

Squamous cell carcinoma misdiagnosed and treated as tubercular consolidation of lung two case reports.

Rahman MM^a, Hossain MA^b, Kadir ML^c, Abedin S^c, Akter S^d, Sultana N^e, Momtaj N^f, Poramanik A^f, Alom MJ^f, Rahman MM^f,

Abstract

Carcinoma of lung can be covered up as pulmonary tuberculosis even in endemic areas like Bangladesh. Due to similarity of clinical presentation many patients with lung cancer may be wrongly treated as pulmonary tuberculosis. This case was presented because it was wrongly treated as pulmonary tuberculosis whereas he had lung cancer. We came to a definitive diagnosis of squamous cell carcinoma depending upon USG guided FNAC.

Key words : squamous cell carcinoma, pulmonary tuberculosis, Bangladesh.

Introduction

There are a good number of tuberculosis cases in Bangladesh annually. Higher prevalence of tuberculosis and overlapping its clinical presentation and radiological findings with lung cancer creates a scenario where a significant number of early lung cancer patients may be misdiagnosed as tuberculosis. The radiological findings of tuberculosis of lung is in the form of cavity, fibroproductive, exudative, acinary, micro and macro nodular and miliary. Radiological appearance may mimic pathological lesions of lungs and may cause clinical diagnosis difficult.

Case summary

Case No.1: Mr. Robiul, 60 years old nondiabetic, normotensive, nonasthmatic, smoker, muslim male farmer by occupation hailing from Horipur, Kansat, Shibgonj, Chapainobabgonj. Presented with low grade fever for > 6 months. The fever was evening rising, comes with shivering and goes away with sweating after taking antipyretics like

paracetamol. He also complained of chronic cough for 6 months and Hemoptysis for the last 1 month. Along with these he also had respiratory distress and progressive weight loss and generalized weakness. He gave no history of trauma or bleeding disorder. On general examination patient was co-operative with below average body built and poor nutritional status, anemic but cyanosis, jaundice, clubbing, koilonychia, leukonychia, edema and dehydration was absent. His temperature was 99.4° F and hemodynamic status was within normal limit. On systemic examination, all the system revealed normal finding except respiratory system. On inspection no gross abnormality was visible in chest wall on respiratory movement. Breath sound was vesicular with prolonged expiration but diminished in right upper zone, rhonchi absent but crepitation was present in right side in that region. Percussion note was dull in right upper zone of lung. Vocal fremitus and resonance was also increased. So, clinically there was consolidation of lung was established.

^aSenior consultant
Chest Disease Hospital,
Rajshahi Bangladesh.

^bMedical Superintendent,
Chest Disease Hospital,
Rajshahi Bangladesh.

^cResidential Medical Officer,
Chest Disease Hospital,
Rajshahi, Bangladesh

^dPathologist,
Chest Disease Hospital,
Rajshahi, Bangladesh.

^eRadiologist,
Chest Disease Hospital,
Rajshahi, Bangladesh

^fMedical Officer
Chest Disease Hospital,
Rajshahi

Correspondence to :
M M Rahman
@gmail.com

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Figure 1: X-ray chest



Figure 2: X-ray chest

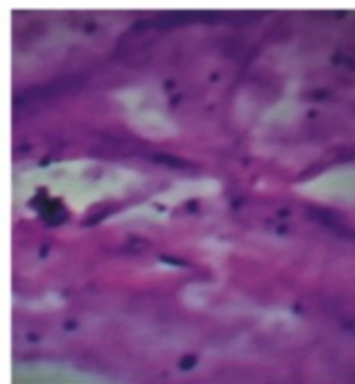


Figure 3: FNAC

Due to these reasons he visited Upazilla Health Complex. There he was investigated initially by chest X-ray, (Figure 1) the finding was right lung upper zone including apical region consolidation. Then sputum for AFB was done where sputum found blood stained and LED 4/L with 1+. Based on these he was prescribed Category 1 anti TB regimen and continued for 2 months. Finding no clinical improvement he again underwent X-ray chest (Figure 2) and sputum for AFB. At this time lung lesion persisted rather increased in size but sputum was negative for tubercle bacilli but clinically no improvement was observed. Then patient was referred to Chest Disease Hospital, Rajshahi for his proper management. In this hospital the patient underwent X-ray chest, the finding was as previous and sputum for AFB, Gene X-pert both the results were negative for tubercle bacilli. Then Ultrasonography guided Fine Needle Aspiration Cytology (USG guided FNAC) was performed (Figure 3). The FNAC findings are Smears are cellular. It reveals anaplastic squamous cells arranged in groups, nests, sheets and singly. Some of the cells are large, have large hyperchromatic nuclei and ample eosinophilic cytoplasm. Background shows dense acute inflammatory cells, necrotic material and red blood cells. Features are suggestive of squamous cell carcinoma.

Case No.2: Mr. Abdul Mojib, normotensive, non-diabetic, smoker, muslim male hailing from Bagmara, Rajshahi presented to us with the complaints of progressive loss of weight, low grade fever, nausea, vomiting and abdominal pain for > 3 months. He also complained of respiratory distress as well. At first, the patient developed productive cough along with respiratory distress which was

progressively deteriorating despite treatment. His weight was lost significantly during the period of last one month. He has malaise, fever, loss of appetite for the last 3 months and along with this abdominal pain started due to chronic cough. Due to these complaints he visited the local village doctors and last of all to the upazilla health complex and under gone X-ray Chest (Figure 4) with the finding of collapsed of left lung with mediastinal pulling mostly due to lung neoplasm and compensatory emphysematous change in right lungs. He underwent sputum for AFB where the first smear showed 2/L and second smear showed no organism. Then anti-tubercular therapy was started since 16th of September 2017 and continued for one and half months. No subjective and objective improvement was observed rather he developed mild jaundice. Then he was referred to RMCH for better management. There he underwent chest X-ray (Figure 5), USG guided FNAC which revealed chronic granulomatous inflammation consistent with tuberculosis. On complete blood count the ESR was 120 mm in first hour. Then anti-tubercular drugs were continued and the patient was referred to Chest Disease Hospital Rajshahi. In this hospital he was thoroughly evaluated clinically and found that the patient is ill looking, below average body built and nutrition. He is anemic with mild jaundice and hemodynamically stable. On systemic examination all the system revealed normal except respiratory system. On examination of the respiratory system, breath sound on the right side was absent with increased vocal fremitus and resonance and respiratory distress was present. So clinically lung consolidation was established.



Figure 4: X-ray chest

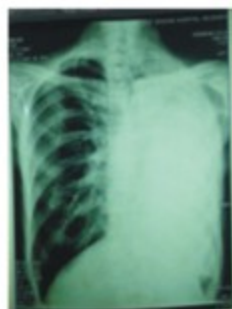


Figure 5: X-ray chest

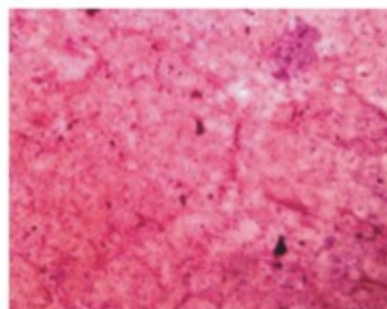


Figure 6: FNAC

He was being treated as a case of tubercular lung consolidation. But no improvement was observed. Then he was again evaluated with ultrasonography guided FNAC (Figure 6). At this time the findings were anaplastic squamous cells arranged in groups, nests, sheets and singly. Some of the cells are large, have large hyperchromatic nuclei and ample eosinophilic cytoplasm. Background shows dense acute inflammatory cells, necrotic material and red blood cells. Features are suggestive of squamous cell carcinoma.

Discussion

It is very difficult to diagnose a benign lesion from a malignant one in case of lungs. Because of high prevalence of pulmonary tuberculosis and similarity of clinical findings with carcinoma of lung and several other factors like lack of awareness, inadequate infrastructure and socio-economic factors in developing countries, a large number of lung cancer patients initially get wrongly treated for TB. But no above reasons can be self-satisfactory on our part of diagnosis because the treatment for both is entirely different and has tragic consequences. Lung cancers are clinically and genetically distinct. Small cell carcinoma of lungs is best treated by chemotherapy, because almost all of them are metastatic when patients presents clinically. The non-small cell lung cancers may be curable by

