



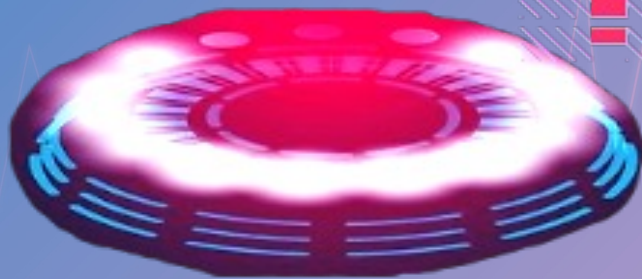
ATCSA 2023



ATCSA 2023

ATCSA 2023

ATCSA 2023







A CASE REPORT OF DELAYED HEMOPERICARDIUM AFTER BLUNT CHEST AND ABDOMINAL TRAUMA

Princess Alora R. Ibay, RN, MD
Southern Philippines Medical Center
Department of Emergency Medicine



- 
- 
- **Delayed traumatic hemopericardium is a rare phenomenon that appears a day or weeks after injury**
 - **In recent years, there are only 22 cases of delayed hemopericardium after non-penetrating trauma described worldwide (PubMed)**
 - **Most cases result from penetrating injury rather than blunt trauma**
 - **Life threatening and time-critical emergency that requires early recognition and prompt management often alongside other resuscitative considerations**





This case report aims to:

- 1. To present a case of delayed hemopericardium in blunt trauma**
- 2. To present the use of cardiac point-of-care ultrasound as an adjunct in detecting hemopericardium**
- 3. To discuss the approach of management in patients with delayed hemopericardium**



PATIENT'S PROFILE



NAME: D.O

AGE: 47/M

ADDRESS: TALANDANG, TUGBOK,
DAVAO CITY

RECEIVED VIA **WALK-IN**



CHIEF COMPLAINT

DYSPNEA



PRIMARY SURVEY

AIRWAY	Patent, able to speak in sentences
BREATHING	With spontaneous breathing, equal chest expansion, decreased breath sound bibasal
CIRCULATION	CRT <2seconds, full pulses, (+)distant heart sound, (+) neck vein engorgement , no murmurs, no pericardial rub
DISABILITY	alert, isocoric pupils, no lateralization, CBG 143mg/dl
EXPOSURE	No bipedal edema, no deformities





VITAL SIGNS

O2 SAT	97% at room air
BP	110/60 mmHg
HEART RATE	81 BPM
RESPIRATORY RATE	21 CPM
TEMPERATURE	36.1 C



PRIMARY SURVEY

SIGNS/SYMPTOMS	Occasional cough, orthopnea, dyspnea, no fever, no chest pain
ALLERGIES	NONE
MEDICATIONS	NONE
PAST MEDICAL	Non hypertensive Non diabetic Non asthmatic With previous hospitalization 1 month prior due to motorcycle accident, S/P bilateral CTT
LAST MEAL	6PM
EVENTS	Discussed in the history

