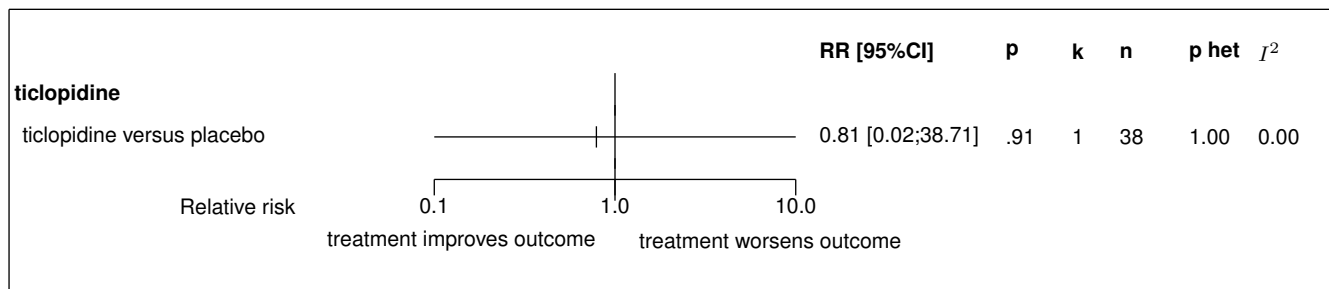
Results obtained with a fixed effect model except in case of heterogeneity where a random model was used  
 RR: relative risk; 95% CI: 95% confidence interval; p: p-value of the association test; k: number of trials; n: total number of patients involving in the pooled trials; p het: p-value of the heterogeneity test; *I*<sup>2</sup>: random effect model used

**Figure 22.2:** Forest's plot for cardiovascular death



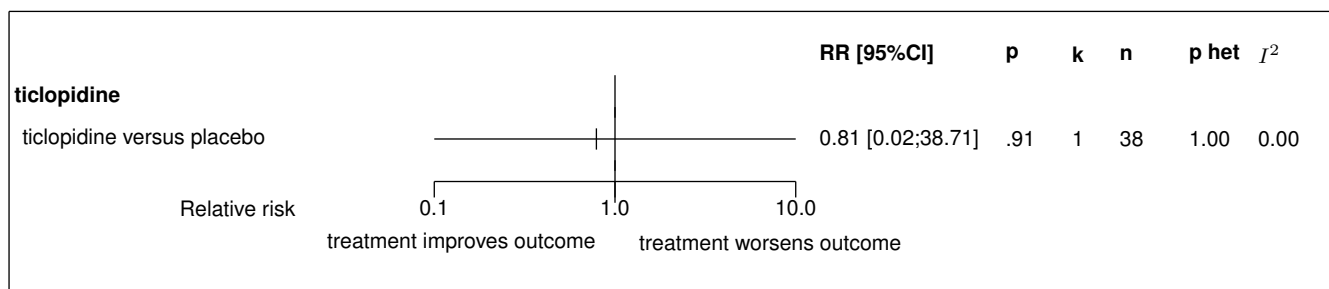
Results obtained with a fixed effect model except in case of heterogeneity where a random model was used  
 RR: relative risk; 95% CI: 95% confidence interval; p: p-value of the association test; k: number of trials; n: total number of patients involving in the pooled trials; p het: p-value of the heterogeneity test; *I*<sup>2</sup>: random effect model used

**Figure 22.3:** Forest's plot for non vascular death



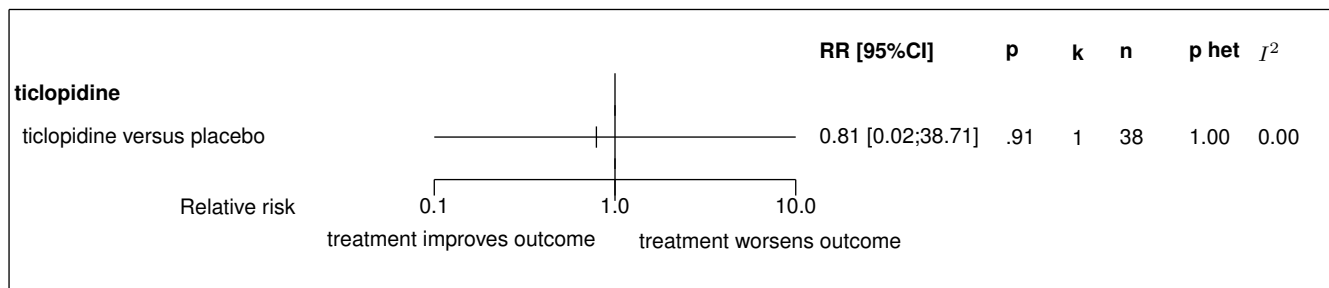
Results obtained with a fixed effect model except in case of heterogeneity where a random model was used  
 RR: relative risk; 95% CI: 95% confidence interval; p: p-value of the association test; k: number of trials; n: total number of patients involving in the pooled trials; p het: p-value of the heterogeneity test; I<sup>2</sup>: random effect model used

