

**CASE REPORT ON CONGESTIVE CARDIAC FAILURE WITH PNEUMONIA  
WITH BRONCHIAL ASTHMA**

**Abstract.**

**Introduction:** - Congestive cardiac failure is a pathophysiologic state when the heart is not able to maintain its cardiac output to meet the demand of metabolizing tissues. Pneumonia is the inflammation of parenchyma of lungs. Bronchial Asthma is a diseases of airway produced by hypersensitivity inflammatory response of tracheobronchial tree to a variety of stimuli resulting in reversible narrowing of the air passages. **Clinical finding:** Patient having pain in chest since 2-3 days and it radiating to back and shoulder. Patient is experiencing breathlessness even at rest stage. Patient is also having a diagnosis of Asthma since 1 year. **Diagnostic evaluation:** - Patient had undergone the Respective Diagnostic evaluation. Complete Blood Count, MRI, chest X- ray and 2D Echo. **Therapeutic Intervention:-** Patient have been prescribed the following Medication. Inj. Lasix 400mgX BD, Inj. Sodabicarb in 100ml saline stat, Inj. Doxy 100mgX BD, Inj. Piptaz 20mgX BD, Inj. PAN 40mgX TDS, Tab. Flucon 150 mg X OD. **Outcome:-** After the providing the nursing care the pain level in chest had been minimized and patient is not having any breathlessness in resting stage and his condition also has been improved after the care provided. **Conclusion:-** The patient was admitted in Medicine Intensive Care Unit [MICU] AVBRH, Sawangi (Meghe), Wardha with the known case of Congestive Cardiac failure with Pneumonia and Bronchial Asthma. After providing appropriate nursing care his condition has been improved.

**Keywords:** - Congestive cardiac failure, Hypersensitivity, Inflammatory, Pneumonia, Radiating.

**Introduction:** Congestive cardiac failure is a pathophysiologic state when the heart is not able to maintain its cardiac output to meet the demand of metabolizing tissues. There are various types of Cardiac Failure they are left heart failure, right heart failure and congestive heart failure.(1) Pneumonia is the inflammation of parenchyma of lungs. The predisposing factor local or systemic, in one way or other. The pneumonia is mainly classified in 2 type's i.e. Primary and Secondary.(2) The clinical manifestation occurs in extreme ages of life. The elderly debilitated individuals are susceptible to this. The mortality is high in untreated cases, prevention of pneumonia include pneumococcal vaccination reduces the incidence of pneumonia, hospitalization for cardiac condition, and deaths in the older adult population.(3) Bronchial Asthma is a diseases of airway produced by hypersensitivity inflammatory response of tracheobronchial tree to a variety of stimuli resulting in reversible narrowing of the air passages.(4) The patient of bronchial asthma segregates into the episode asthma, Severe acute asthma, Chronic or acute on chronic asthma.(5)

**Patient identification:** -A male patient of 65years from Shirolu Ghatanji taluka, Yavatmal District was admitted to Medicine Intensive Care Unit [MICU], AVBRH on 15<sup>th</sup> November 2021 with a known case of Congestive Cardiac Failure. He is 55kg in weight and his height is 180 cm.

**Patient Medical History:** -A male patient of 65years old was brought to AVBRH on 15<sup>th</sup> November 2021 by his family with a chief complaint of having pain in chest in the last 2-3 days and it radiating to back and shoulder. Patient is experiencing breathlessness even at rest stage. He is known case of Congestive Cardiac Failure with Pneumonia and Bronchial Asthma. His breathing level was abnormal and was weak and inactive.

**Past Medical History:** - My patient was diagnosed to have a Bronchial Asthma since last 1 year's means at the age of 64<sup>th</sup> years of his lifespan. He was admitted to hospital for having pain in chest and feeling like breathlessness. Till then, he was taken to the hospital for Asthmatic checkup purposes.

**Family History:** -There are 5 members in his family. My patient was diagnosed to have Congestive Cardiac Failure with pneumonia and Bronchial Asthma. When hereditary history was taken then the conclusion was came that there are no one in the family with respective diseases. All the members of family were healthy expect my patient.

**Past Intervention and Outcomes:** - My patient was diagnosed to have a Bronchial Asthma since last 1 year's means at the age of 64<sup>th</sup> years of his lifespan, then from that time onwards he was taken to hospital for continuous observation. Later it was found that he had developed a complication Congestive Cardiac Failure and Pneumonia.

