

# Clinical trials of antiplatelets drug for cardiovascular prevention in secondary prevention in patients with CAD

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## 1 aspirin

Trial	Treatments	Patients	Trials design and methods
<b>aspirin vs placebo</b>			
<b>CDPA , 1976</b> n=758/771 follow-up: 1.83 y	Aspirin (324 mg) 3x/d versus Placebo	MI survivors	Parallel groups Double blind USA
<b>Cardiff I , 1974</b> n=615/624 follow-up: 2 years	Aspirin (300 mg) 1x/d versus Placebo	MI survivors	Parallel groups Double blind UK
<b>Cardiff II , 1979</b> n=832/850 follow-up: 1 y	Aspirin (300 mg) 3x/d for one year versus Placebo	patients with myocardial infarction	Parallel groups Double blind South Wales
<b>Vogel , 1979</b> n=672/668 follow-up: 1.75 y (mean)	Aspirin (1.5 g daily) on an average period of 22 months versus Placebo	-	Parallel groups Double blind Germany
<b>AMIS , 1980</b> [NCT00000491] n=2267/2257 follow-up: >3 y	Aspirin (500 mg) 2x/d for at least 3 years versus Placebo	men and women who had had a documented myocardial infarction	Parallel groups Double blind USA
<b>GAMIS , 1980</b> n=317/309 follow-up: 2 y	Aspirin (500 mg) 3x/d for 2 years versus Placebo	patients who had survived a myocardial infarction for 30-42 days	Parallel groups Double blind Germany, Austria,
<b>PARIS , 1980</b> n=810/406 follow-up: 41 mo	Aspirin (324 mg) 3x/d versus Placebo	patients who had recovered from myocardial infarction	Parallel groups Double blind USA, UK
<b>JAMIS , 1999</b> n=250/230 follow-up: 1.3 y (mean)	Aspirin (81 mg) 1x/d versus No antiplatelets	patients with AMI within 1 month from the onset of symptoms	Parallel groups Open Japan

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Trial	Treatments	Patients	Trials design and methods
<b>SAPAT , 1992</b> n=1009/1026 follow-up: 50 months	aspirin 75 mg daily versus placebo	patients with stable chronic angina pectoris	Parallel groups double blind Sweden

## References

### CDPA, 1976:

, Aspirin in coronary heart disease. The Coronary Drug Project Research Group. J Chronic Dis 1976; 29:625-42 [789390]

### Cardiff I, 1974:

Elwood P, Trial of acetylsalicylic acid in the secondary prevention of mortality from myocardial infarction. Br Med J (Clin Res Ed) 1981; 282:481 [6780093]

### Cardiff II, 1979:

Elwood PC, Sweetnam PM, Aspirin and secondary mortality after myocardial infarction. Lancet 1979; 2:1313-5 [92668]

### Vogel, 1979:

Folia Haematol 1979; 106:797-803 [0]

### AMIS, 1980:

, The aspirin myocardial infarction study: final results. The Aspirin Myocardial Infarction Study research group. Circulation 1980; 62:V79-84 [7438383]

, A randomized, controlled trial of aspirin in persons recovered from myocardial infarction. JAMA 1980; 243:661-9 [6985998]

### GAMIS, 1980:

Bredden K, Loew D, Lechner K, Oberla K, Walter E, The German-Austrian aspirin trial: a comparison of acetylsalicylic acid, placebo and phenprocoumon in secondary prevention of myocardial infarction. On behalf of the German-Austrian Study Group. Circulation 1980; 62:V63-72 [6777073]

### PARIS, 1980:

, Persantine and aspirin in coronary heart disease. The Persantine-Aspirin Reinfarction Study Research Group. Circulation 1980; 62:449-61 [7398002]

### JAMIS, 1999:

Yasue H, Ogawa H, Tanaka H, Miyazaki S, Hattori R, Saito M, Ishikawa K, Masuda Y, Yamaguchi T, Motomiya T, Tamura Y, Effects of aspirin and trapidil on cardiovascular events after acute myocardial infarction. Japanese Antiplatelets Myocardial Infarction Study (JAMIS) Investigators. Am J Cardiol 1999; 83:1308-13 [10235086]

### SAPAT, 1992:

Juul-Miller 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 [1360557]

## 2 clopidogrel

Trial	Treatments	Patients	Trials design and methods
<b>clopidogrel vs aspirin</b>			
<b>ASCET</b> [NCT00222261] n=498/503 follow-up:	clopidogrel 75 mg once daily for two years versus Aspirin 160 mg once daily for two years	patients with documented coronary heart disease and treated with aspirin	Parallel groups open

