A Ruptured Basilar Aneurysm Resulting in Takotsubo Cardiomyopathy.

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A 75-year-old female with hyperlipidemia and no known coronary artery disease presented to the Emergency Department (ED) after suddenly collapsing and collapsing onto the floor unconscious.

On physical exam, she was atypical, hypertensive with a blood pressure of 162/96 mmHg, pulse of 114 bpm and a respiratory rate of 24. Cardiopulmonary exam was unremarkable. Neurologically she was unresponsive with Glasgow Coma Scale of 8, Hunt and Hess grade 4, Fisher grade 5. Rarely, SAH can also be associated with Takotsubo cardiomyopathy.

Arrhythmias, myocardial infarction, and cardiac arrest are well-known complications of subarachnoid hemorrhage. SAH and its systemic effects, particularly to cardiac function [2]. The heart's ability to maintain adequate hemodynamics and volume status is imperative for patient recovery. Reversible cardiac dysfunction is a well-known complication of subarachnoid hemorrhage. Amythystis, myocardial infarction, and cardiac arrest are well known complications in patients with SAH and can result in death and delayed cerebral ischemia [3-5]. Rarely, SAH can also be associated with Takotsubo cardiomyopathy, which has a prevalence of 0.8% among all patients with aneurysmal SAH [6].

The development of Takotsubo cardiomyopathy (TOM), a transient dysfunction of the left ventricle which often mimics myocardial infarction, is increasingly recognized as a complication of SAH. TOM was first reported in Japan, when the peculiar ventricular morphology was noted to be quite similar in shapes to the takotsubo, a vase with a rounded bottom and narrow neck used by Japanese fishermen as an oar stopper (Fig. 1). Patients with the syndrome show evidence of ischemic injury with normal coronary arteriography.

TOM, while generally considered a self-limiting process, is important to recognize because it is associated with increased mortality rates resulting from the development of left ventricular thrombus, congestive heart failure (CHF), and amythystis [6]. It is a complication that is sometimes described in case reports and small case series. It is generally agreed upon that conservative medical management is the mainstay of therapy for TOM, however no clinical trials to date exist to help guide treatment. This case report serves as a call to action in order to raise awareness of this cardiac complication and the need for optimum clinical management.

FIGURE 1.

Figure 1: Ventriculography demonstrating takotsubo shape.

CONCLUSION

Since first being described in the literature, Takotsubo cardiomyopathy has become an increasingly recognized complication of SAH. It is an important diagnosis to consider as it mimics an acute coronary syndrome and it can lead to more complications with treatment of SAH, particularly in the subpopulation of SAH patients with aneurysms. Cardiac screening may be beneficial, however no clear guidelines are present to help guide therapeutic management. While outcomes are favorable with conservative management, there are still questions to be answered, particularly of the role vasopressors play in management. Awareness of this syndrome and reporting of it in the literature only serves to the betterment of medical therapies and patient outcomes.

References: