

# Cardiac output response to a colloid preload for spinal anaesthesia for caesarean section in patients with severe preeclampsia

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# Introduction

- Fluid management in preeclampsia controversial
  - Risk of pulmonary oedema
  - Risk of renal injury
- Current restrictive practice appropriate for the patient not invasively monitored
- Individualised fluid therapy is possible when haemodynamic monitoring is available

# Aim of study

Measurement of stroke volume responsiveness in women with severe early onset preeclampsia undergoing spinal anaesthesia for caesarean section

# Patients and methods

- 42 patients
- Severe treated early onset preeclampsia
- No other cardiovascular disease
- Maternal indication for Caesarean section
- Eligible for spinal anaesthesia
- LiDCO*rapid* haemodynamic monitor

# Prior treatment

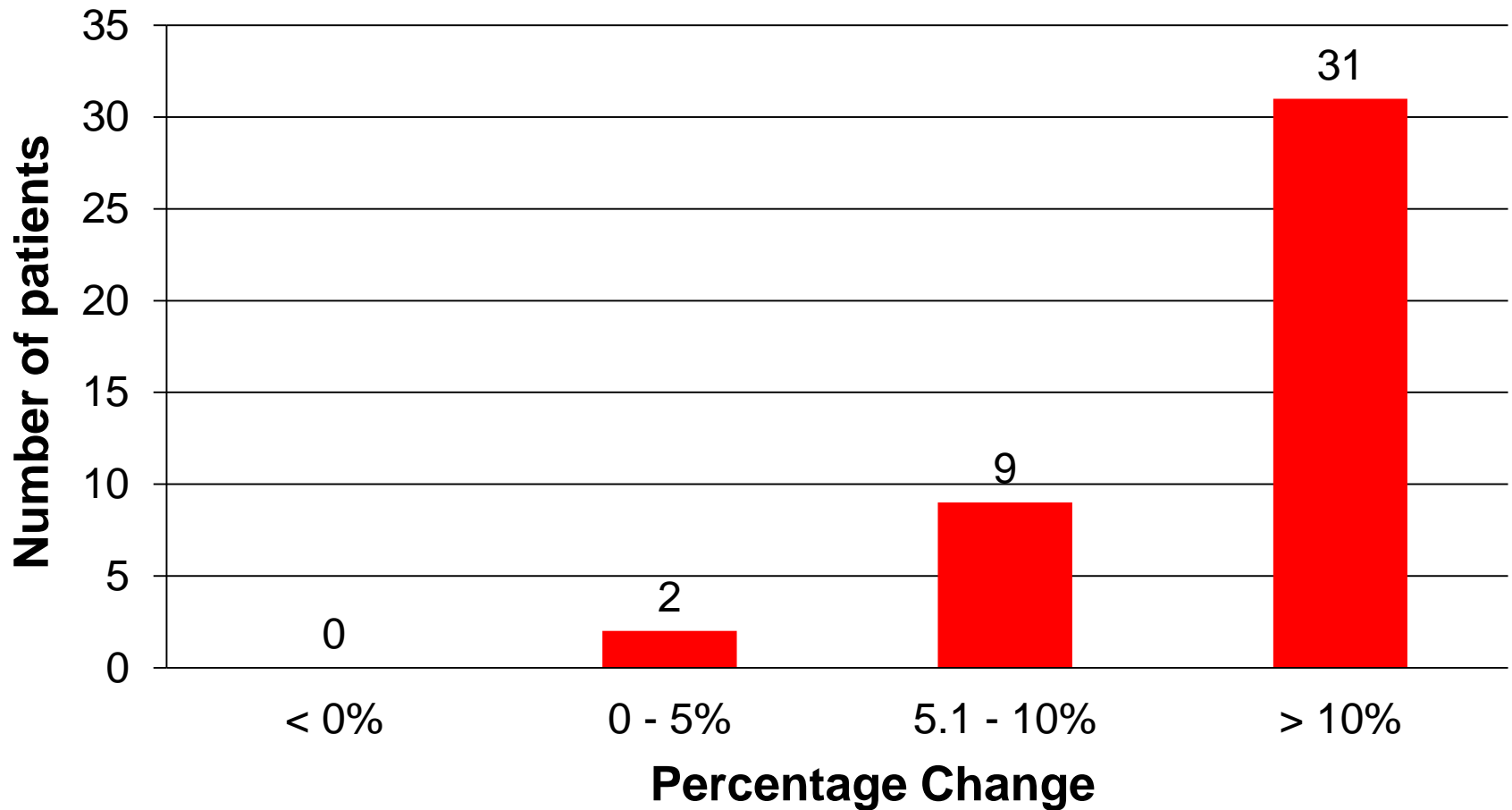
- MgSO<sub>4</sub>
- Antihypertensives
  - Dihydrallazine
  - Alphamethyldopa
  - Nifedipine
- Fluids
  - 50-100 mL/ hour IV
  - NPO for theatre