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Trial	Treatments	Patients	Trials design and methods
<b>CAPRIE , 1996</b> n=9599/9586 follow-up: mean 1.91 years	clopidogrel 75 mg once daily versus aspirin 325 mg once daily	patients with atherosclerotic vascular disease manifested as either recent ischaemic stroke, recent myocardial infarction, or symptomatic peripheral arterial disease	Parallel groups Double blind 16 countries
<b>clopidogrel vs placebo (on top aspirin)</b>			
<b>CHARISMA , 2006</b> [NCT00050817] n=7802/7801 follow-up: median 28 months	clopidogrel (75 mg per day) plus low-dose aspirin (75 to 162 mg per day) versus placebo plus low-dose aspirin	patients with either clinically evident cardiovascular disease or multiple risk factors	Parallel groups Double blind 32 countries

## References

ASCET, :

**CAPRIE, 1996:**

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 [8918275]

**CHARISMA, 2006:**

Bhatt DL, Fox KA, Hacke W, Berger PB, Black HR, Boden WE, Cacoub P, Cohen EA, Creager MA, Easton JD, Flather MD, Haffner SM, Hamm CW, Hankey GJ, Johnston SC, Mak KH, Mas JL, Montalescot G, Pearson TA, Steg PG, Steinhubl SR, Weber MA, Brennan DM, Fabry-Rib Clopidogrel and aspirin versus aspirin alone for the prevention of atherothrombotic events. N Engl J Med 2006;354:1706-17 [16531616] 10.1056/NEJMoa060989

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## 3 dipyridamol

Trial	Treatments	Patients	Trials design and methods
<b>dipyridamol vs control</b>			
<b>Atlanta (Sbar) , 1967</b> n=30/30 follow-up: 6 months	dipyridamole 150mg daily versus placebo	patients with angina pectoris	parallel groups double-blind
<b>Wirecki , 1967</b> n=28/28 follow-up: 7 months	dipyridamole 150mg daily versus placebo	patients with angina pectoris	parallel groups double blind
<b>Becker , 1967</b> n=14/13 follow-up: 5 months	dipyridamole 225mg daily versus placebo	-	parallel groups double-blind
<b>dipyridamol vs placebo</b>			
<b>Kinsella , 1962</b> n=13/13 follow-up: 0.5 months	dipyridamole 37.5 mg and 100mg daily versus placebo	-	parallel groups double-blind
<b>Leiberman , 1964</b> n=19/19 follow-up: >3 months	dipyridamole 100mg daily versus placebo	-	parallel groups double blind

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<b>Trial</b>	<b>Treatments</b>	<b>Patients</b>	<b>Trials design and methods</b>
<b>Zion , 1961</b> n=14/14 follow-up: 0.5 months	Dipyridamole 37.5mg versus placebo	patients with angina pectoris	cross-over double-blind
<b>Dewar , 1961</b> n=17/17 follow-up: 0.5 months	Dipyridamole 100mg daily versus placebo	patients with angina pectoris	parallel groups double-blind
<b>Neumann , 1964</b> n=20/16 follow-up: 1.5 months	dipyridamole 150mg daily versus placebo	elderly with precordial pain	parallel groups double-blind
<b>Foulds , 1960</b> n=24/24 follow-up: 1 months	Dipyridamole 200mg daily versus placebo	patients with angina pectoris	parallel groups double-blind
<b>Igloe , 1970</b> n=26/22 follow-up: 2-7 months	Dipyridamole 200mg daily versus placebo	patients with angina pectoris	parallel groups double blind
<b>dipyridamol + aspirin vs placebo</b>			
<b>PARIS , 1980</b> n=810/406 follow-up: 41 months (mean)	Aspirin (324 mg) + dipyridamole (75 mg) 3x/d versus Placebo	patients who had recovered from myocardial infarction	Parallel groups Double blind USA and UK
<b>PARIS-II , 1986</b> n=1563/1565 follow-up: 23.4 months	Aspirin (330 mg) + dipyridamole (75 mg) 3x/d versus Placebo	patients who had recovered from myocardial infarction, suffered from 4 weeks to 4 months previously	Parallel groups Double blind USA and UK
<b>dipyridamol + aspirin vs aspirin</b>			
<b>PARIS , 1980</b> n=810/810 follow-up: 41 months	Aspirin (324 mg) + dipyridamole (75 mg) 3x/d versus Aspirin (324 mg) 3x/d	patuents who had recovered from myocardial infarction	Parallel groups Double blind USA and GB

