

## CANNON BALL METASTATIC LESION IN MIDDLE AGED DIABETIC MALE: ADENOCARCINOMA OF LUNG A RARE PRESENTATION

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**Background:** - Cannon ball metastasis is well described presentation of multiple malignancies with lung metastasis. Young and middle aged male may present with same, associated with testicular malignancy and some benign condition described later, but primary adenocarcinoma of lung with cannon ball metastasis in middle aged male has been not reported in the literature, this is first case report with a learning point for physician that primary adenocarcinoma of lung in a middle aged male can present as cannon ball appearance.

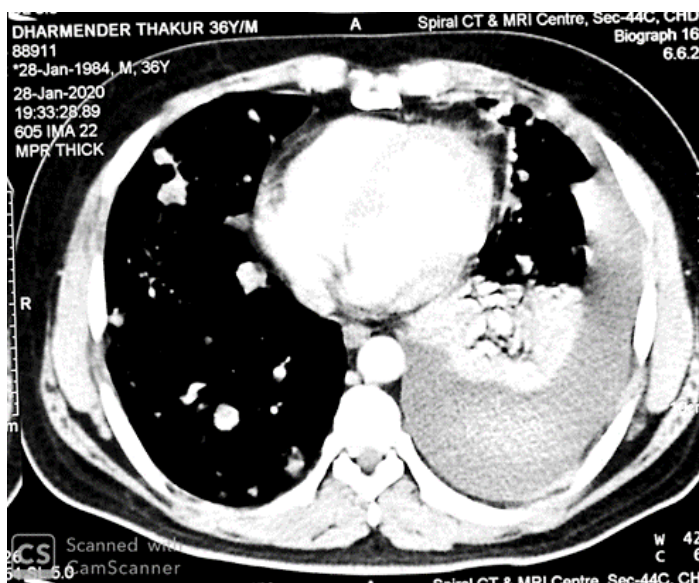
**Case Report:** - A 38 years male resident of Kullu Himachal Pradesh presented in emergency with history of shortness of breath of 1-month duration and persistent dry cough aggravating nocturnally since last 3 days without any significant history of anorexia, unexplained weight loss or fever. On examination he was found to have tachypnoea, tachycardia, low saturation at room air with bilateral coarse crackles and diffuse expiratory rhonchi in all over lung field. Patient was initially managed in ICU, initial chest x ray was suggestive of multiple variable sized discrete randomly distributed soft tissue density nodules (cannon ball appearance) in both lungs, large left pleural effusion. Patient was managed conservatively, ultrasound chest was suggestive of large left pleural effusion with collapse lung segment, pleural fluid was tapped and analysed. Initial pleural fluid report was suggestive lymphocytic leucocytosis, smear was suggestive of few tight clusters and papillae of cells, these shows hyperchromatic nuclei, clusters and single reactive mesothelial cells and macrophages, lymphocytes and neutrophils seen in haemorrhagic background. With suspicion of malignancy computed tomographic scan of chest was done which was suggestive of massive left pleural effusion, nodular parietal pleural thickening, scattered variable sized soft tissue density nodules, suggestive of neoplastic aetiology for confirmation ultrasound guided pleural biopsy was done which showed extensive areas of fibrin, haemorrhage, fibro collagenous tissue tumour cells which arranged in form of vague glands and sheets the individual tumour cells are moderately pleomorphic have round to oval nuclei, coarse chromatin, conspicuous nucleoli and moderate amount of cytoplasm. Features was suggestive of adenocarcinoma, on immune histochemistry tumour cells are TTF 1 nuclear positive and p 40 negative. So finally, diagnosis of disseminated adenocarcinoma was made which was initially treated as infectious disease. Cannon ball metastatic lesion is usually uncommon in young and middle-aged male, although it may see in some disseminated testicular malignancy but it is rare in primary adenocarcinoma of lung.

