

Case Presentation on Diagnosis and Treatment of Pulmonary Consolidation

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Abstract

A pulmonary consolidation is a case where the lung tissues gets filled with fluid instead of air. The person suffers from a condition of induration (inflammation or thickening of soft tissue) of lung where left lower lobe (LLL) is more prone to consolidation. The case includes all the examination leading to the findings of the disease, symptoms, and the treatment. The patient's records have been kept confidential and private.

Keywords: Diagnosis; Pulmonary consolidation; Past illness

Case Details

Symptoms

- Fever for 5 days
- Cough for 5 days
- Breathlessness for 3 days

History of present illness

The patient complains of fever for the last 5 days. It was gradual in onset and continuous in nature. The fever was not documented but it was severe in intensity and associated with chills. It remains all throughout the day and subsides only on taking medication. The fever was associated with sweating and headache and was not associated with rash or burning micturition.

There was also history of cough for the last 5 days which was gradual in onset and progressive in nature. The cough was dry initially but after 2 days, it was associated with sputum production 4 to 5 times daily. The sputum was rusty coloured, amount was half a teaspoonful with no foul odour. The cough got aggravated mostly on exposure to cold and on lying down and got relieved on sitting. There was no passage of blood in the sputum.

The patient also complains of breathlessness for the last 3 days, which was gradual in onset. There was no diurnal variation and postural variation. The difficulty in breathing was relieved only on taking oxygen after being admitted to the hospital.

There was history of anorexia with generalized body weakness and no history of chest pain, palpitation, hoarseness of voice, pain abdomen or vomiting. His bowel and bladder habits are normal. No significant weight loss. Sleep is disturbed due to cough.

History of past illness

There is no history of similar illness in the past. The patient suffered from malaria 4 months back from which he recovered after taking medications. He is not a known diabetic or a hypertensive. There is no history of tuberculosis, asthma, jaundice or any surgery. The patient also does not have any history of upper respiratory tract infection in the past.

Patient record for verification

There are 3 members in his family and no similar illness among his family members. There is no history of diabetes, hypertension, tuberculosis, asthma and also no smoking habits among his family members.

The patient is a non-vegetarian and consumes an average rice-based Assamese diet 3 times a day. He takes one minor meal a day consisting of tea and biscuits. He does not take alcohol, nor does he smoke but chews betel nut occasionally.

The patient lives in a mud house consisting of 2 living rooms and a separate kitchen. The rooms are well ventilated. Cooking is done in firewood. They intake water from tube-well after filtration. Waste disposal is in community pits. They don't keep any pets at home.

There is no history of long term use of any drugs. The patient is not known to be allergic to any known ingested, inhaled or contactant.

General Examination

The patient is average built, having a height of 170 cm and weight of 62 kg, conscious, alert, co-operative and well oriented to time, place, and person.

- Pulse: 106/min, regular in rhythm, volume is normal, character is normal, condition of the arterial wall is normal, no radio-radial or radio-femoral delay, all the peripheral pulses are bilaterally and symmetrically palpable.

- Respiratory Rate: 32/min, regular, abdominothoracic in type

- Temperature: 101°F in right axilla

- BP: 110/70 mm of Hg in the right upper arm in supine position

Systemic Examination

Examination of respiratory system

The shape and size of the chest is showing normal and bilaterally symmetrical, but movement of the chest has diminished on left side. Accessory muscles of respiration were working fine with no signs of volume loss nor scar/pigmentation/engorged vein/sinus over the skin of the chest [1].

Palpation:

-Temperature: increased

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- No tenderness.
- Trachea is in midline.
- Apex beat: is felt in left 5th ICS, 1.25 cm medial to the midclavicular line.
- Chest Expansion is 3 cm and reduced on the left side at the level of the nipple.
- Vocal fremitus: diminished on left side in the inframammary and infra-axillary region.

Percussion:

- percussion along the mid clavicular line: dull note on left 6th ICS.
- percussion along the mid axillary line: dull note on left 6th to 8th ICS.
- percussing the back: normal resonant sound heard
- right side normal resonant note heard all over chest.
- Kronig's isthmus bilaterally normal.

Auscultation: Bronchial breath sound on left side was Inframammary and Infra-axillary with normal breath sound over the back and right side of the chest. Vocal resonance is increased over left side in the inframammary and infra-axillary regions and whispering pectoriloquy present. Bronchophony present with coarse crepitations, pleural rub sound vibrations were detected [2].

Examination of cardiovascular system

The precordium shown to be normal as there was no visible pulsation or engorged veins seen. The palpation showed apex beat appreciated in Lft. 5th ICS at MCL. Auscultation was normal.

Examination of abdomen

Inspection:

- Shape: normal
- Umbilicus: Midline, inverted.
- Skin: normal
- Venous prominence: not seen
- Movement with respiration: Equal on both sides
- Hernial sites: Intact
- Scrotal oedema: absent
- No visible pulsation, no peristalsis, no lump seen

Palpation: Superficial palpation showed normal temperature and no signs of superficial tenderness, muscle guard or rigidity having spino-umbilical equal distance on both sides with intact hernial sites. Deep palpation showed absence of tenderness and liver and spleen not palpable by dipping method and kidney is not palpable.