# In theatre

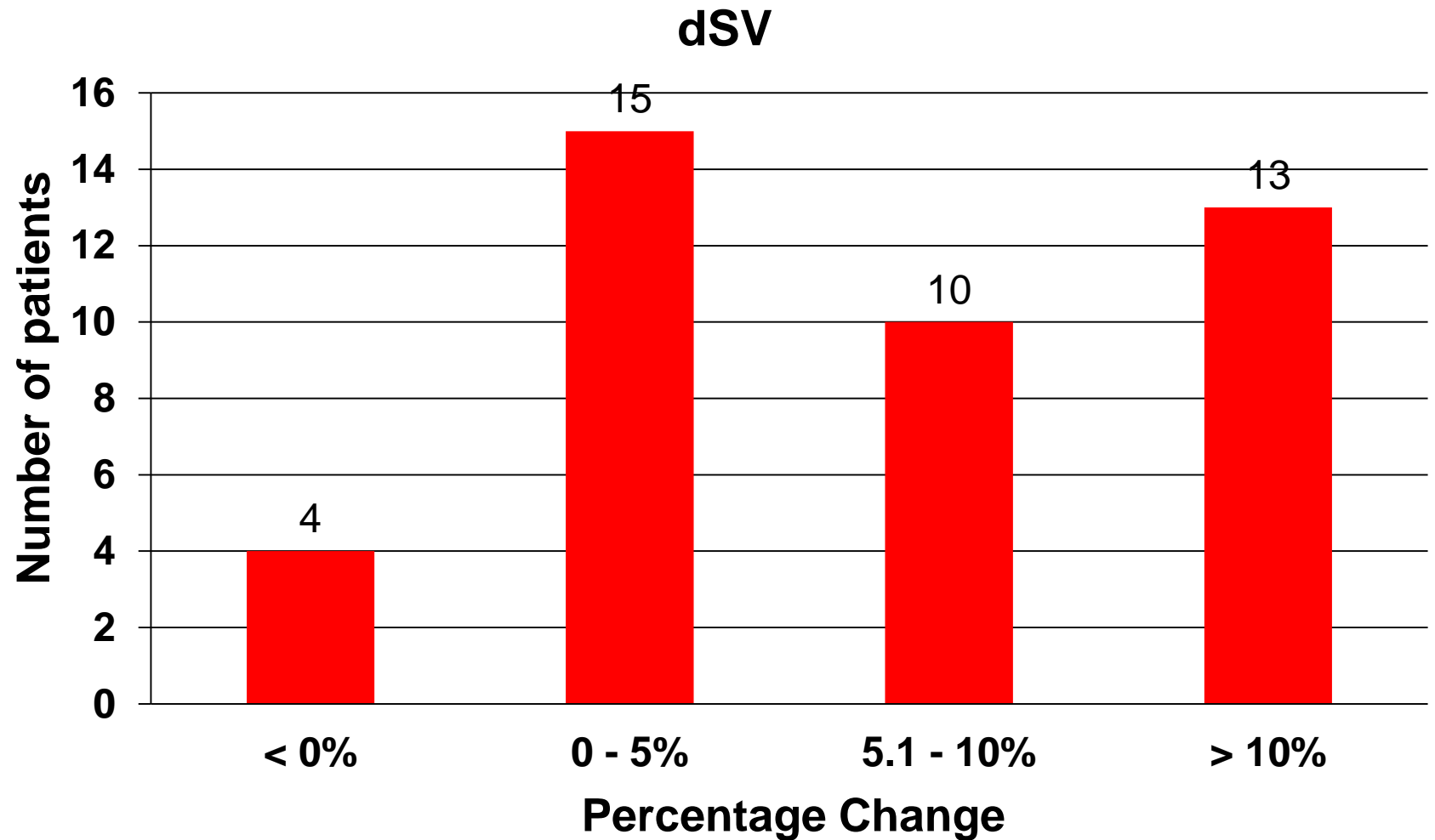
- 16 G IV line
- 20 G arterial line
- Left lateral position
- LiDCO*rapid* haemodynamic monitor
- Baseline haemodynamic data
- 300 ml HES 130/0.4 via rapid infusion
- Post infusion haemodynamic data
- Data averaged over 1 minute

