



Incidence, Risk Factors, and Outcomes of Sepsis-induced Myocardial Dysfunction Among Patients Admitted with Sepsis in a Tertiary Government Hospital

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INTRODUCTION

RES-014

Sepsis-induced myocardial dysfunction (SIMD) is a reversible condition with 20-50% mortality rates.¹ Despite considerable attention to SIMD, clinical comprehension remains inadequate, even locally.



OBJECTIVE

Determine the incidence, risk factors, and outcomes of SIMD among patients admitted with sepsis at Eastern Visayas Medical Center (EVMC) from September 1, 2023 to February 29, 2024.

METHODS

Study Design
Prospective Analytical Cohort

Setting
Department of Internal Medicine EVMC

Duration
September 1, 2023 to February 29, 2024

Population
Patients with sepsis and/or septic shock

Data Gathering
Clinico-demographic and laboratory profiles collected. Clinical outcomes monitored

Data Analysis
Chi-square

RESULTS

53 sepsis patients

15.10% developed SIMD

87.50% were females

62.50% >70 years old

58.33% had hypertension

41.67% had diabetes

41.67% had respiratory tract infections

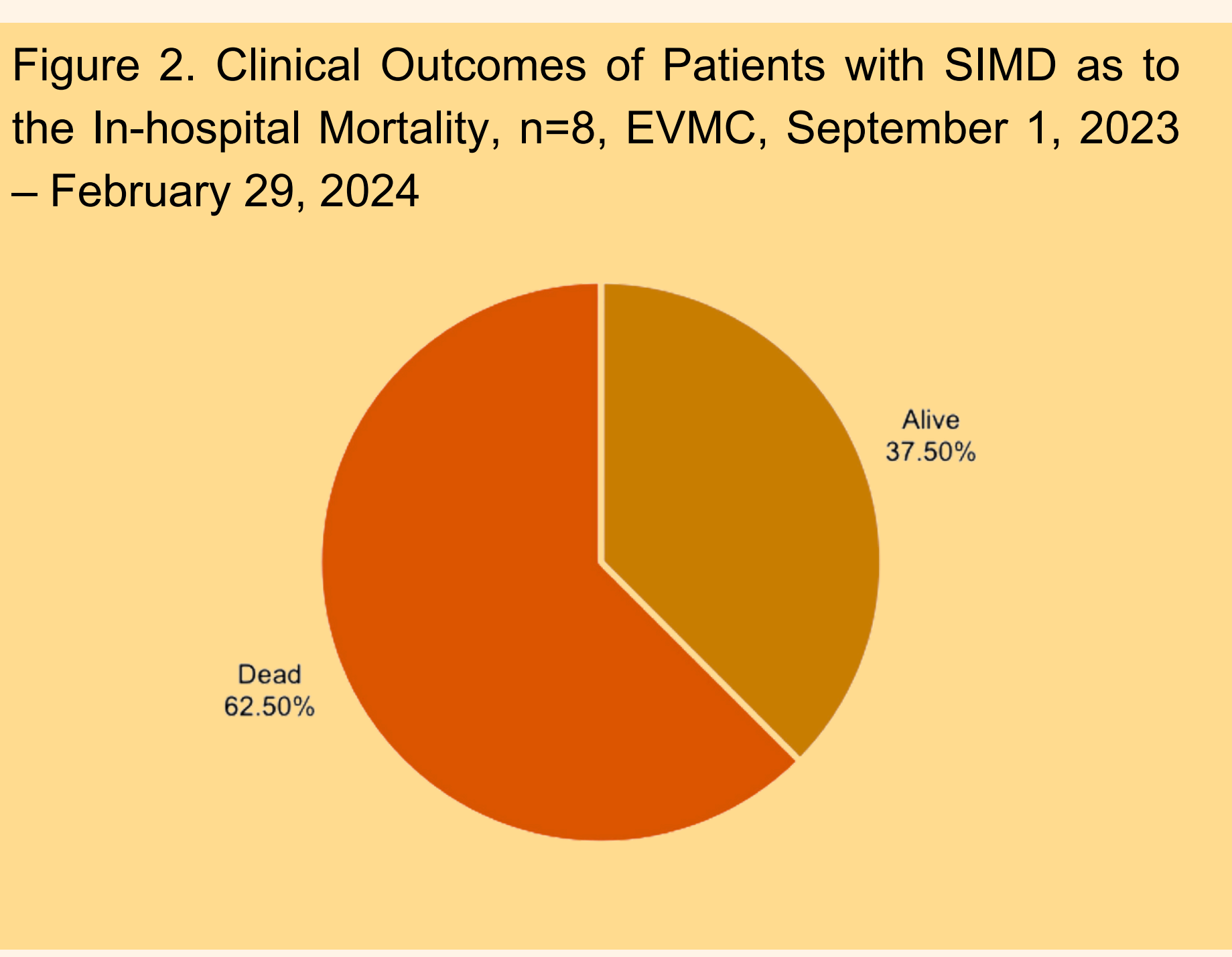
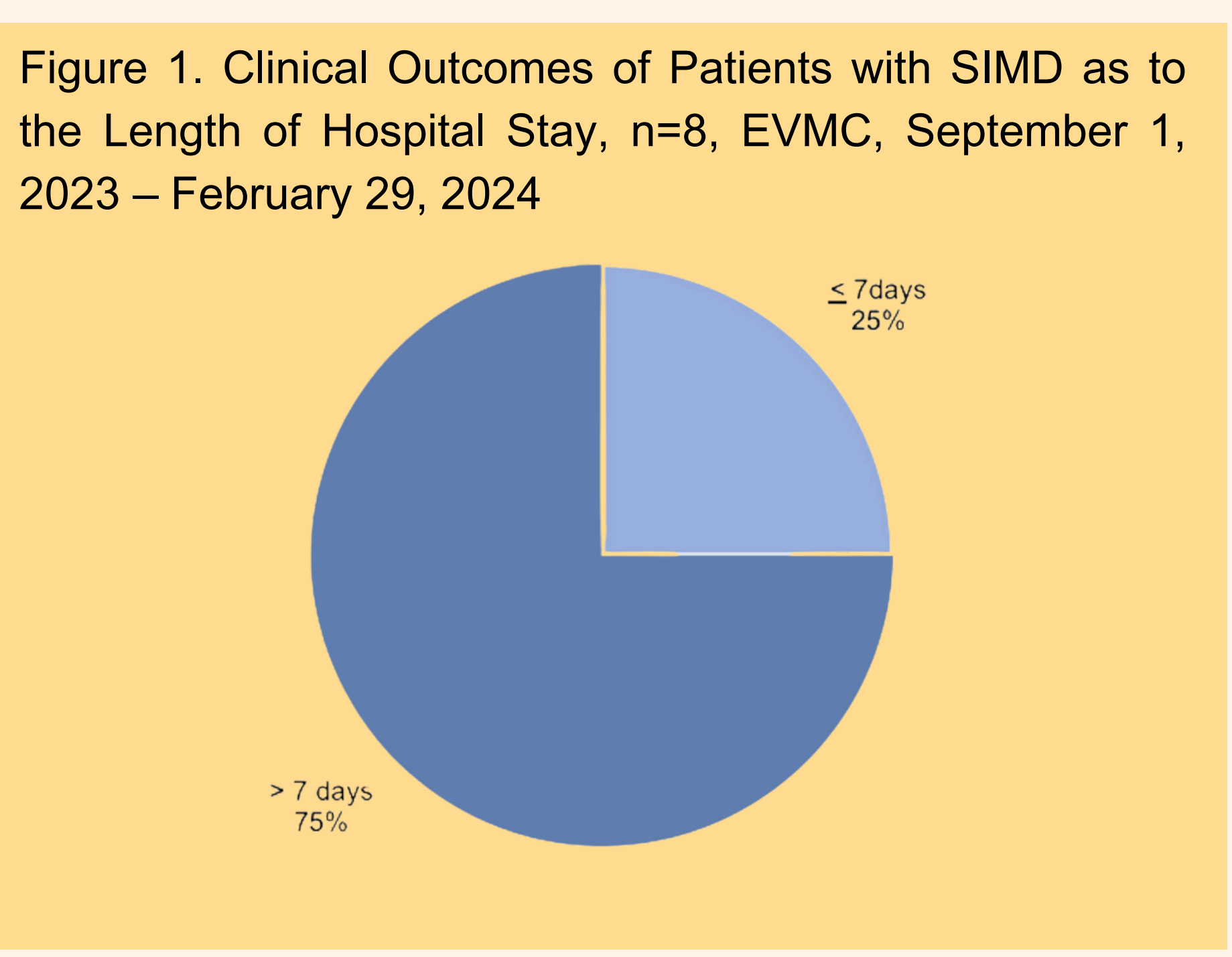
33.33% had MSK/soft tissue infections

50% had SOFA scores of 0-6 points

25% had SOFA scores of 7-9 points

37.50% had elevated Troponin I levels

62.50% had tachycardia



CONCLUSION

A low incidence of SIMD was observed among admitted sepsis patients. Data also revealed high mortality rates and prolonged hospital stay among the SIMD group. Furthermore, their SOFA scores had an implication to their length of hospital stay.

