DEADLY TAP: A CASE OF FATAL PERICARDIAL DECOMPRESSION SYNDROME FOLLOWING PERICARDIOCENTESIS

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Introduction
Pericardial Decompression Syndrome, PDS, is a rare and unfortunate event that causes paradoxical worsening of hemodynamic following successful drainage of cardiac tamponade. The exact mechanism that led to this condition is unknown but must be considered in a patient who deteriorates after a period of improvement following decompression of the tamponade. Based on limited data, it is potentially deadly, with a mortality rate of up to 30%.

Case Description
A 43-year-old Filipino lady with no known medical illness presented to our center with worsening shortness of breath after two weeks of upper respiratory tract infection. Upon arrival, she was alert and tachypnoeic but saturated well under room air, and she was tachycardic and normotensive. Bedside point of care ultrasound showed pericardial effusion of 2.8 cm with right atrial (RA) and right ventricle (RV) collapse but with hyperdynamic heart, minimal left pleural effusion with bilateral lungs A profile, and distended inferior vena cava. Pericardiocentesis was performed, and 150 cc of serous fluid was drained. Repeated echo showed improvement of RA, and RV collapsed, but there was global hypokinesia; hence, the patient was started on inotrope. Unfortunately, she further deteriorated after four hours post pericardiocentesis, requiring intubation and triple inotropes. She succumbed at our emergency department.

Discussion
PDS is a diagnosis of exclusion following deterioration of patient post pericardiocentesis. Exact mechanism is unknown and there is no clear evidence-based guidelines available to prevent PDS. Although, European Society of Cardiology 2004 guidelines recommend draining of less than 1L pericardial fluid at a time, case report show that it may rarely develop even after small amount of pericardial drainage. Supportive therapy is a key treatment for the treatment of PDS including intra-aortic balloon pump, inotropic support, and aggressive heart failure treatment. However, this may be challenging in a district hospital with resource-strain setting.

Conclusion
PDS should be considered in a patient who deteriorates following a successful decompression of cardiac tamponade. Currently, there are no proven methods to prevent the incidence. It is potentially deadly, and supportive treatments are the mainstay therapies.

Keywords
Cardiac tamponade, pericardiocentesis, Pericardial decompression syndrome.