

# The comparison of coronary flow during synchronized pulsatile and standard continuous flow extracorporeal life support in porcine model of cardiogenic shock

**Petr Ostadal, Mikulas Mlcek, Svitlana Strunina, Matej Hrachovina, Andreas Kruger, Dagmar Vondrakova, Marek Janotka, Otomar Kittnar, Petr Neuzil**



Cardiovascular Center, Na Homolce Hospital,  
Prague, Czech Republic



Department of Physiology, First Faculty of  
Medicine, Charles University, Prague, Czech  
Republic

# Disclosures

The study was supported by  
a grant from i-COR (Xenios Group,  
Germany)



# Introduction

Synchronized Cardiac Assist (i-COR, Germany) is a new ECG-synchronized, pulsatile veno-arterial extracorporeal life support (ECLS), with increased blood flow during diastole and decreased flow during systole.

It offers a full circulatory support during cardiac arrest and circulatory support preserving left ventricular function during cardiogenic shock.



# Aims and Methods

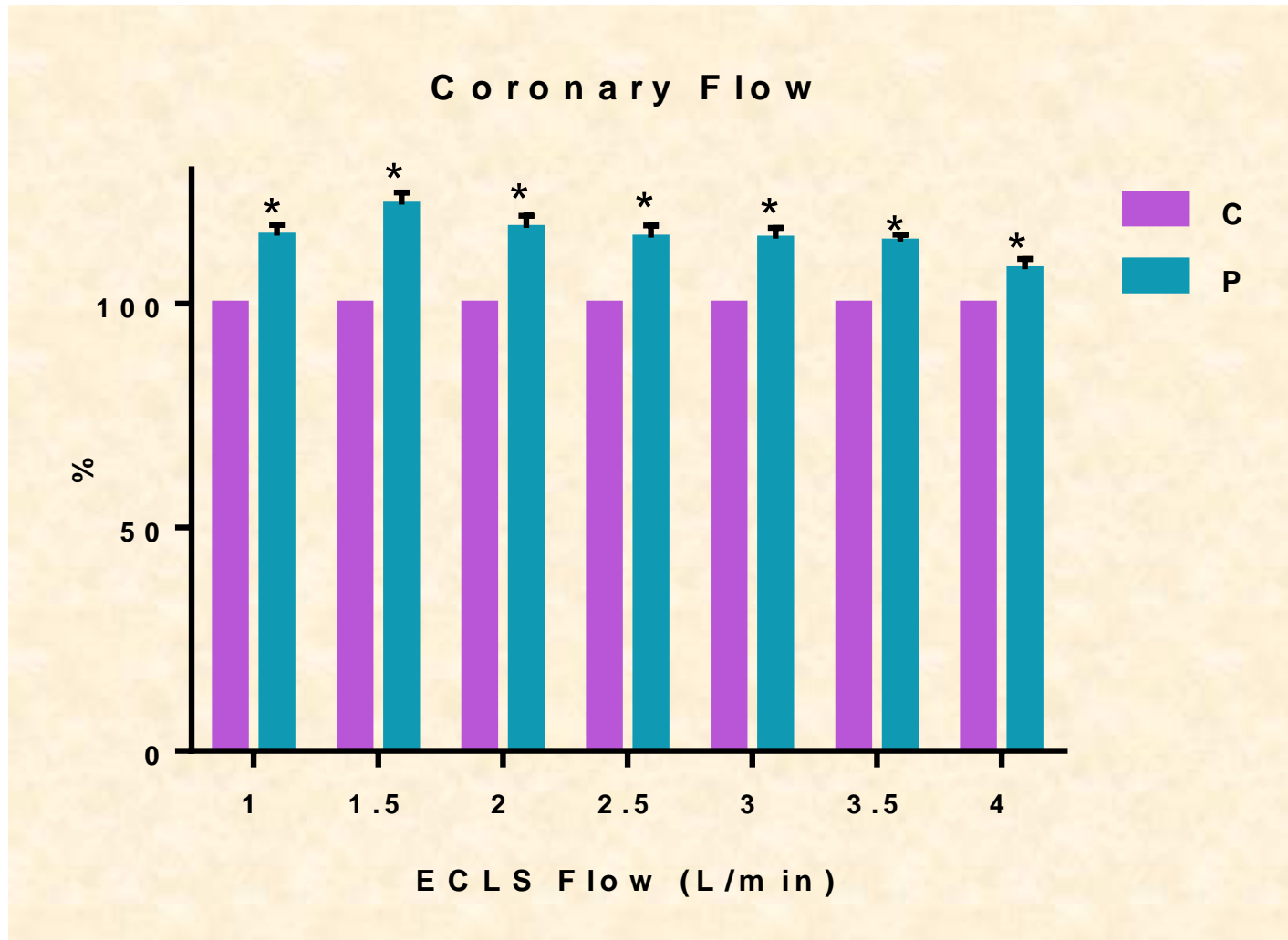
## Aims:

- To compare the effect of pulsatile (P) and continuous (C) ECLS blood flow on coronary flow in cardiogenic shock

## Methods:

- Eight female swine
- General anesthesia, artificial ventilation
- Veno-arterial ECLS (Synchronized Pulsatile Assist, i-COR, Germany)
- Coronary flow (CF)  
Doppler measurement (FloWire, Volcano, USA)
- Acute cardiogenic shock with signs of tissue hypoperfusion, induced by global myocardial hypoxia

# Results



# Conclusion

Synchronized pulsatile ECLS improves coronary flow in comparison with standard continuous-flow ECLS in severe cardiogenic shock

