Hemolysis and acute kidney injury during pVAD support for Cardiogenic Shock.

Verbeke D[1], Raes M[1], Verbrugge F[1,2], Carmeliet T[1,2], Van Loo I[3], Vandeloo B[2], Lochy S[2], Agracha JF[2], Jonckheer J[1], Balthazar T[1,2].

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Introduction

- **Cardiogenic shock high mortality**
- **DanGer shock trial**
  - **pVAD in AMI related CGS, ↓ mortality**
- **High complications rate**

Relationship hemolysis & AKI

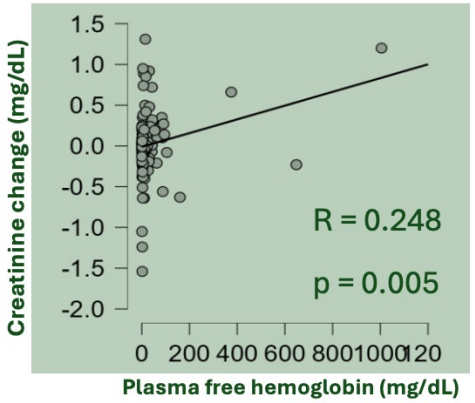
Methods

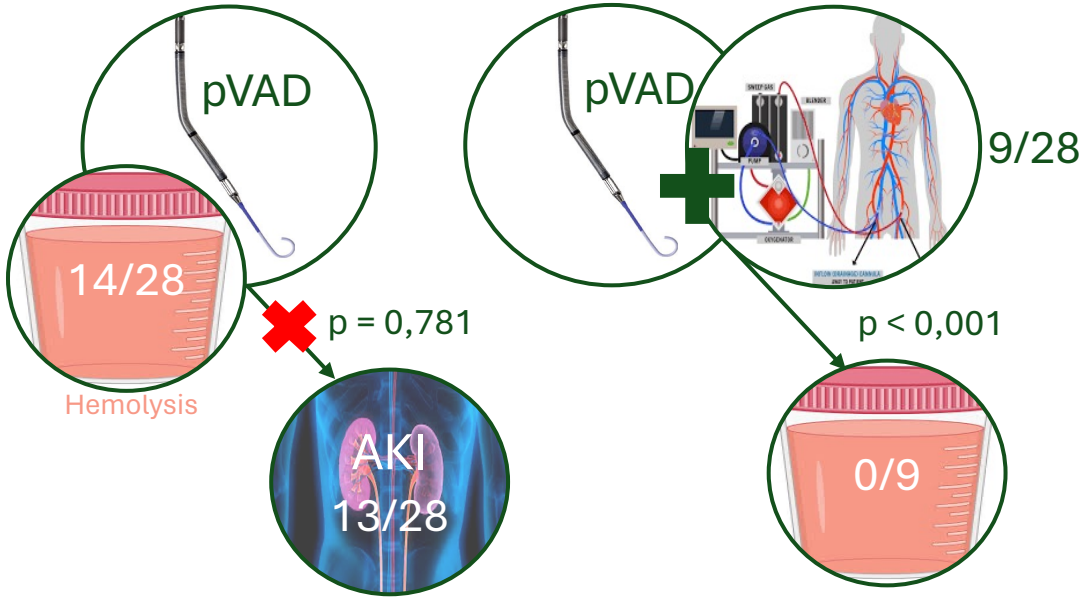
- **Prospective observational study, IRB approved**
- **CGS cases supported with pVAD**
- **Plasma free hemoglobin (pfHb) & creatinine levels (change) for each day of pVAD support**
- **Hemolysis: pfHb > 40 mg/dL**
- **AKI KDIGO guidelines, grade 1 to 3**
- **Spearman's rho coefficient: continuous variables**
- **Pearson's Chi-square testing: categorical variables**

Baseline characteristics

- 28 patients
- 79% man
- 50-71 years old, median 61 years
- Myocardial ischemia (59%)
- Non-ischemic cardiomyopathy (18%)
- Post-cardiotomy shock (18%)

Hemolysis	
Biochemical	14 (50%)
Actionable	3 (11%)
Acute kidney injury	**16 (57%)**
KDIGO stage I	5 (18%)
KDIGO stage II	5 (18%)
KDIGO stage III	6 (21%)
Renal replacement therapy	4 (14%)





Conclusion

1. **No significant association between clinical AKI and hemolysis in patients supported by pVAD**
2. **Concomitant use of VA-ECMO showed a protective relationship with hemolysis**

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