Percussion: Shifting dullness is absent and upper border of liver elicited dullness in the right 6th intercostal space in mid-clavicular line with no fluid thrill. Auscultation showed no bowel abnormalities or hepatic, splenic bruit.

Examination of central nervous system

Patient is conscious, alert, cooperative and well oriented to time,

place and person. All the cranial nerves are intact and motor system showed normal tone and power of the muscle in all the four limbs. Sensory system, peripheral nerves and the superficial and deep reflexes detected to be normal.

Provisional and Differential Diagnosis

The patient 23-year old male, complaining of fever and cough for the continuous 5 days and breathlessness for almost 3 days and provisionally diagnosed to be a case of left lower lobe pulmonary consolidation [3].

Diagnosis for collapse of the lung [4], fibrosis of the lung [5], pulmonary tuberculosis and bronchogenic carcinoma has also been done (Table 1 and Figure 1).

Treatment

Generally proper rest and nutrition (high calories and plenty of fluid) is recommended. The procedure further followed by symptomatic treatment and specific treatment.

Symptomatic treatment

Examination of severity is done i.e., CURB-65 also known as the CURB criteria, a clinical prediction rule for the validation of community-acquired pneumonia [6,7], so that to provide the level of care (OPD, Ward, ICU). Drugs such as Methadone and Pholcodine are provided for cough suppression. Analgesic & Antipyretic (Paracetamol/

Test Name	Result	Reference Range
Blood Count		
WBC	16.21	4-11 Thousand/ μ L
Haemoglobin	13.1	14-16 g/dl
Platelets	101	150-400 Thousand/ μ L
Differential Leucocyte Count		
Neutrophils	81.2	37-72%
Lymphocytes	12.8	20-40%
Eosinophils	2.4	1-6%
Basophils	0	0%
Monocytes	3.9	2-10%
Liver Function Test		
AST/SGOT	34.0 IU/L	15-46 IU/L
ALT/SGPT	35. IU/L	13-69 IU/L
Alkaline Phosphatase	98.0 IU/L	38-126 IU/L
Bilirubin Total	0.25 mg/dl	0.2-1.30 mg/dl
Unconjugated	0.21 mg/dl	0-1.10 mg/dl
Conjugated	0.00 mg/dl	0-0.3 mg/dl
Delta	0.4 mg/dl	0.0-0.2 mg/dl
Total Protein	6.8 gm/dl	6.4-8.2 gm/dl
Albumin	3.82 gm/dl	3.4-5 gm/dl
Globulin	2.9 gm/dl	2.3-3.5 gm/dl
A/G	1.3	
GGTP	30.0 U/L	12-58 U/L
Renal Function Test		
Urea	27.2 mg/dl	15-43 mg/dl
Creatinine	0.68 mg/dl	0.6-1.3 mg/dl
Sodium	1.39 mmol/L	1.37-1.45 mmol/L
Potassium	3.40 mmol/L	3.5-5.1 mmol/L
Serum Amylase	49.0 U/L	30-110 U/L
Serum Lipase	32.0 U/L	23-300 U/L

Table 1: Routine blood examination.



Figure 1: X-ray of trachea is in the midline and opacity seen in the lower left lobe.

NSAIDs) are given under the treatment course. Proper oxygen supply was given for inhalation to relieve breathlessness.

Specific treatment

Specific antibiotic therapy was given after the follow up with sputum examination. So, the treatment started with the broad-

spectrum antibiotics like Erythromycin (500 mg) or Amoxycillin (500 mg). Oral treatment QDS or TDS was also done. Nebulization with Duolin and doses of Pantaprazole was recommended. Multivitamins were prescribed in the course.

Results

The cough subsided to an extent and the relieving effect started. The patient showed positive signs of recovery and the medication was continued for the recurring symptoms to be eliminated. The treatment was effective.

Conclusion

There may be various factors that might cause lung consolidation. Sometimes it can be major or serious, but it is often easily treated and cured. Treatments may differ but seeing a doctor as soon as one develops symptoms, is advisable. An early treatment usually gives better results.

References

1. Radiology Masterclass (2007) Chest X-ray Abnormalities Lung abnormalities.
2. Ian Bickle, Frank Gaillard (2010) Air space opacification. Radiopaedia.
3. Galvez C, Navarro-Martinez J, Bolufer S, Sesma J, Lirio F et al. (2017) Non-intubated uniportal left-lower lobe upper segmentectomy. J Vis Surg 3: 48.
4. Kovalkova NA, Ragino YI, Travnikova NY, Denisova DV, Shcherbakova LV (2017) Associations between metabolic syndrome and reduced lung function in young people. Ter Arkh 89: 54-61.
5. Smith LJ, Macleod KA, Collier GJ, Horn FC, Sheridan H, et al. (2017) Supine posture changes lung volumes and increases ventilation heterogeneity in cystic fibrosis. PLoS One 12: e0188275.
6. Staub LJ, Biscaro RRM, Maurici R (2017) Accuracy and Applications of Lung Ultrasound to Diagnose Ventilator-Associated Pneumonia: A Systematic Review. J Intensive Care Med.
7. Khade P, Devarakonda S (2017) Coexisting multiple myeloma, lymphoma, and non-small cell lung cancer: a case report and review of the literature. Int Med Case Rep J 10: 373-376.