## References

### Atlanta (Sbar), 1967:

Sbar S, Schlant RC Dipyridamole in the treatment of angina pectoris. A double-blind evaluation. JAMA 1967;201:865-7 [5340622]

### Wirecki, 1967:

Wirecki M Treatment of angina pectoris with dipyridamole: a long-term double blind study. J Chronic Dis 1967;20:139-45 [5336520]

### Becker, 1967:

Becker MC. Angina pectoris: A double blind study with dipyridamole Journal of the Newark Beth Israel Hospital 1967;18:88-94

### Kinsella, 1962:

KINSELLA D, TROUP W, MCGREGOR M Studies with a new coronary vasodilator drug: persantin. Am Heart J 1962;63:146-51 [14456202]

### Leiberman, 1964:

LEIBERMAN A, GUGLIELMELLI S PERSANTIN- A DOUBLE BLIND STUDY. Angiology 1964;15:290-2 [14170587]

### Zion, 1961:

ZION MM, BRADLOW BA A controlled clinical trial of 'persantin' (R A 8) in angina pectoris. S Afr Med J 1961;35:11-3 [13788617]

**Dewar, 1961:**

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 [[13722387](#)]

**Neumann, 1964:**

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 [[14124704](#)]

**Foulds, 1960:**

FOULDS T, MACKINNON J Controlled double-blind trial of "persantin" in treatment of angina pectoris. Br Med J 1960;2:835 [[13824151](#)]

**Igloe, 1970:**

Igloe MC Treatment of angina pectoris with dipyridamole: a double-blind study. J Am Geriatr Soc 1970;18:233-41 [[4984849](#)]

**PARIS, 1980:**

, Persantine and aspirin in coronary heart disease. The Persantine-Aspirin Reinfarction Study Research Group. Circulation 1980; 62:449-61 [[7398002](#)]

, Persantine and aspirin in coronary heart disease. The Persantine-Aspirin Reinfarction Study Research Group. Circulation 1980; 62:449-61 [[7398002](#)]

**PARIS-II, 1986:**

Klimt CR, Knatterud GL, Stamler J, Meier P, Persantine-Aspirin Reinfarction Study. Part II. Secondary coronary prevention with persantine and aspirin. J Am Coll Cardiol 1986; 7:251-69 [[2868029](#)]

**PARIS, 1980:**

, Persantine and aspirin in coronary heart disease. The Persantine-Aspirin Reinfarction Study Research Group. Circulation 1980; 62:449-61 [[7398002](#)]

## 4 P2Y12 receptor-antagonist

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Trial	Treatments	Patients	Trials design and methods
<b>ticagrelor vs placebo (on top aspirin)</b>			
<b>PEGASUS 90mg , 2015</b> [NCT01225562] n=7050/7067 follow-up: 2.75 y (median)	-	patients who had had a myocardial infarction 1 to 3 years earlier	double-blind
<b>PEGASUS 60mg , 2015</b> [NCT01225562] n=7045/7067 follow-up: 2.75 y (median)	ticagrelor at a dose of 60 mg twice daily versus placebo	patients who had had a myocardial infarction 1 to 3 years earlier	Parallel groups double-blind

## References

**PEGASUS 90mg, 2015:**

Bonaca MP, Bhatt DL, Braunwald E, Cohen M, Steg PG, Storey RF, Held P, Jensen EC, Sabatine MS Design and rationale for the Prevention of Cardiovascular Events in Patients With Prior Heart Attack Using Ticagrelor Compared to Placebo on a Background of Aspirin-Thrombolysis in Myocardial Infarction 54 (PEGASUS-TIMI 54) trial. Am Heart J 2014;167:437-444.e5 [[24655690](#)]

Bonaca MP, Bhatt DL, Cohen M, Steg PG, Storey RF, Jensen EC, Magnani G, Bansilal S, Fish MP, Im K, Bengtsson O, Ophuis TO, Budaj A, Theroux P, Ruda M, Hamm C, Goto S, Spinar J, Nicolau JC, Kiss RG, Murphy SA, Wiviott SD, Held P, Braunwald E, Sabatine MS Long-Term Use of Ticagrelor in Patients with Prior Myocardial Infarction. N Engl J Med 2015 Mar 14;: [[25773268](#)] [10.1056/NEJMoa1500857](#)

