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Cardiac Tamponade - A Case Study

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ABSTRACT

A 73 years old female was presented to the emergency department with episode of blackout followed by fall. The fall caused injury over left arm. Previous history shows transient loss of consciousness and fall each time followed by spontaneous recovery on three or four occasions.Diagnosis revealed Cardiac Tamponade. When excessive volumes of fluid buildup in the pericardial sac, squeezing the heart and causing a decrease in cardiac output and shock, the condition known as cardiac tamponade occurs. Heart tamponade frequently requires immediate medical attention, and the pericardial fluid must be quickly removed. The most popular method for accomplishing this is known as pericardiocentesis. The fluid is removed using a catheter, which is a long, thin tube, and a needle.

KEYWORDS: Pericardial effusion ,Cardiac compression, Cardiac tamponade , Echo-Doppler findings

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INTRODUCTION

An aberrant increase in fluid buildup in the pericardial sac is the cause of cardiac tamponade. This abnormal accumulation raises intracardiac pressures, which obstructs normal cardiac filling.

When fluid accumulation occurs quickly, a significant rise in intrapericardial pressure can cause

inflow gradients to drop to such low levels that compensatory reflexes that are triggered to keep blood pressure and cardiac output stable are overpowered, leading to cardiogenic shock and death is a possibility[1,2]. Pulsus paradoxus, or an unexpected fall in systolic blood pressure with inspiration, is a clinical characteristic of cardiac tamponade. The main approach for making an early diagnosis and determining the degree of tamponade is emergency echocardiography, which combines imaging and Doppler methods. Since pericardiocentesis with echo guidance has a high success rate and minimal procedural morbidity, it is preferred when it is feasible to drain pericardial effusions[5,6,7].

CASEREPORT:

On July 13th 2023 at 5:30am, a 73-year-old woman arrived at the emergency room. The woman's grandson informed that the patient had traumatic fall on the ground causing injury on the right arm. It was informed that there was previous history of transient loss of consciousness with fall each time and spontaneous recovery.

Initialphysicaltestinguncovered:

BP-

120/70mmHgPu

lserate –53/min

CVS- S_1, S_2 audible

CBG- 96mg/dL

The patient was provided with pressure bandage and admitted in the hospital.

Advice:

Management of wound

Cardiologist opinion regarding evaluation of syncope

Neurologist opinion regarding opinion of LOC (Loss of Conciousness)

CECT Brain

MRI Brain(P) +MRA Brain

48 hours Holter Monitoring

CBC/ Urea/ Creat/ Na+/ K+/ Ca++/ LFT/ T3 T4 TSH

Echo with colour doppler

B/L Carotid Vertebral Doppler

ECG

Serology

C-reactive protein test

Tostabilizeher, shewas advised-

SL NO.	MEDICATION	DIRECTION
1	InjXONE(2mg)	IV/BD
2	InjPan 40	IV/ OD
3	IV fluid NS	24 hourly
4	Tab Stamlo-5	OD
5	Tab Atorva -10	OD
6	TabNexito Plus-10	OD
7	TabPinom-40	OD
8	Inj Vit K(10mg)	IM/ OD* 3 days

Along with medications she was also advised normal diet, daily dressing of the wound with NS and Mupirocin ointment.

Suggestions:

Temporary Pacemaker(TPM) advised by cardiologist

Surgical intervention after TPI as advised

Permanent pacemaker after TPI in view of Recurrent Syncope

Procedures Performed:

Rt sided femoral catheter line done

TPM done

Advice after surgical procedure:

Inj. T.T (0.5)- Im inj.

Inj. Supacef(1.5) i.v BD

T. Alprax(0.5)- 1 tab stat(Advised by second physician)

Stop inj. Xone

Monitoring of vitals

Permanent pacemaker

Diagnosis:

Cardiac Tamponade causing blackouts and fall.

Treatment:

Procedure of PPM

Insertion of Pigtail catheter

Advice by second physician(Post OP):

SL NO.	MEDICATION	DIRECTION
1.	Inj' Pipzo(4.5)	IV TDS
2.	Inj. Pan 40	IV ODAC
3.	Tab Stamlo 5	ODPC
4.	Tab Atorva (10)	ODHS
5.	Tab NexitoPlus(10)	ODAS
6.	Tab Pinom 40	ODPC
7.	Tab Zolam 5	ODHS
8.	Inj Vit. K	OD

Post PPM:

BP- 140/70

SpO2- 93-94%

Chest clear

Echo screening

Dressing of surgical wound

Addition of Tab Lizolid(600)- 1 tab BDPC *10 days

Tab Cetil 500- 1 tab BD*10 days

To continue other medications

Discharge diagnosis:

Cardiac Tamponade + RBBB with hypertension with syncope along with along with injury over left arm repaired surgically.

She was treated surgically(PPM). The patient responded well to treatment and her condition improved.

The patient was haemodynamically stable for discharge with the above mentioned post OP advices.

She was asked to review after one week at OPD with Echo and blood for Ur, Cr, CBC reports.

Discussion:

The cause of an obstructive shock pattern is cardiac tamponade. Pericardial effusions have a variety of causes. Echocardiography is the primary instrument for the management of diagnosis and treatment[3,4,8]. Particular symptoms including diastolic collapse of the right atrium, diastolic collapse of the right ventricle, and ventricular interdependence during respiration are commonly observed. Catecholamines and volume resuscitation are merely short-term measures; pericardial drainage is still the sole proven cure[9,10,14].

The most popular method for accomplishing this is known as pericardiocentesis. The fluid is removed using a catheter, which is a long, thin tube, and a needle.

Nonsteroid anti-inflammatory drugs, colchicin, steroids, and immunosuppressive drugs have no place in the urgent treatment but they can be used after drainage, depending on the cause of the pericardial effusion, to prevent relapses[11,12,13].

Conclusion

This case included a 73-year-old female who developed Cardiac Tamponade with frequent episodes of blackout and fall.

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Declaration: The patient's written informed consent was acquired

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