**Figure 22.4:** Forest's plot for non fatal MI



Results obtained with a fixed effect model except in case of heterogeneity where a random model was used  
 RR: relative risk; 95% CI: 95% confidence interval; p: p-value of the association test; k: number of trials; n: total number of patients involving in the pooled trials; p het: p-value of the heterogeneity test; I<sup>2</sup>: random effect model used

**Figure 22.5:** Forest's plot for non fatal stroke



Results obtained with a fixed effect model except in case of heterogeneity where a random model was used  
 RR: relative risk; 95% CI: 95% confidence interval; p: p-value of the association test; k: number of trials; n: total number of patients involving in the pooled trials; p het: p-value of the heterogeneity test; I<sup>2</sup>: random effect model used



## 23 Details

### 23.1 Available trials

Only one trial which randomized 38 patients was identified: it compared ticlopidine with placebo. This trial included 38 patients and was published in 1985.

This trial was double blind in design.

It was reported in English language.

Non vascular death data was reported in 1 trials; 1 trials reported data on cardiovascular death; 1 trials reported data on non fatal MI; 1 trials reported data on cardiovascular events; and 1 trials reported data on non fatal stroke.

Following tables 23.1 (page 95), 23.2 (page 95), 23.4 (page 96), and 23.3 (page 95) summarized the main characteristics of the trial including in this systematic review of randomized trials of ticlopidine.

**Table 23.1: Treatment description - ticlopidine - ticlopidine**

Trial	Studied treatment	Control treatment
<b>Ticlopidine versus placebo</b>		
Berglund (1985) [1]	ticlopidine 500 mg daily	placebo

**Table 23.2: Descriptions of participants - ticlopidine - ticlopidine**

Trial	Patients
<b>Ticlopidine versus placebo</b>	
Berglund (1985) [1]	Middle-aged men with stable incapacitating angina pectoris

**Table 23.3: Design and methodological quality of trials - ticlopidine - ticlopidine**

Trial	Design	Duration	Centre	Primary end-point
<b>Ticlopidine versus placebo</b>				
Berglund, 1985 [1] n=38	parallel groups double blind exploratory trial	2m		not defined

**Table 23.4:** *Trial characteristics - ticlopidine - ticlopidine - ticlopidine*

Trial
<b>Ticlopidine versus placebo</b>
Berglund, 1985 [1]

## 23.2 Meta-analysis results

The results are detailed in table 23.5 (page 97). This table is followed by the Forest's plot corresponding to each endpoint.

### Ticlopidine versus placebo

The single study eligible for this comparison provided data on **cardiovascular events**. There was no statistically significant difference in cardiovascular events between ticlopidine and placebo, with a RR of 0.81 (95%CI 0.02 to 38.71,  $p=0.9147$ ) in favour of ticlopidine. In other words, cardiovascular events was slightly lower in the ticlopidine group, but this was not statistically significant.

The single study eligible for this comparison provided data on **cardiovascular death**. No statistically significant difference between the groups was found in cardiovascular death, with a RR of 0.81 (95% CI 0.02 to 38.71,  $p=0.9147$ ).

The single study eligible for this comparison provided data on **non vascular death**. No statistically significant difference between the groups was found in non vascular death, with a RR of 0.81 (95% CI 0.02 to 38.71,  $p=0.9147$ ).

