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Clinical Outcomes of Acute Myocardial Infarction Cardiogenic Shock: A Contemporary Single Center Experience

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BACKGROUND

METHODS

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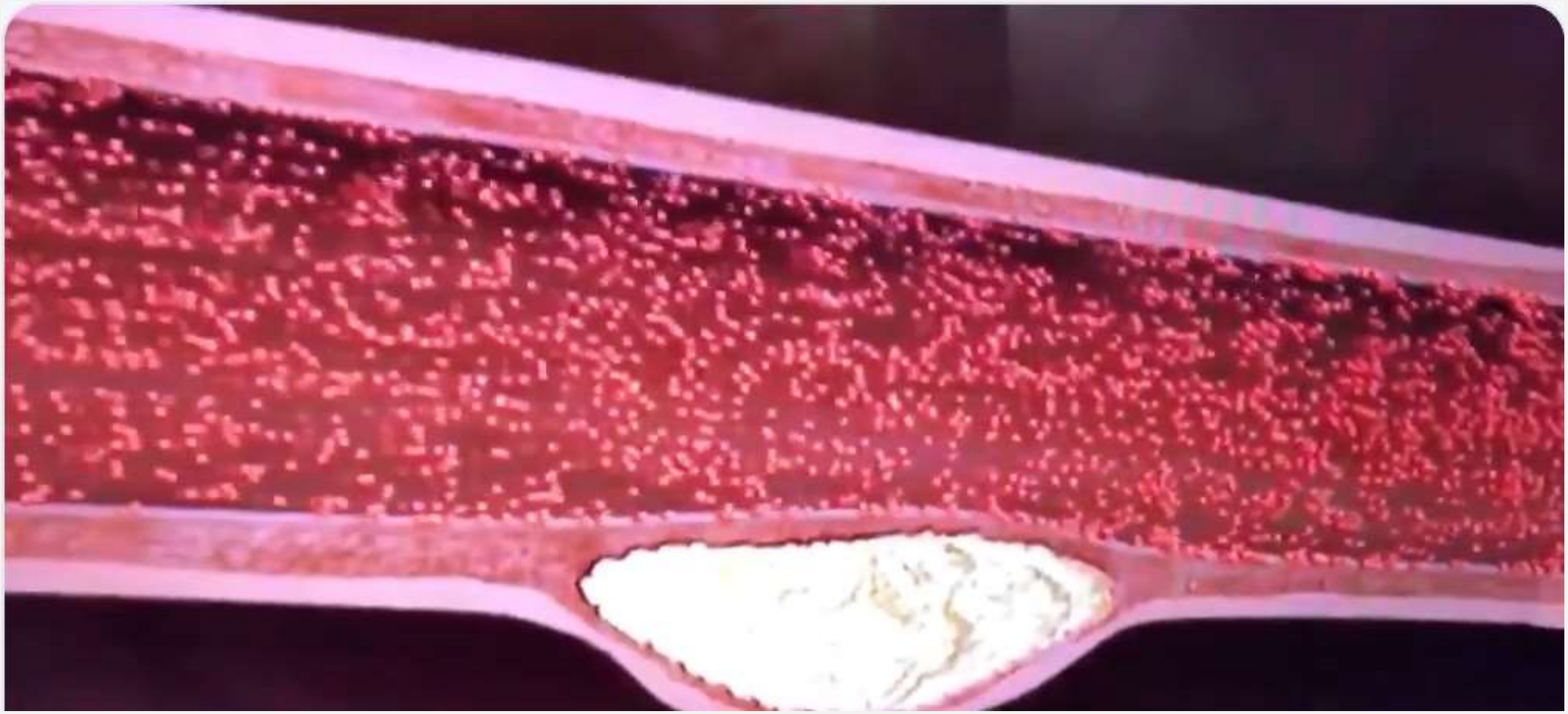
RESULTS

DISCUSSION

CONCLUSION



BACKGROUND

BACKGORUND

- Acute myocardial infarction cardiogenic shock (AMICS) continues to carry high morbidity and mortality, despite advances in revascularization strategies
- Recent data shows several trends in the field of AMICS, including increased patient complexity, overall low utilization of percutaneous mechanical circulatory support (MCS), and increased mortality rates
- We sought to study the clinical characteristics and outcomes of AMICS patients at our institution.

METHODS

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- From January 2014 to June, 2017, consecutive patients admitted to Henry Ford Hospital's Cardiac Intensive Care Unit with a primary diagnosis of cardiogenic shock in the setting of ST elevation or non-ST elevation myocardial infarction were identified and retrospectively studied
- Cardiogenic shock diagnosis was confirmed in accordance with definition in the SHOCK trial
- Comprehensive baseline characteristics and clinical outcomes were reviewed.

RESULTS

RESULTS

- Percutaneous MCS was used in 112 (93%) of patients: IABP = 62; Impella = 48; TandemHeart = 2
- The in-hospital survival of the entire AMICS population was 41%
- Among successfully revascularized patients, overall in-hospital survival was 50%

Characteristics	Patients (N= 120)
Age, yrs (Mean ± SD)	66 ± 12.4
Gender, no.	
Male	81 (67.5%)
Race	
Caucasian	51 (53.0%)
Diabetes Mellitus	41 (34.1%)
CVA/TIA	10 (8.3%)
CKD	19 (15.8%)
CHF	23 (19.1%)
Prior MI	16 (13.3%)
Prior PCI	16 (13.3%)
Prior CABG	12 (10.0%)
Length of Stay, days	10.5 ± 10.3
Type of MI	
STEMI	83 (69.1%)
NSTEMI	37 (31.0%)

Characteristics	Patients (N= 120)
Location at Initial Presentation	
Within Network Hospital	45 (37.5%)
At Out of Network Hospital	75 (62.5%)
Anoxic Brain Injury	20 (16.7%)
Cardiac Arrest	29 (24.2%)
Mechanical Circulatory Support	12 (20%)
None	8 (6.7%)
IABP	62 (51.7%)
Impella	48 (40.0%)
TandemHeart/ECMO	2 (1.7%)

RESULTS

- Last vital signs and perfusion parameters immediately before MCS placement, often while on vasopressors, were as follows:
  - mean systolic BP 91 ± 18.3 mmHg
  - mean diastolic BP 69 ± 19 mmHg
  - mean HR 91.8 ± 18.3 bpm
  - mean creatinine level 1.85 ± 1.2
  - mean AST level 546 ± 977
  - mean lactate level 4.0 ± 3.3
- There was a statistically significant difference in survival between patients admitted from within the native health system versus out of network transfer:
  - Within Network
    - N=45; survival = 55.6%
  - Out of Network Transfers
    - N=75; survival = 34.7%, p = 0.0310
- 90 patients (75%) had successful revascularization performed
- All patients with shock and vasopressors alone died
- Only 3 (10%) of the non-revascularized patients survived to hospital discharge.

DISCUSSION

DISCUSSION

- The frequent use of percutaneous MCS demonstrates feasibility of providing hemodynamic support
- Timing of MCS initiation was not standardized and often was delayed until significant signs of hypoperfusion have ensued

CONCLUSION

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- In this real-world experience, we find that AMICS continues to carry high overall mortality
- Hence, there is now a shift towards a standardized strategy of early initiation of mechanical support and revascularization which may help improve outcomes of AMICS patients

THANK YOU!