**Clinical finding:** - Patient having pain in chest in the last 2-3 days and it radiating to back and shoulder. Patient is experiencing breathlessness even at rest stage. Patient is also having a diagnosis of Asthma in the last 1 year.

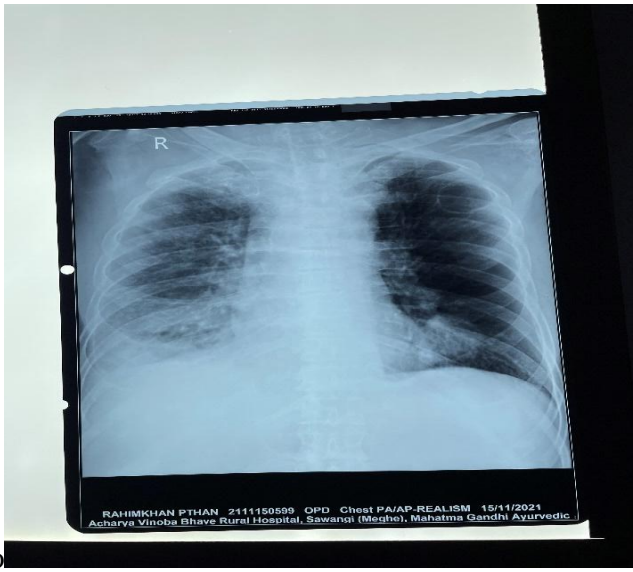
**Physical Examination:** - There is not such abnormality found in any of the Head-to-Toe examination. The major finding is listed below.

**General:** The patient's weight should be recorded to ascertain how far they are from their "dry" weight. Tachycardia, Tachypnea (an increased rate of breathing) and an increase work of breathing, narrow pulse pressure.

**Heart:** The heart sound, a displaced point of maximum impulse (PMI) consistent with an enlarged left ventricle, if the right ventricular pressure is increased, a parasternal heave may be present, signifying the compensatory increase in contraction strength. A functional holosystolic murmur of mitral regurgitation may be heard if the heart dilates excessively, underlying valvular heart disease cause of congestive heart failure such as aortic stenosis.

Vital Signs: Temperature= 37.8<sup>0</sup>C, Pulse= 60 beats/minutes, Respiration= 14 breath/minutes, Blood Pressure=110/70 mg.

**Diagnostic assessment:** - Patient had undergone the Respective Diagnostic evaluation. Complete Blood Count, MRI, chest X ray and 2D



...ing are noted in bilateral lungs, few of them shows cavitatory ches within, pathes of consolidations are noted in bilateral lungs.

... appear normal.

... appear normal.

...mal.

**REVEALS:**  
...ious in bilateral lung

**RADIOMETER ABL800 BASIC**

ABL800 BASIC HealthScan Diagnostics 07:38 AM 11/16/2021  
PATIENT REPORT ABL- S 192UL Sample # 501

Identifications  
Patient ID Rahim Khan  
Patient Last Name  
Patient First Name  
Sample type Not specified

Blood Gas Values  
pH 7.207 | 7.350 - 7.450  
pCO<sub>2</sub> 35.2 mmHg | 38.0 - 45.0  
pO<sub>2</sub> 88.1 mmHg | 80.0 - 100

Oxymetry Values  
SpO<sub>2</sub> 95.1 %  
FO<sub>2</sub>Hb 94.3 %  
FHb 4.9 %

Temperature Corrected Values  
pH(T) 7.207  
pCO<sub>2</sub>(T) 35.2 mmHg  
pO<sub>2</sub>(T) 88.1 mmHg

Oxygen Status  
p50 31.61 mmHg

Acid Base Status  
sBase/Ecthc -12.9 mmol/L  
sHCO<sub>3</sub>(P.st)c 14.1 mmol/L

Notes  
↓ Value(s) below reference range  
c Calculated value(s)  
e Estimated value(s)  
p PO<sub>2</sub> 0210: Calibration error(s) present  
pO<sub>2</sub>(T) 0210: Calibration error(s) present

Printed 7:38:53AM 11/16/2021

Echo

Datta Meghe Institute of Medical Sciences (Deemed to be University) NAAC Grad A+  
**ACHARYA VINOBA BHAVE RURAL HOSPITAL**  
A Teaching Hospital of Jawaharbal Nehrui Medical College, Sawarnji (Meghe), WARDHA, 430 004.  
Ph: 07182-287701, Fax: 0718200-Ext 348. Visit us at: [www.dattameghe.com](http://www.dattameghe.com) Email: [info@acharyavinobabhave.com](mailto:info@acharyavinobabhave.com)

