

A Myriad of Tragedies: Spousal Death Precipitating Co-occurring Takotsubo Cardiomyopathy and CNS Hemorrhage and Hematoma Resulting in Paraplegia

A Case Report



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Introduction

Takotsubo cardiomyopathy, also known as broken heart syndrome or stress cardiomyopathy, is a cardiac condition precipitated by an acute emotional or physical stressor. It is most common in post-menopausal women. Presenting symptoms are similar to acute coronary syndrome. Existent literature describes cases of Takotsubo cardiomyopathy precipitated by acute medical events. However, there is sparse literature related to cases presenting with simultaneous Takotsubo Cardiomyopathy and CNS bleeds with severe neurological complications. Described here is a rare case of Takotsubo Cardiomyopathy, bilateral sylvian fissure subarachnoid hemorrhage, and spinal epidural hematoma resulting in paraplegia in a 76 year old woman immediately following the unexpected, tragic death of her husband.

Initial Patient Presentation

76-year-old white woman with a past medical history of atrial fibrillation on apixaban, hypothyroidism, cerebrovascular accident, hyperlipidemia, and hypertension presented to the emergency room immediately following her husband's tragic death.

Presenting symptoms:

- Acute onset low back pain 7/10
- Diaphoresis
- Nausea
- Lightheadedness

Objective:

- Elevated blood pressure 187/91
- Hypoxia 84% requiring non-rebreather
- Elevated troponin 0.163 increased to 0.334 (Ref range <0.033)
- Elevated BNP: 282 rising to 938
- Imaging: CT Chest with enlarged heart and ground glass opacities; CT Angiogram with cardiomegaly, pulmonary vascular congestion

Initial assessment and plan:

- Concern for NSTEMI vs Takotsubo cardiomyopathy, treated with Nitroglycerin and Heparin ggt

Clinical Course

New symptom Development:

- numbness from umbilicus downward
- paralysis of bilateral lower extremities

Objective:

- Physical examination: no strength or sensation below level of T10, absent rectal tone, absent sacral reflexes.
- CT Head: hyperdensity at bilateral sylvian fissure concern for subarachnoid hemorrhages
- MRI pan spine: T1-12 spinal epidural hematoma with initially with dorsal extension, and then at the level of T8 with ventral circumferential compression; compression of conus medullaris and nerve roots of the cauda equina.

Treatment:

- Anticoagulation reversed with Kcentra, supportive care
- Consultation with Neurology, Neurosurgery, Cardiology, Psychiatry, Physical Medicine and Rehabilitation
- Inpatient rehabilitation admission for treatment of new onset paraplegia secondary to spinal cord injury.



Discussion and Conclusions

Here we describe a rare case of severe neurological complications associated with acute grief and Takotsubo cardiomyopathy. We hypothesize the unifying underlying pathophysiological etiology for these cardiac and neurologic events to be a catecholamine surge following acute emotional stress, leading to a cascade of cardio-inhibitory effects and microvascular dysfunction. It is also possible that CNS bleeds were worsened by administration of heparin used to treat NSTEMI.

Psychiatrically, the patient remained stable aside from mild situational anxiety, which did not interfere with her medical course or treatment. The stress of her acute grief manifested not in overt psychiatric decompensation, but in these aforementioned severe medical conditions.

It is important for physicians to recognize and consider the medical and neurological complications that are possible following an acute emotional or physical stressor. We share this unique case to inform others and encourage the sharing of rare cases for others in the field to learn from.

References

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Disclosures

No financial or commercial conflicts of interest. This patient signed a release of information to share information with medical community