**Discussion:** - Cannon ball appearance usually a radiological finding on imaging may be associated with lung metastasis. Classically breast carcinoma, colorectal carcinoma, renal cell carcinoma, uterine

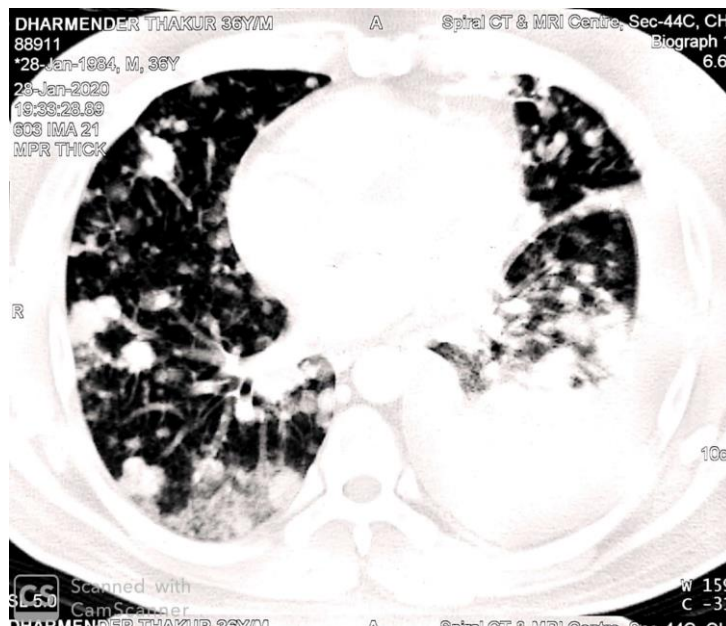
leiomyosarcoma, head and neck squamous cell carcinoma prostatic cancer, synovial carcinoma with pulmonary metastasis may present as cannon ball appearance in elderly age group or age above 50 years.<sup>1,2</sup> But in young age and middle aged adults cannon ball appearance usually associated with testicular malignancy.<sup>3</sup> Whenever young male or middle aged male presented with cannon ball appearance, testicular malignancy should always be ruled out.<sup>4</sup> Apart from malignancy some benign condition like pulmonary tuberculosis, histoplasmosis, cryptococcosis, sarcoidosis, rheumatoid arthritis, Wegener's granulomatosis can also present with similar radiological features.<sup>5</sup> So multiple causes for cannon ball appearance has already been discussed but primary lung malignancy as cause of cannon ball appearance on imaging in middle aged male is seems to be rare.



**Figure 1** Chest X ray P A view showing left pleural effusion (yellow arrows) and nodular opacity (blue arrows) in both lung (cannon ball appearance)



**Figure 2a.** Axial contrast enhanced computed tomographic scan chest in mediastinal window showing left pleural effusion with atelectasis of underlying lung and nodular thickening along along left basal parietal pleura. Soft tissue density nodule (blue arrows) are seen scattered in both lungs



**Figure 2 (b) Maximum intensity projection axial images of contrast enhanced computed tomographic scan of chest showing left pleural effusion and multiple soft tissue density nodule scattered in both lungs with feeding vessels sign (blue arrow).**

#### References

- [1.] HIRAKATA K, NAKATA H, NAKAGAWA T, CT of pulmonary metastasis with pathological correlation. Semin Ultrasound CT MR. 1995; 16: 379-94
- [2.] GROSS BH, GLAZER GM, BOOKSTEIN FL. Multiple pulmonary nodule detected by computed tomography: Diagnostic implications. J Comput Assist Tomogr. 1985;9: 880 - 5.
- [3.] ZUBIN ARORA, ABHJIT DUGGAL. Cannon ball Metastatic Lesions in a young male: World J Oncol. 2014; 5(2): 93-95.
- [4.] SOMMERHALDER D, BLONDIN J. who shot the cannon balls? Extensive Metastases in a 39-year-old man: J La State Med Soc. 2017 Mar-Apr; 169 (2)
- [5.] RAVISH KSHATRIYA, VIRAL PATEL, SANJAY CHAUDHARI, PURVESH PATEL, DHAVAL PRAJAPATI, NIMIT KHARA et al. Cannon ball appearance on Radiology in a middle-aged diabetic female. Lung India. 2016 Sep-oct; 33(5): 562-568