surgical intervention if it is limited to the lung. The overall, 5-year survival rate is only 16% despite surgical excision, radiotherapy and chemotherapy. The 5-year survival rate is 52% for localized lung lesions, 22% when there is regional and only 4% with distant metastases¹. Early-diagnosis of lung cancer enhances the chance of surgical resection and timely chemo-radiotherapy may provide better outcome. Although Pulmonary tuberculosis and lung cancer have similarity in clinical presentation, a careful history and clinical examination can be helpful in differentiating in between the two. History of cigarette smoking is usually present in cases of lung cancer while it may or may not be present in cases of pulmonary tuberculosis. The common symptoms of lung cancer at presentation are gradually deteriorating chronic cough, hemoptysis, dyspnea, hoarseness of voice, chest pain, unexplained weight loss and loss of appetite, non-resolving pneumonia and superior vena cava syndrome if it is involved. Fever is low grade with evening rise in case of tuberculosis whereas in lung cancer it is non-specific. Sudden and significant weight loss indicates malignancy rather than pulmonary tuberculosis where weight loss is gradual². The overall Sensitivity of various investigations in the diagnosis of Lung Cancer is as follows³(Table No.1).

Table 1. Investigations and their sensitivity

Investigation	Overall sensitivity
Sputum cytology	66%
Flexible Bronchoscopy	88% in central, Endo-bronchial lesions
R-EBUS (radial Endo-bronchial ultrasound)	73%,
EMN (electromagnetic navigation bronchoscopy)	71%,
TTNA(Transthoracic needle aspiration)	90%,
Pleural fluid cytology	72%,
Closed pleural biopsy	38% to 47%
Image-guided closed biopsy	75% to 88%
Thorascopic biopsy of the pleura	95% to 97%.

From the above table one can assume that none of the available investigations have 100% accuracy in the diagnosis of lung cancer. A sensible combination of the available modalities is very important in avoiding misdiagnosis between pulmonary tuberculosis and lung cancer. Sputum cytology may be the initial cost effective test, followed by CXR and CECT (Contrast Enhanced Computer Tomography) chest. As tuberculosis is prevalent and having radiological similarity with lung cancer, many of lung cancer bearing patients initially get treatment for tuberculosis wrongly depending on radiological picture only. So, cytohistopathological evidence is must be reported to make a definitive diagnosis of lung cancer. There are a series of investigations commonly obtainable now a days. The most important one is Flexible bronchoscopy with or without Brush biopsy or Bronchioalveolar lavage. The sensitivity of traditional Flexible bronchoscopy is high for Endo-bronchial disease and poor for small peripheral lesions less than 2 cm in diameter. Adding more sensitivity, in the recent years several guided-bronchoscopy techniques like electromagnetic navigation bronchoscopy (ENB), virtual bronchoscopy (VB) combined with narrow band imaging, radial Endo-bronchial ultrasound (R-EBUS) guided trans-bronchial needle aspiration, ultrathin bronchoscope have been developed^{4,6}. A meta-analysis in 2012 showed that the diagnostic produce of such guided bronchoscopic techniques is definitely better than that of traditional transbronchial biopsy⁷. So, guided bronchoscopy has been suggested as an alternative to or be complementary to TTNA (Transthoracic needle aspiration) for tissue sampling of Endo-bronchial Pulmonary Nodule and even in the evaluation of peripheral pulmonary lesions⁷. Laser induced fluorescence endoscopy and spectrofluoremetry can also be done for detection of lung cancer earlier. The gold standard against which bronchoscopic

modalities are compared is Transthoracic needle aspiration cytology⁷. The sensitivity of TTNA is excellent for diagnosis of lung cancer but has a higher rate of pneumothorax.

Conclusion

Opacity in lung field in the chest X-ray should not be considered as tuberculosis all the times even in endemic zone. Based only on radiological findings one should not stamp a case as smear negative tuberculosis. Image guided fine needle aspiration cytology namely ultrasonography guided FNAC can be a very important tool in making a definitive diagnosis. As occurred in our case. Other diagnostic tools must be considered also. We presented this case because it could be an important lesion for the physician of Bangladesh in treating patients with such kind of chest X-ray findings. So that lung cancer may not be mistaken as pulmonary tuberculosis.

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