



An evidence-based review of pharmaceutical interventions to limit the systemic inflammatory response in cardiac surgery

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Disclosures

Barbados Diabetes Foundation
Bayer Healthcare
British Heart Foundation
Cave Shepherd Ltd.
Cellplex
Destiny Group of Companies
Edmund Cohen Foundation
Medicor International
Point Care Technologies

Systematic search of the literature ...

randomised drug trials

inflammatory response

1970 - 2008

645 papers

Exclusion criteria ...

pediatric

on-pump, valve, other CT procedures

Incl

No meta-analyses met inclusion criteria

measure at least one inflammatory marker

Optional: measure organ function to

heart, lung, brain, kidney, gut

17 papers

ACC/AHA guidelines

1. Two independent reviewers
2. Any conflicts resolved by third reviewer

ACC/AHA clinical recommendations

Class of Recommendation:

Class I should do

Class IIa good idea

Class IIb uncertain - not a bad idea

Class III Do not do, could be harmful

ACC/AHA clinical recommendations

Level of Evidence:

- A Multiple randomised trials
- B Single randomised trial
- C Case report / expert opinion

Provisional recommendations

Methylprednisolone:

22/3 in favour

4/6 organ protective

Class IIa, Evidence Level A

Provisional recommendations

Hydrocortisone / Cortisol:

3/3 in favour

2/2 organ protective

Class IIa, Evidence Level B

Provisional recommendations

High Dose Aprotinin:

12/18 in favour

3/5 organ protective

Class IIb, Evidence Level A

Provisional recommendations

Low Dose Aprotinin:

2/11 in favour

1/6 organ protective

Class III, Evidence Level A

Provisional recommendations

Lysine Analogs (tranexamic acid, ϵ -amino caproic acid):

1/3 in favour

2/4 organ protective

Class III, Evidence Level B

Provisional recommendations

Atorvastatin:

0/1 in favour

-- organ protective

Class III, Evidence Level C

Conclusions

The evidence base is minimal

Most studies do not measure a single inflammatory marker

No meta-analyses

Only Methylprednisolone merited a Class IIa clinical recommendation based on multiple randomised trials

Reveals need to define criteria for carrying out such studies in future

Consensus Statement: Defining Minimal Criteria for Reporting the Systemic Inflammatory Response to Cardiopulmonary Bypass

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ABSTRACT

The causal factors of the systemic inflammatory response to

Definition of the Systemic Inflammatory Response

The systemic inflammatory response is broadly defined as an

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