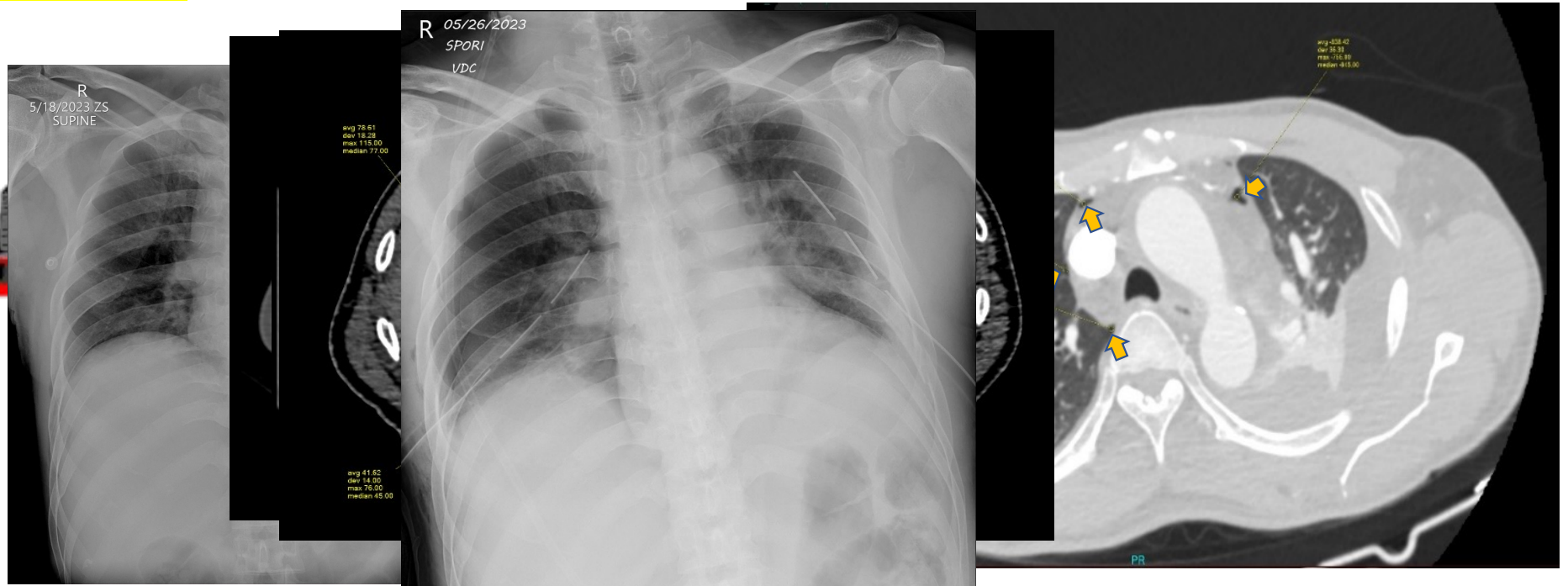


INITIAL MANAGEMENT

AIRWAY	Patent, able to speak in sentences	Hooked to supplemental O2 via nasal cannula at 4LPM
BREATHING	With spontaneous breathing, equal chest expansion, decreased breath sound bibasal, O2 SAT – 97%	
CIRCULATION	CRT <2seconds, full pulses, distant heart sound, (+) neck vein engorgement, no murmurs, no pericardial rub	Hooked to cardiac monitor with pulse oximeter – low voltage Insert heplock
DISABILITY	alert, isocoric pupils, no lateralization, CBG 143mg/dl	
EXPOSURE	No bipedal edema, no deformities	

HISTORY OF PRESENT ILLNESS

~1 MONTH



HISTORY OF PRESENT ILLNESS

~1 week



~2 days





IMPRESSION

PERICARDIAL EFFUSION





SALIENT FEATURES

- DYSPNEA
- OCCASIONAL COUGH
- ORTHOPNEA
- DISTANT HEART SOUND
- DISTENDED NECK VEIN
- HISTORY OF BLUNT CHEST AND ABDOMINAL TRAUMA
- S/P CTT