# Change in Cardiac Output

**dCO**

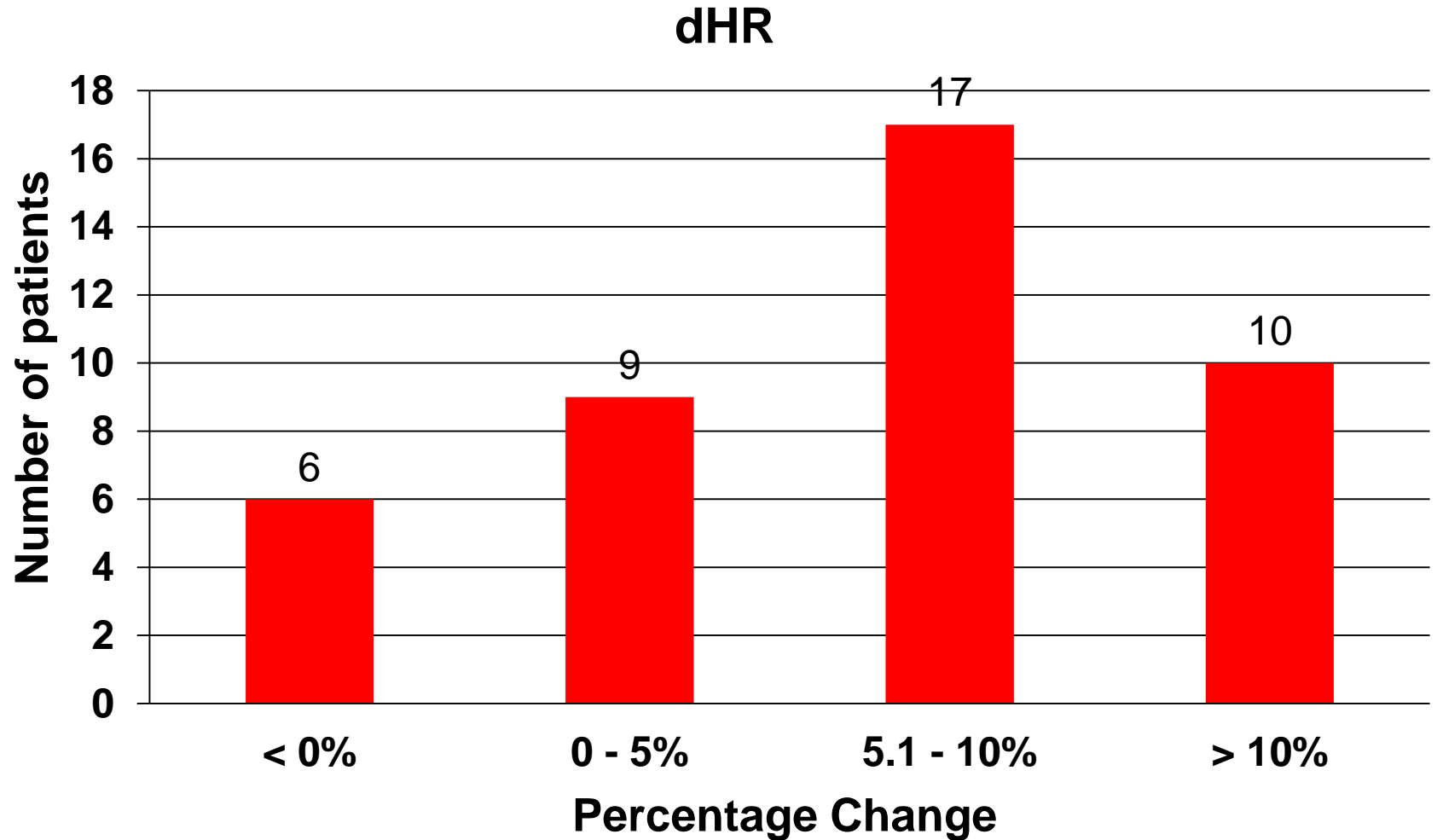


# Change in Stroke Volume



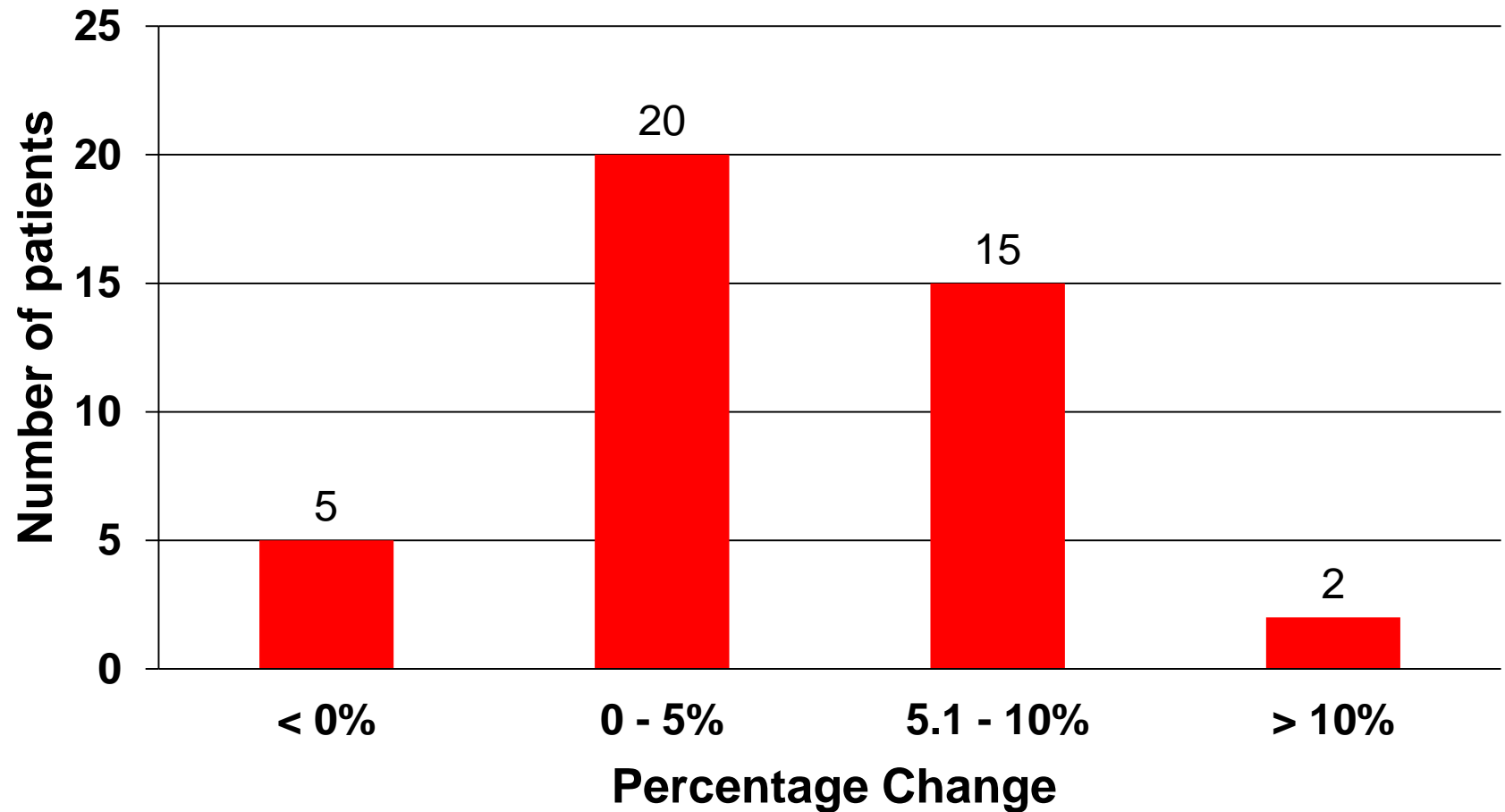


# Change in Heart Rate

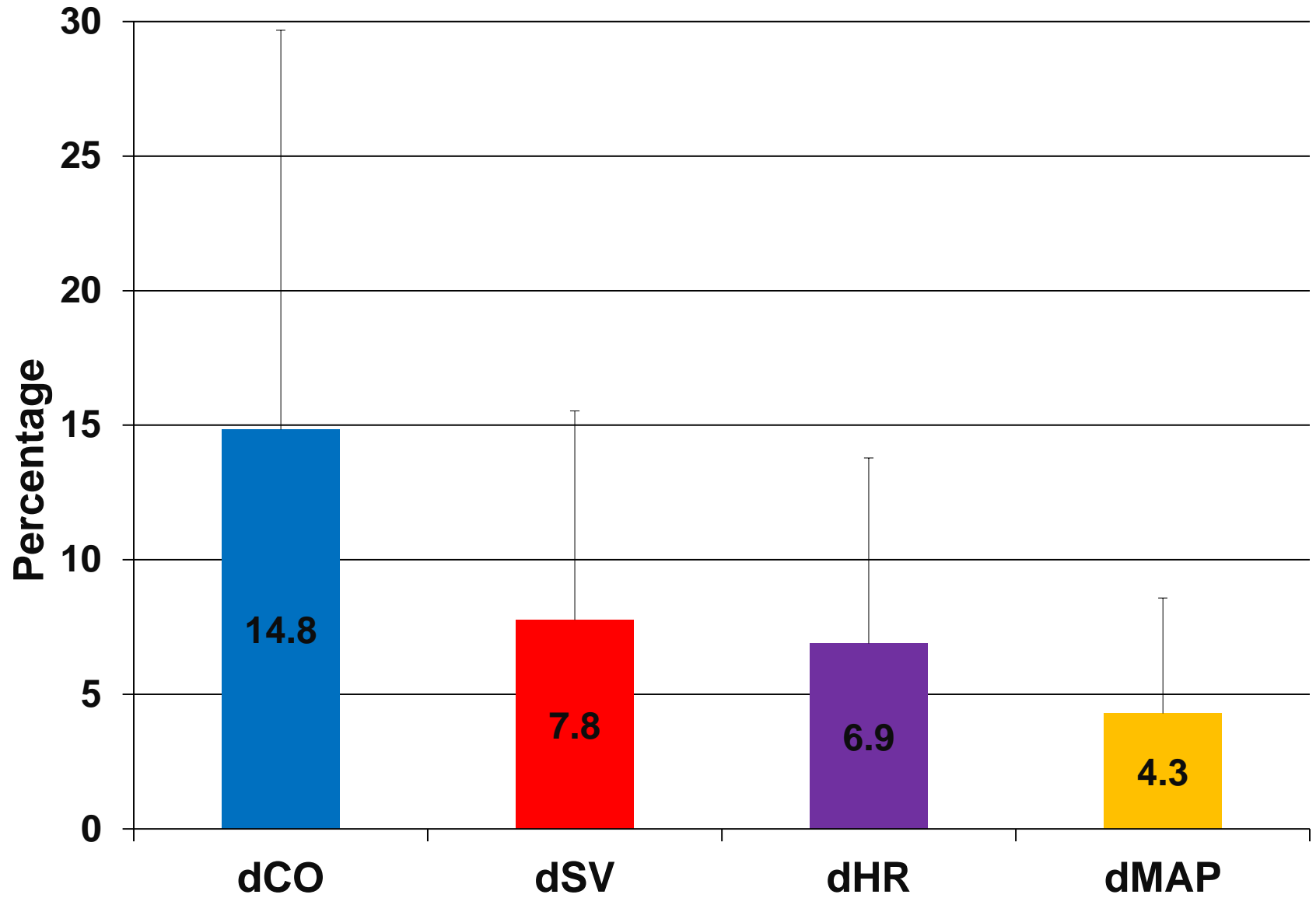