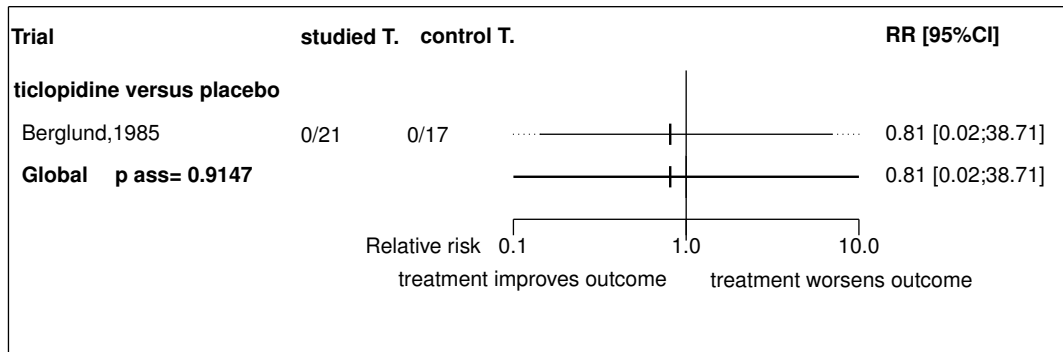
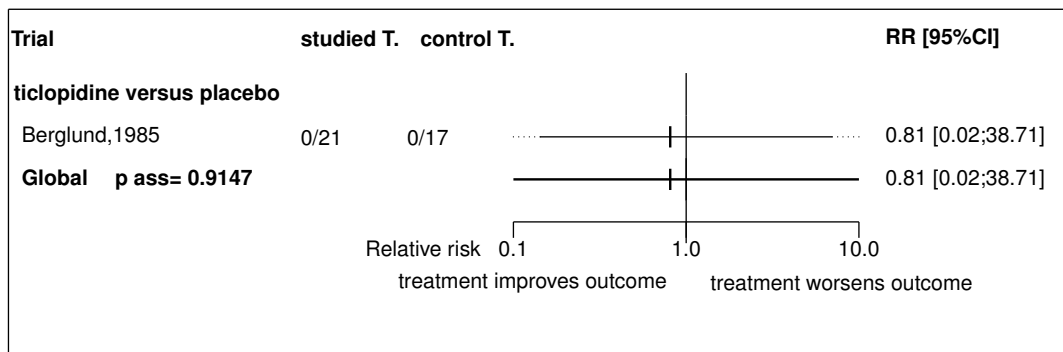
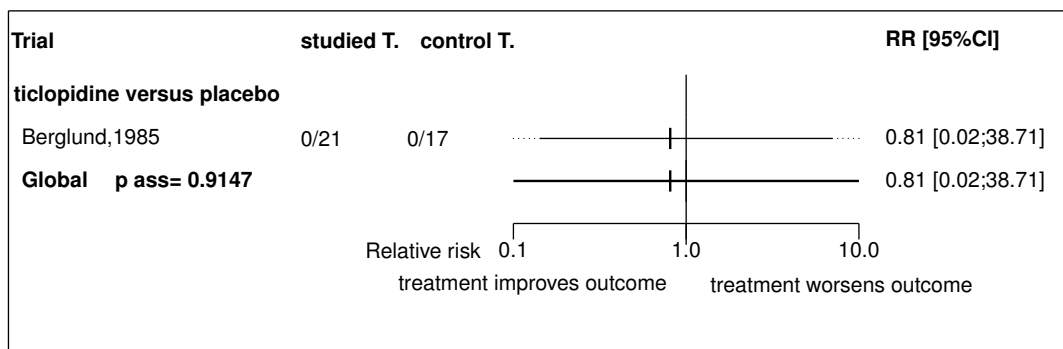
The single study eligible for this comparison provided data on **non fatal MI**. No statistically significant difference between the groups was found in non fatal MI, with a RR of 0.81 (95% CI 0.02 to 38.71,  $p=0.9147$ ).

The single study eligible for this comparison provided data on **non fatal stroke**. No statistically significant difference between the groups was found in non fatal stroke, with a RR of 0.81 (95% CI 0.02 to 38.71,  $p=0.9147$ ).

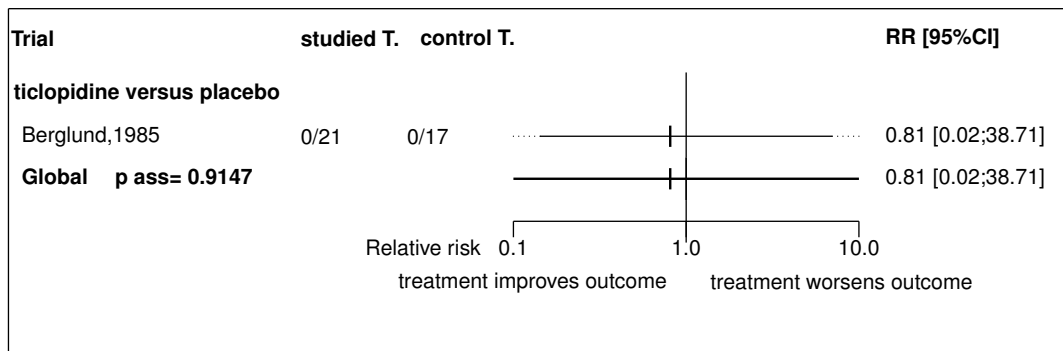
**Table 23.5:** Results details - ticlopidine - ticlopidine