DIFFERENTIAL DIAGNOSES

PERICARDIAL EFFUSION

CONGESTIVE HEART FAILURE

PULMONARY EMBOLISM

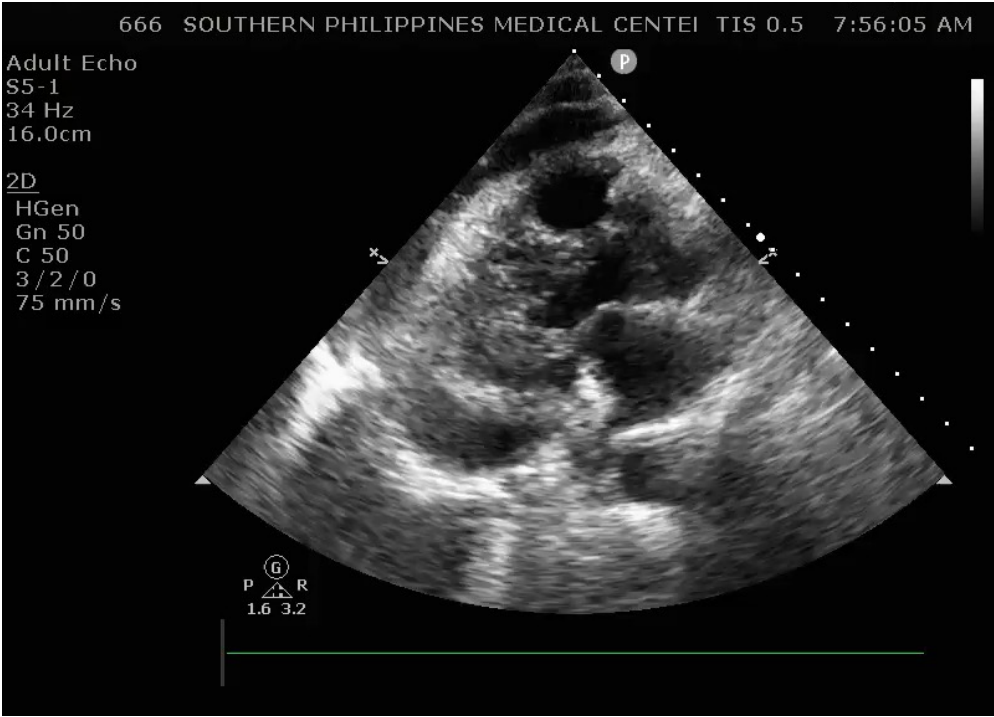
PERICARDITIS

TENSION PNEUMOTHORAX

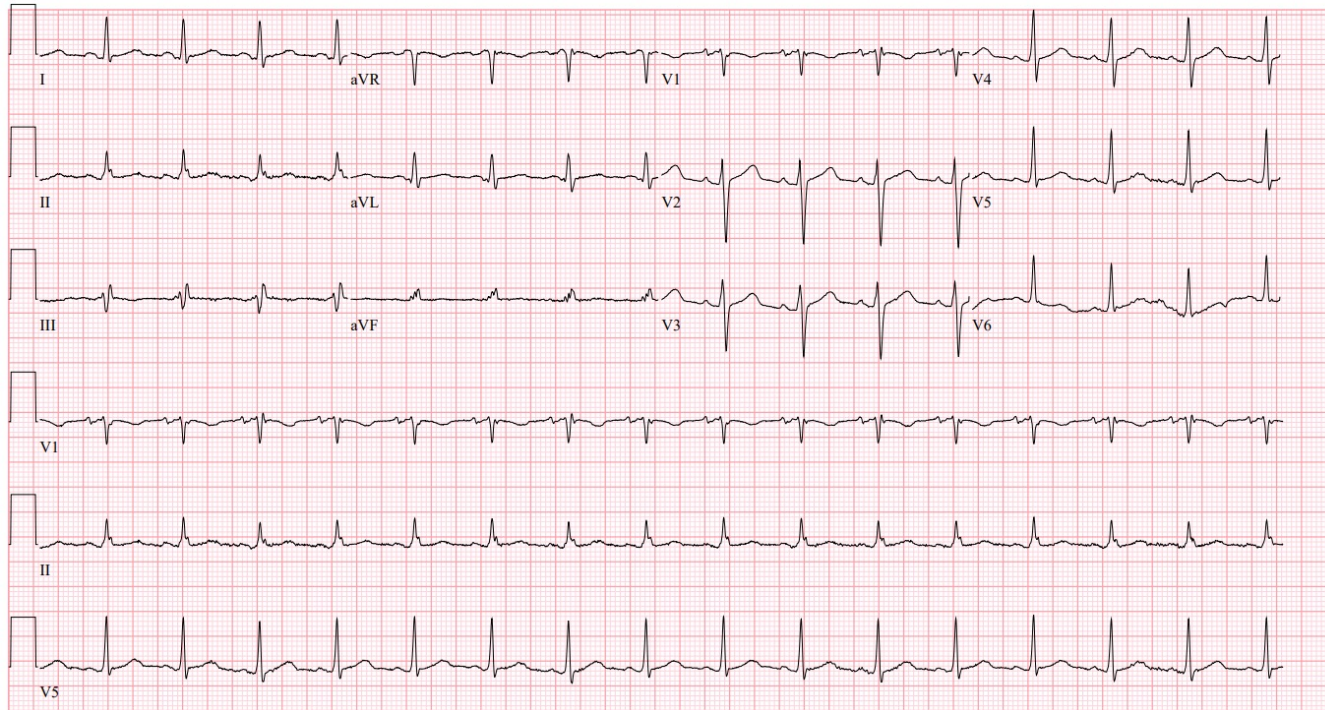
CARDIAC TAMPONADE



POINT OF CARE ULTRASOUND



12 LEAD ECG





HEMOPERICARDIUM

- slow or rapid pericardial accumulation of fluid with subsequent compression of the chambers of the heart, severely depressing both venous return and cardiac output which results in shock and death
- CAUSES
 - Idiopathic
 - Infectious
 - immune-inflammatory
 - neoplastic disease
 - post-cardiac surgery
 - renal failure
 - Trauma