**PEGASUS 60mg, 2015:**

Bonaca MP, Bhatt DL, Braunwald E, Cohen M, Steg PG, Storey RF, Held P, Jensen EC, Sabatine MS Design and rationale for the Prevention of Cardiovascular Events in Patients With Prior Heart Attack Using Ticagrelor Compared to Placebo on a Background of Aspirin-Thrombolysis in Myocardial Infarction 54 (PEGASUS-TIMI 54) trial. *Am Heart J* 2014;167:437-444.e5 [24655690]

Bonaca MP, Bhatt DL, Cohen M, Steg PG, Storey RF, Jensen EC, Magnani G, Bansilal S, Fish MP, Im K, Bengtsson O, Ophuis TO, Budaj A, Theroux P, Ruda M, Hamm C, Goto S, Spinar J, Nicolau JC, Kiss RG, Murphy SA, Wiviott SD, Held P, Braunwald E, Sabatine MS Long-Term Use of Ticagrelor in Patients with Prior Myocardial Infarction. *N Engl J Med* 2015 Mar 14;: [25773268] 10.1056/NEJMoa1500857

## 5 selective PAR-1 thrombin receptor antagonist

Trial	Treatments	Patients	Trials design and methods
<b>vorapaxar vs placebo (on top aspirin)</b>			
<b>TRA-2P TIMI 50 , 2012</b> [NCT00526474] n=13225/13244 follow-up: 2.5 y (median)	vorapaxar (SCH 530348) 2.5-mg daily versus placebo (added to the existing standard of care for preventing heart attack and stroke (eg, aspirin, clopidogrel)	patients with a known history of atherosclerosis (MI, ischemic stroke, or peripheral vascular disease)	Parallel groups double-blind

## References

### TRA-2P TIMI 50, 2012:

Morrow DA, Scirica BM, Fox KA, Berman G, Strony J, Veltri E, Bonaca MP, Fish P, McCabe CH, Braunwald E Evaluation of a novel antiplatelet agent for secondary prevention in patients with a history of atherosclerotic disease: design and rationale for the Thrombin-Receptor Antagonist in Secondary Prevention of Atherothrombotic Ischemic Events (TRA 2 degrees P)-TIMI 50 trial. *Am Heart J* 2009 Sep;158:335-341.e3 [19699854]

Morrow DA, Braunwald E, Bonaca MP, Ameriso SF, Dalby AJ, Fish MP, Fox KA, Lipka LJ, Liu X, Nicolau JC, Oude Ophuis AJ, Paolasso E, Scirica BM, Spinar J, Theroux P, Wiviott SD, Strony J, Murphy SA Vorapaxar in the Secondary Prevention of Atherothrombotic Events. *N Engl J Med* 2012 Mar 24;: [22443427] 10.1056/NEJMoa1200933

Scirica BM, Bonaca MP, Braunwald E, De Ferrari GM, Isaza D, Lewis BS, Mehrhof F, Merlini PA, Murphy SA, Sabatine MS, Tendera M, Van de Werf F, Wilcox R, Morrow DA Vorapaxar for secondary prevention of thrombotic events for patients with previous myocardial infarction: a prespecified subgroup analysis of the TRA 2P-TIMI 50 trial. *Lancet* 2012;380:1317-24 [22932716]

## 6 ticlopidine

Trial	Treatments	Patients	Trials design and methods
<b>ticlopidine vs placebo</b>			
<b>Berglund , 1985</b> n=21/17 follow-up: 2m	ticlopidine 500 mg daily versus placebo	middle-aged men with stable incapacitating angina pectoris	parallel groups double blind

## References

### Berglund, 1985:

## 7 About TrialResults-center.org

TrialResults-center is an innovative knowledge database that collects the results of RCTs and provides dynamic interactive systematic reviews and meta-analysis in the field of all major heart and vessels diseases.

The TrialResults-center database provides a unique view of the treatment efficacy based on all data provided directly from clinical trial results, offering a valuable alternative to personal bibliographic search, published meta-analysis, etc. Furthermore, it would allow comparing easily the various concurrent therapeutic for the same clinical condition.

Rigorous meta-analysis method is used to populate TrialResults-center: widespread search of published and non published trials, study selection using pre-specified criteria, data extraction using standard form.

TrialResults-center is continually updated on a weekly basis. We continually search all new results (whatever their publication channel) and these news results are immediately added to the database with a maximum of 1 week.

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