**MEDICINE ( DIVISION OF CARDIOLOGY )**  
**2D ECHO REPORT ADULT**

Name Rahim Khan Age/Sex 65/M Date 15/11/21  
Unit \_\_\_\_\_ Receipt No. \_\_\_\_\_ Op. No. \_\_\_\_\_

M. Mode  
LVIDD LA  
LVAS AORTIC ANNULUS  
LVAZ AORTIC ANNULUS  
LVAZ AORTIC ANNULUS  
LVAZ AORTIC ANNULUS  
LVAZ AORTIC ANNULUS  
LVAZ AORTIC ANNULUS

CHAMBERS - Geometry and Function  
LV - Segmental contraction and thickness  
LVAZ AORTIC ANNULUS  
LVAZ AORTIC ANNULUS  
LVAZ AORTIC ANNULUS  
LVAZ AORTIC ANNULUS

DIASTOLIC FUNCTION AND DOPPLER DATA

E	A	e'	a'
DT	S'	E/e'	TAPSV

Pulmonary vein \_\_\_\_\_ Hepatic ven \_\_\_\_\_

Diastolic Function - PERICARDIUM IVC

VALUES

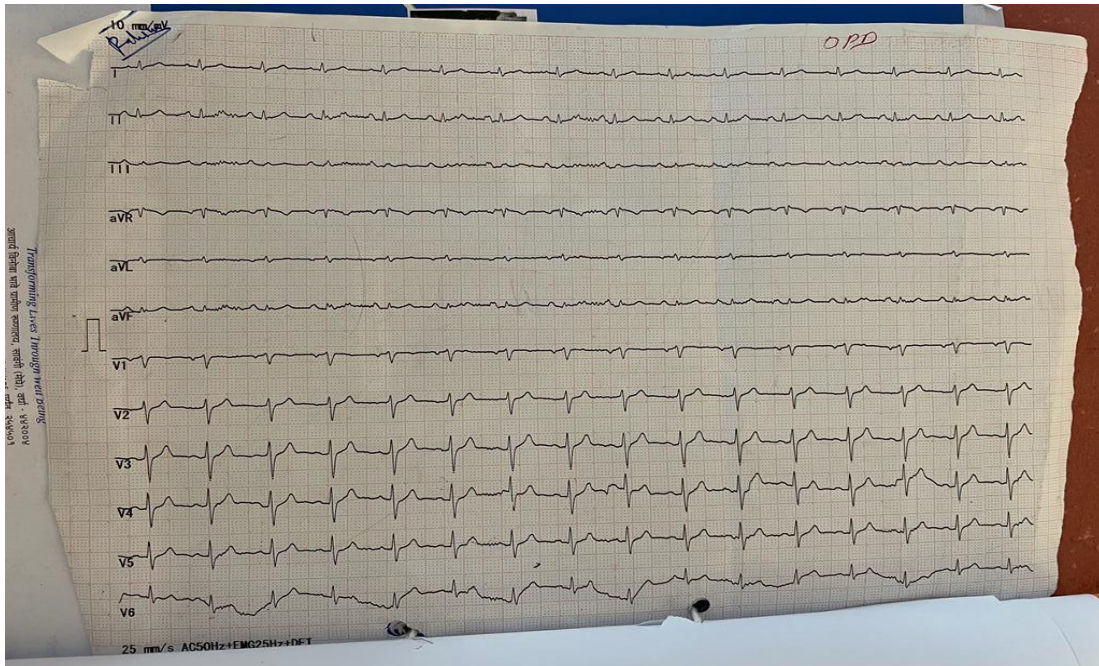
	Thickness	Area	Regurgitation	Velocity/Gradient
Mitral				
Aortic				
Pulmonary				
Tricuspid				

Mitral Valve Score M T S C

CONCLUSION  
(Very poor echo window)  
- Tricuspid regurgitation noted during study  
- Global LV hypertrophy  
- EF 25-30%  
- Mildly dilated LA  
- Grade I diastolic dysfunction

ADVICE  
- MID TIRE RUP 38+RAF.  
- Mildly dilated LA  
- Grade I diastolic dysfunction