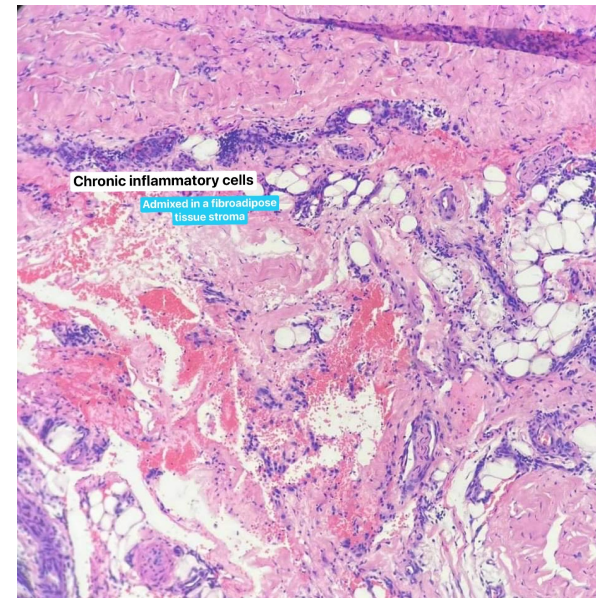


CARDIAC TAMPONADE

- CAUSES

- ~~Infectious~~
- ~~neoplastic disease~~
- ~~post-cardiac surgery~~
- ~~renal failure~~
- Trauma

sugar	1
protein	3617.18
volume	20
color	bloody red
clarity	cloudy
cell count	640 ul
pmn	90%
lymphocyte	10%
predominating cells	pmn
rbc	>10,000



Gram stain: No organism



DELAYED HEMOPERICARDIUM

- Occurs weeks to months after injury
- Penetrating (80-90%) than blunt trauma (10%)
- PATHOPHYSIOLOGY: UNCLEAR
 - displacement of a thrombus that temporarily seals the cardiac perforation
 - torn adhesions formed at the time of the injury¹
 - unrecognized cardiac injury
 - diaphragmatic laceration
 - direct transmission of retroperitoneal blood into the pericardial space
 - post-myocardial infarction pericarditis involving an autoimmune reaction owing to antibody formation specific to blood products or exposed pericardial or myocardial antigens



DELAYED CARDIAC TAMPONADE

- SIGNS AND SYMPTOMS

- Beck's triad (distended neck vein, muffled heart sound, and hypotension)
- Dyspnea
- chest discomfort
- peripheral edema
- Fatigue
- tiredness





DELAYED HEMOPERICARDIUM

- DIAGNOSIS: HIGH INDEX OF SUSPICION AND HISTORY
- PATHOPHYSIOLOGY: UNCLEAR
 - displacement of a thrombus that temporarily seals the cardiac perforation
 - torn adhesions formed at the time of the injury¹
 - unrecognized cardiac injury
 - diaphragmatic laceration
 - direct transmission of retroperitoneal blood into the pericardial space
 - post-myocardial infarction pericarditis involving an autoimmune reaction owing to antibody formation specific to blood products or exposed pericardial or myocardial antigens







DELAYED HEMOPERICARDIUM

- DIAGNOSIS: HIGH INDEX OF SUSPICION AND HISTORY
- DIAGNOSTICS
 - Point-of-Care Ultrasound
 - Echocardiogram
 - Chest Xray
 - Electrocardiogram
- TREATMENT: SURGICAL
 - pericardiocentesis with catheter drainage
 - subxiphoid tube pericardiostomy
 - subxiphoid or anterior thoracotomy with pericardiopleural window opening



- 
- 
- Delayed hemopericardium can occur as a consequence of blunt trauma
 - High index of suspicion and thorough history is necessary
 - To educate patient's on the importance of follow-up check ups
 - Use of Point-of –Care Ultrasound is helpful
 - Multidisciplinary approach is crucial in achieving successful outcome

Our Goal: As EP, our utmost responsibility is to further broaden our knowledge on how to best handle these cases





THANK YOU!