Table 1. Association of the Clinico-demographic and Laboratory Profiles to the Outcomes of Patients with SIMD as to Length of Hospital Stay, EVMC, September 1, 2023 – February 29, 2024

| Clinico-demographic Profile | LOHS < 7 days | | | LOHS > 7 days | | |
|-----------------------------|---|---------|-----------------|----------------|---------|-----------------|
| | X ² | P-value | Interpretation | X ² | P-value | Interpretation |
| Age (years) | 5.333 | 0.069 | Not Significant | 5.333 | 0.069 | Not Significant |
| Sex | 3.429 | 0.064 | Not Significant | 3.429 | 0.064 | Not Significant |
| Comorbidity | 3.429 | 0.064 | Not Significant | 3.429 | 0.064 | Not Significant |
| Source of Infection | | | | | | |
| Respiratory | 0.178 | 0.673 | Not Significant | 0.178 | 0.673 | Not Significant |
| Urinary Tract | 3.429 | 0.064 | Not Significant | 3.429 | 0.064 | Not Significant |
| Intra-abdominal | 3.429 | 0.064 | Not Significant | 3.429 | 0.064 | Not Significant |
| Musculoskeletal/soft tissue | 2.667 | 0.102 | Not Significant | 2.667 | 0.102 | Not Significant |
| Oral Cavity | No statistics are computed because the data is constant | | | | | |
| SOFA Score | 8.000 | 0.046 | Significant | 8.000 | 0.046 | Significant |
| Troponin I | 0.178 | 0.673 | Not Significant | 0.178 | 0.673 | Not Significant |
| 12 Lead ECG | 1.600 | 0.206 | Not Significant | 1.600 | 0.206 | Not Significant |

Table 2. Association of the Clinico-demographic and Laboratory Profiles to the Outcomes of Patients with SIMD as to In-Hospital Mortality, EVMC, September 1, 2023 – February 29, 2024

| Clinico-demographic Profile | Dead | | | Alive | | |
|-----------------------------|---|---------|-----------------|----------------|---------|-----------------|
| | X ² | P-value | Interpretation | X ² | P-value | Interpretation |
| Age (years) | 0.747 | 0.688 | Not Significant | 0.747 | 0.688 | Not Significant |
| Sex | 0.686 | 0.408 | Not Significant | 0.686 | 0.408 | Not Significant |
| Comorbidity | 0.686 | 0.408 | Not Significant | 0.686 | 0.408 | Not Significant |
| Source of Infection | | | | | | |
| Respiratory | 0.036 | 0.850 | Not Significant | 0.036 | 0.850 | Not Significant |
| Urinary Tract | 0.686 | 0.408 | Not Significant | 0.686 | 0.408 | Not Significant |
| Intra-abdominal | 0.686 | 0.408 | Not Significant | 0.686 | 0.408 | Not Significant |
| Musculoskeletal/soft tissue | 0.533 | 0.465 | Not Significant | 0.533 | 0.465 | Not Significant |
| Oral Cavity | No statistics are computed because the data is constant | | | | | |
| SOFA Score | 1.600 | 0.659 | Not Significant | 1.600 | 0.659 | Not Significant |
| Troponin I | 1.742 | 0.187 | Not Significant | 1.742 | 0.187 | Not Significant |
| 12 lead ECG | 0.036 | 0.850 | Not Significant | 0.036 | 0.850 | Not Significant |

RECOMMENDATIONS

- Consider a larger sample size to establish causal associations between risk factors and outcomes more effectively
- Include all septic patients irrespective of COVID-19 status
- Incorporate serial echocardiographic assessments

REFERENCES

1. Vieillard-Baron, A. (2011). Septic cardiomyopathy. Annals of intensive care, 1(1), 1-7.
2. Vincent, J. L. (2015). Emerging therapies for the treatment of sepsis. Current opinion in anaesthesiology, 28(4), 411-416.