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A Teaching Hospital of Jawaharbal Nehrui Medical College, Sawarnji (Meghe), WARDHA, 430 004.  
Ph: 07182-287701, Fax: 0718200-Ext 348. Visit us at: [www.dattameghe.com](http://www.dattameghe.com) Email: [info@acharyavinobabhave.com](mailto:info@acharyavinobabhave.com)



INVESTIGATION	PATIENT VALUE	REMARK
Blood Gas Values		
pH	7.207	
pCO <sub>2</sub>	35.2 mmHg	Decreased.
pO <sub>2</sub>	88.1 mmHg	Decreased.
Oximetry Values		
sO <sub>2</sub>	95.1 %	Normal.
FO <sub>2</sub> Hb <sub>e</sub>	94.3 %	Normal.
FHHb <sub>e</sub>	4.9 %	Normal.
Temperature Corrected Values		
pH(T)	7.207	Normal.
pCO <sub>2</sub> (T)	35.2 mmHg	Normal.
pO <sub>2</sub> (T)	88.1 mmHg	Normal.
Oxygen status.		
p50 <sub>e</sub>	31.51 mmHg	Normal.
Acid Base Status.		
cBase(Ecf) <sub>c</sub>	-12.9 mmol/L	Normal.
cHCO <sub>3</sub> <sup>-</sup> (P,st) <sub>c</sub>	14.1 mmol/L	Normal.

### **Fig.1: Diagnostic evaluation of patient**

**Therapeutic Intervention:** -Patient have been prescribed the following Medication. Inj. Lasix 400mgX BD, Inj. Sodabcarb in 100ml saline stat, Inj. Doxy 100mgX BD, Inj. Piptaz 20mgX BD, Inj. PAN 40mgX TDS, Tab. Flucon 150 mg X OD.

**Discussion:-**Congestive cardiac failure is a pathophysiologic state when the heart is not able to maintain its cardiac output to meet the demand of metabolizing tissues.(6) On an average there are 4,00,000 new cases every year worldwide, nearly there are 1,60,000 new cases from India only. Heart failure does not indicate the stop working of heart.(7) Due to various causes the pressure in the heart increases and is not able to pump the enough oxygen supply to the heart. On an average there are 10-15 new cases per 1000 persons every year worldwide, nearly there are 657 new cases per 1000 persons from India only. Pneumonia is the inflammation of parenchyma of lungs. Pneumonia treatment focuses on eradicating the illness while also preventing consequences. (8)People with community-acquired pneumonia may typically be treated with medicines at home. Although most symptoms subside after a few days or weeks, exhaustion might last for a month or more. Treatment options are determined on the kind and severity of your pneumonia, as well as your age and overall health. The options include Antibiotics medicines are used to treat bacterial pneumonia.(9) Maternal pneumonia is pneumonia that develops during pregnancy. Pregnant women are more susceptible to infections like pneumonia. This is related to the immune system's natural dampening that occurs during pregnancy. Pneumonia symptoms do not alter by trimester. However, owing to other discomforts you may be experiencing, you may notice some of them more later in your pregnancy. (10)

Bronchial Asthma is a disease of airway produced by hypersensitivity inflammatory response of tracheobronchial tree to a variety of stimuli resulting in reversible narrowing of the air passages. Bronchial asthma was found to be prevalent in 13.1 percent of the population. (11)10.2 percent experienced an asthma attack in the previous year and were classified as current asthmatics. The study discovered that male individuals and those of a younger age group were more impacted. Asthma is a common allergy condition, and researchers are trying to figure out what causes it.(12) As most asthmatics are allergic to aeroallergens, earlier investigations suggested that asthma is a T-helper-type-2 (Th2)-cell reliant IgE-mediated allergic illness. 41 Mucus cell hyperplasia and infiltration of inflammatory cells such as CD4+ T cells, eosinophils, and mast cells are among the pathological features of asthma.(13)

**Conclusion:** - Congestive Cardiac Failure is common cause in adult, when they reach to 5-6 decade of their lifespan. If it is not treated on right time it may produce complications. It is very important to take preventive measures when they have diagnosed the diseases condition. My patient didn't take the required precaution so he had developed the complication [Pneumonia]. As he had developed the complication appropriate treatment is going on to cure the diseases.

Consent Disclaimer:

We have added the Consent Disclaimer in the revised paper. The revised paper is attached herewith this mail for your kind perusal. Kindly check the revised paper

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