Comparison Endpoint	Effect	95% CI	p ass	p het	k	n
<b><i>ticlopidine versus placebo</i></b>						
cardiovascular events	RR=0.81	[0.02;38.71]	0.9147	1.0000 ( $I^2=0.00$ )	1	38
cardiovascular death	RR=0.81	[0.02;38.71]	0.9147	1.0000 ( $I^2=0.00$ )	1	38
non vascular death	RR=0.81	[0.02;38.71]	0.9147	1.0000 ( $I^2=0.00$ )	1	38
non fatal MI	RR=0.81	[0.02;38.71]	0.9147	1.0000 ( $I^2=0.00$ )	1	38
non fatal stroke	RR=0.81	[0.02;38.71]	0.9147	1.0000 ( $I^2=0.00$ )	1	38

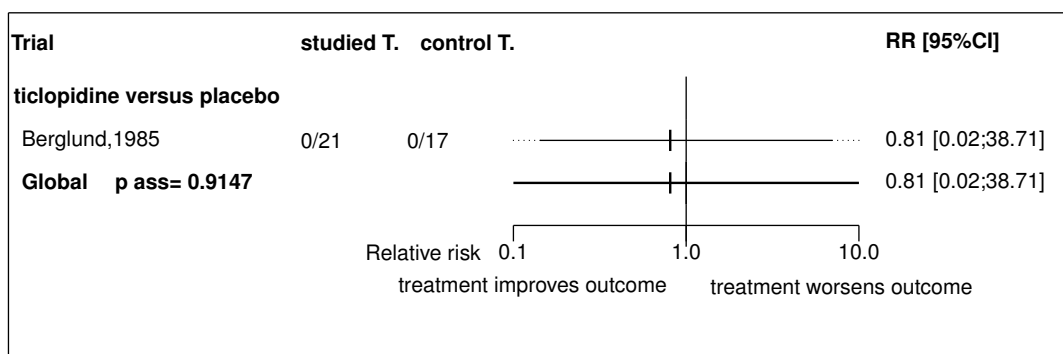
CI: confidence interval; p ass: p-value of association test; p het: p-value of the heterogeneity test; k: number of trials; n: total number of patients; ES: effect size;  $I^2$ : inconsistency degree

**Figure 23.1:** Forest's plot for cardiovascular events**Figure 23.2:** Forest's plot for cardiovascular death**Figure 23.3:** Forest's plot for non vascular death

**Figure 23.4:** Forest's plot for non fatal MI



**Figure 23.5:** Forest's plot for non fatal stroke



## References

- [1] Berglund U, von Schenck H, Wallentin L. Effects of ticlopidine of platelet function in men with stable angina pectoris. *Thromb Haemost* 1985;54:808-12. [PMID=3911481]

### **23.3 Individual trial summaries**

**Table 23.6:** Berglund, 1985 - Trial synopsis

Trial details	Patients	Treatments	Outcomes
n=38 (21 vs. 17)	Middle-aged men with stable incapacitating angina pectoris	<b>Studied treatment:</b> ticlopidine 500 mg daily <b>Control treatment:</b> placebo	
<b>Follow-up duration:</b> 2m			
<b>Study design:</b> Randomized controlled trial parallel groups Double blind Exploratory trial			
<b>Reference</b>	Berglund U, von Schenck H, Wallentin L. Effects of ticlopidine of platelet function in men with stable angina pectoris. <i>Thromb Haemost</i> 1985;54:808-12 [PMID=3911481]		

## 24 Global meta-analysis: all ticlopidine

### 24.1 Global meta-analysis: all ticlopidine versus placebo

*Table 24.1: All ticlopidine versus placebo*

Endpoint	Effect	95% CI	p ass	p het ( $I^2$ )	k	n
cardiovascular events	RR=0.81	0.02;38.71	0.9147	1.0000 (0.00)	1	38
cardiovascular death	RR=0.81	0.02;38.71	0.9147	1.0000 (0.00)	1	38
non vascular death	RR=0.81	0.02;38.71	0.9147	1.0000 (0.00)	1	38
non fatal MI	RR=0.81	0.02;38.71	0.9147	1.0000 (0.00)	1	38
non fatal stroke	RR=0.81	0.02;38.71	0.9147	1.0000 (0.00)	1	38

CI: confidence interval; p ass: p-value of association test; p het: p-value of the heterogeneity test; k: number of trials; n: total number of patients; ES: effect size;  $I^2$ : inconsistency degree

## 25 Ongoing studies of ticlopidine

No ongoing trial was identified.

## 26 Excluded studies for ticlopidine

No trial was excluded.

## References