Reviewer's report

Title: Effects of inosine on reperfusion injury after cardiopulmonary bypass

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Reviewer: Bruno PD Podesser

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Effects of inosine on reperfusion injury after cardiopulmonary bypass
Gábor Veres et al.

In the present pre-clinical study, the authors investigated the effects of inosine on cardiac function during reperfusion in an experimental model of cardioplegic arrest and extracorporeal circulation in twelve anesthetized dogs. After 60 minutes of hypothermic cardiac arrest, reperfusion was started after application of either saline vehicle (control, n = 6), or inosine (100 mg/kg, n=6). Left ventricular end-systolic pressure volume relationship (ESPVR) was measured at baseline and after 60 minutes of reperfusion. Left anterior descendent coronary blood flow (CBF), endothelium-dependent vasodilatation to acetylcholine (ACh) and endothelium-independent vasodilatation to sodium nitroprusside (SNP) were also determined. The administration of inosine led to a significantly better recovery of ESPVR. CBF and was also significantly higher in the inosine group and ACh resulted in a significantly higher increase in CBF in the inosine group. The authors conclude that application of inosine improves myocardial and endothelial function after cardiopulmonary bypass with hypothermic cardiac arrest.

Comments:
Introduction and background:
Myocardial protection is an all time favourite of cardiac research. Inosine may be a new player by exerting inotropic, vasodilatory and anti-inflammatory effects.

MM:
Correct model, proper planning and analysis

Results: As expected, favourable results in contractility and endothelial function

Discussion: provides all necessary information

Congratulations to your work!

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests:

I declare that I have no competing interests