# Change in Mean Arterial Pressure

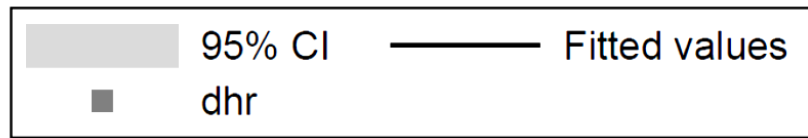
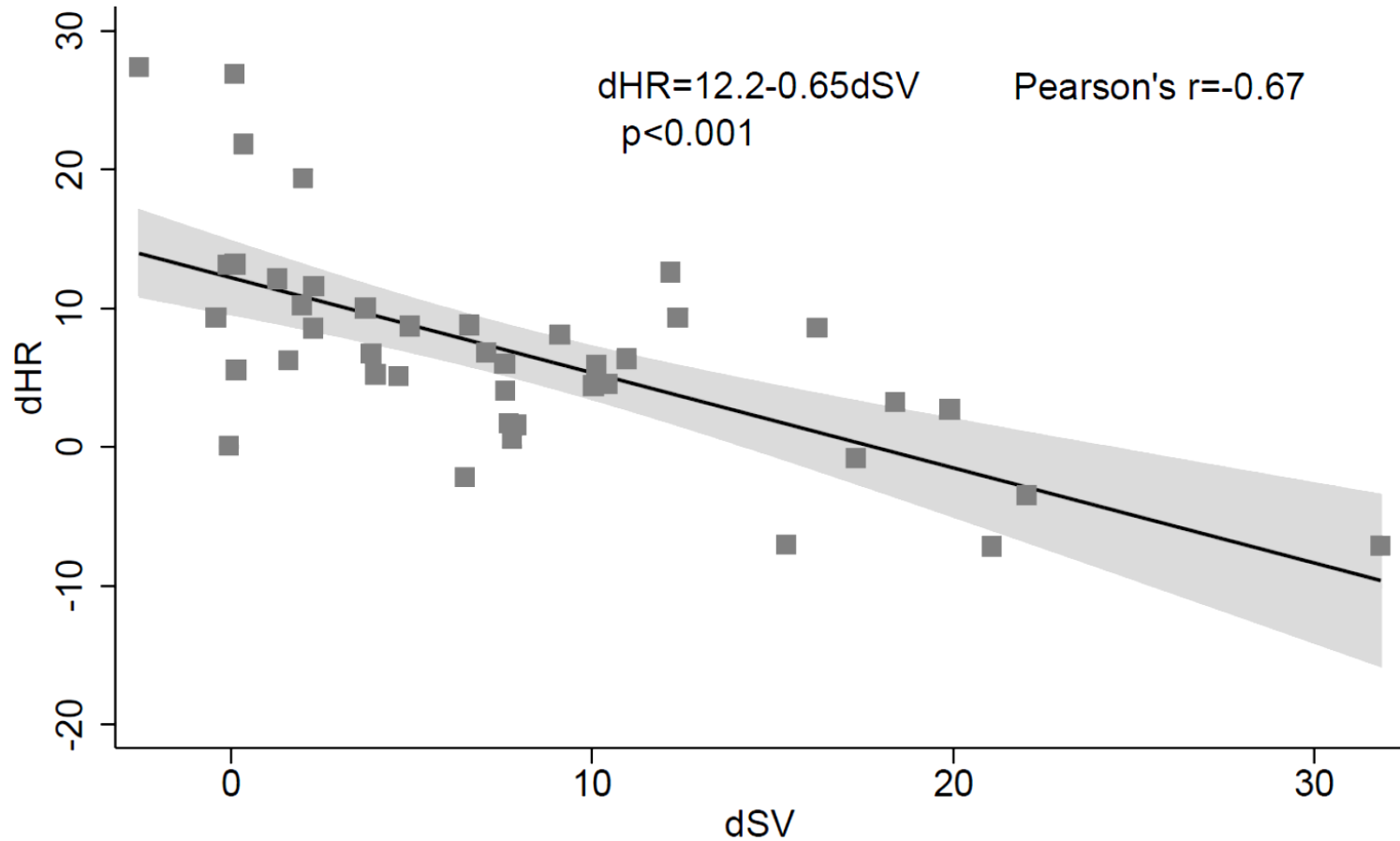
## dMAP



# Percentage Changes from Baseline



# Relation between SV and HR



# Conclusions

- Significant cardiac output increase with limited colloid preload:
  - Mediated by increase in both HR and SV
- A larger study may provide:
  - Information on correlation between stroke volume responsiveness and vasopressor requirement
  - Clearer guidelines for fluid administration
- Caution in administering further fluid to those who respond with a significant increase in heart rate

Thank you

