

Cannon ball opacities in chest from primary lung cancer: A rare presentation

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ABSTRACT

Cannon ball opacities in lungs are usual manifestation of secondary's arising due to extra-thoracic malignancy. We report a rare case of primary lung cancer with presentation of multiple pulmonary nodules in a 62-year-old male laborer by occupation, chronic smoker (40 pack-years) who presented with 6 month history of dry cough, exertional breathlessness and fever off and on.

Key words: Endobronchial growth, male, malignancy, metastasis, smoker, tuberculosis

INTRODUCTION

Global incidence of new lung cancer in the year 2008 was 1.61 million (12.7% of total cancer burden) with mortality figure of 1.38 million (18.2% of the total), according to most recent estimate of GLOBOCAN series published by the International Agency for Research on Cancer.^[1] According to same report, there were annually more than 58,000 new cases and 51,000 deaths due to lung cancer in India. Cancer registry program under Indian Council of Medical Research (ICMR) revealed male: female ratio as 4.5:1 while the smoker to non-smoker ratio was 20:1. Non small cell lung cancer constitutes 75-80% and rest by small cell carcinoma. More than 70% of them are in Stages III and IV when diagnosed making curative surgery difficult with a 5 year survival of 14% only.^[2]

CASE REPORT

A 62-year-old male laborer by occupation, chronic smoker (40 pack-years) presented with history of dry cough, exertional breathlessness, fever off and on since last

6 months. He was diagnosed as pulmonary tuberculosis from private sector and was on anti-tubercular drugs for last four months without any respite. General physical examination revealed swelling over neck and face, pallor, clubbing, cervical lymphadenopathy, and engorged neck veins. Sputum was negative for acid-fast bacilli (AFB) and patient was non-reactive to HIV tests. Vitals and other systemic (cardiac, skeletal, gastrointestinal, and genito-urinary) examinations were unremarkable. Chest X-ray showed multiple bilateral pulmonary nodules/cannon ball opacities [Figure 1]. Contrast-enhanced computed tomography of chest and abdomen showed multiple hypodense well-defined round lesions in both lung fields; lymph node were noticed in bilateral hilar, paratracheal, pre-carinal, carinal, sub-carinal region; lymph node mass was seen compressing superior vena cava with no abnormality detected in the abdomen. Fiberoptic bronchoscopy showed sluggish left vocal cord movement with trachea having endobronchial growth. Biopsy from growth revealed poorly differentiated squamous type carcinoma. Ultrasound-guided percutaneous fine needle aspiration cytology (FNAC) from one of the lung opacity also revealed poorly differentiated squamous type carcinoma. Immuno-histochemistry evaluation of both the samples was positive for cytokeratin and negative for synaptophysin, chromogranin, and neuron-specific enolase.

DISCUSSION

Multiple pulmonary nodules or cannonball-like opacities in lung particularly originates from malignancies like

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Figure 1: Chest X-ray showing multiple cannon ball opacities in both lung fields

hypernephroma, seminoma, sarcoma, colon, prostate, chorio, and breast carcinoma wherein primary is clinically evident. The other differential diagnosis could be fungal infection, parasitic disorder, hydatid disease, rheumatoid nodules, Wegener's granulomatosis, and pulmonary tuberculosis.^[3,4] On the contrary, radiological manifestation of cannon ball opacities from primary lung cancer as noted in this case is a rare occurrence. The mechanisms through which cancer spread to the lungs in our case could be through bloodstream and lymphatic system. It is not surprising to note that our patient was initially diagnosed as pulmonary Koch's. Since the symptoms of both entities are similar and in a resource-limited high-burden country it is not uncommon to find a lung cancer being treated as tuberculosis. However co-existence is a diagnostic challenge. This often leads to delay with consequential poor prognosis. In India, according to Global Adult Tobacco

Survey (GATS), around one-third (35%) adults (47.9% males and 20.3% females) use tobacco in some form and 52% are exposed to second-hand smoke (SHS) at home with rural area accounting for 58% and urban (39%) respectively.^[5] Ninety percent of all lung cancer deaths in men and 80% in women are caused by smoking.^[6] Forty percent of the tuberculosis burden in India may be attributed to smoking. With increase in longevity (avg. age 32 years (1947) to current, 66.8 years) and simultaneous exposure to smoke/tobacco and other risk factors for last 60 years sizeable population is now and will continue to manifest in large volume at health facilities with chest, cardiac, cancer and/or associated diseases. In conclusion, health education, effective anti-tobacco measures, sensitization, and capacity building of health system including timely referral to higher centers may possibly lead to early diagnosis and treatment.

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