Antithrombotics for acute coronary syndrome in unstable angina

A systematic review and meta-analysis of randomized clinical trials

2017 - 7 - 1

This report should be referenced as follows:
TrialResults-center.org; Results of all major randomized clinical trials about Antithrombotics for acute coronary syndrome in unstable angina.

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0.1 Synthesis of the meta-analysis results

We found 1 trials concerning short term LMWH.
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).
Only one trials including 0 patients was found.
Among these comparisons, one trial are about enoxaparin.
No trial was excluded on grounds of potentially flawed methodology or incomplete presentation of results. No ongoing trial was found.
Results obtained with enoxaparin for all the endpoints with data in at least one trial are summarized table 1.

Table 1: *Results summary - Enoxaparin*

Benefit	**Harmful**	**No evidence**
	Enoxaparin versus unfractionated heparin	

* $p < 0.05$; † $p < 0.01$; ¶ $p < 0.001$ 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 acute coronary syndrome in unstable angina.

1.2 Search strategy

The search aimed to identify all randomized clinical trials relating to the clinical effectiveness of antithrombotics for the treatment of acute coronary syndrome in unstable angina.

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 acute coronary syndrome.

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 .

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 **??** to **??**, listed by therapeutic class. The therapeutic classes included short term LMWH,

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.

2 Overview of short term LMWH

2.1 Included trials

Only one trial which randomized 0 patients was identified. In all, 1 randomized comparison concerned enoxaparin.
The detailed descriptions of trials and meta-analysis results is given in section 3 (page 14) for enoxaparin.

This trial included NaN patients and was published in .
This trial was open-label in design.
It was reported in English language.
The table 2.1 (page 12) summmarizes 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 short term LMWH provide the results listed in tables 2.2 to 2.2 (page 13) and in the following graphs.

2.2.1 Enoxaparin

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

Table 2.1: *Main study characteristics - short term LMWH*

Trial	Patients	Treatments	Trial design and method
Enoxaparin			
Enoxaparin versus unfractionated heparin			
RESCUE, n = NA vs. NA	patients diagnosed with acute coronary syndrome in the emergency department	enoxaparin **versus** unfractionated heparin	open parallel groups Primary endpoint: death, MI, recurrent angina requiring revasc

Table 2.2: *Summary of all results for enoxaparin*

Endpoint	Effect	95% CI	p ass	p het (I^2)	k	n
enoxaparin versus unfractionated heparin						
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

3 Details

3.1 Available trials

Only one trial which randomized 0 patients was identified: it compared enoxaparin with unfractionated heparin.
This trial included NaN patients and was published in .
This trial was open-label in design.
It was reported in English language.
data was reported in trials;
Following tables 3.1 (page 14), 3.2 (page 14), 3.4 (page 15), and 3.3 (page 14) summarized the main characteristics of the trial including in this systematic review of randomized trials of enoxaparin.

Table 3.1: *Treatment description - short term LMWH - enoxaparin*

Trial	Studied treatment	Control treatment
Enoxaparin versus unfractionated heparin		
RESCUE ()	Enoxaparin	unfractionated heparin

Table 3.2: *Descriptions of participants - short term LMWH - enoxaparin*

Trial	Patients
Enoxaparin versus unfractionated heparin	
RESCUE ()	Patients diagnosed with acute coronary syndrome in the emergency department

Table 3.3: *Design and methodological quality of trials - short term LMWH - enoxaparin*

Trial	Design	Duration	Centre	Primary endpoint
Enoxaparin versus unfractionated heparin				
RESCUE, n=NaN	Parallel groups open	30 days		death, MI, recurrent angina requiring revasc

Table 3.4: *Trial characteristics - short term LMWH - enoxaparin*

Trial
Enoxaparin versus unfractionated heparin
RESCUE,

3.2 Meta-analysis results

The results are detailed in table 3.5 (page 16). This table is followed by the Forest's plot corresponding to each endpoint.

Enoxaparin versus unfractionated heparin

No data were presented in the 1 trial identified

Table 3.5: *Results details - short term LMWH - enoxaparin*

Comparison Endpoint	Effect	95% CI	p ass	p het	k	n
enoxaparin versus unfractionated heparin						
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: inconsistance degree

References

3.3 Individual trial summaries

Table 3.6: *RESCUE, - Trial synopsis*

Trial details	Patients	Treatments	Outcomes
n=NA (NA vs. NA) **Follow-up duration:** 30 days **Study design:** Randomized controlled trial Parallel groups Open	Patients diagnosed with acute coronary syndrome in the emergency department	**Studied treatment:** Enoxaparin **Control treatment:** unfractionated heparin	
Reference			

4 Global meta-analysis: all short term LMWH

4.1 Global meta-analysis: all short term LMWH versus unfractionated heparin

Table 4.1: *All short term LMWHversus unfractionated heparin*

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: inconsistance degree

5 Ongoing studies

No ongoing trial was identified.

6 Excluded studies

No trial was excluded.

References