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Golden 'Reverse S Sign' – A Reliable Sign of Lung Cancer: A Case Report

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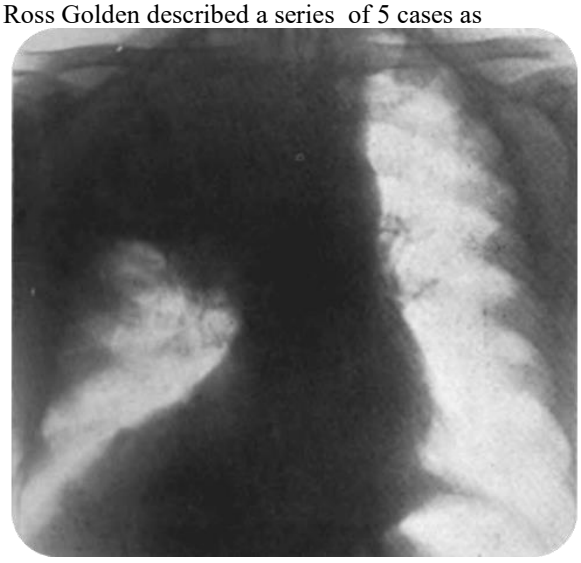
A B S T R A C T

Introduction: The "Golden S Sign" is a classic radiologic indicator of bronchogenic carcinoma, especially when involving the right upper lobe bronchus. Early recognition of such signs can prompt further investigation and diagnosis of lung malignancy.
Case Presentation: A 65-year-old male chronic smoker presented with hemoptysis, breathlessness, chest pain, fever, and weight loss. Chest X-ray revealed right upper lobe collapse and hilar prominence. CT scan and bronchoscopy confirmed the presence of a necrotic mass obstructing the right upper lobe bronchus. Histopathological analysis revealed poorly differentiated non-small cell carcinoma.
Conclusion: Despite initial CT-guided biopsy being inconclusive, radiological suspicion guided further diagnostic steps, confirming malignancy. This case highlights the importance of the "Golden S Sign" as a reliable early radiologic clue for lung cancer.

Keywords: Golden S Sign, Lung Cancer, Bronchogenic Carcinoma, Non-Small Cell Lung Cancer, Chest X-ray, Case Report.

INTRODUCTION

In 1925, An american radiologist Ross Golden described a series of 5 cases as



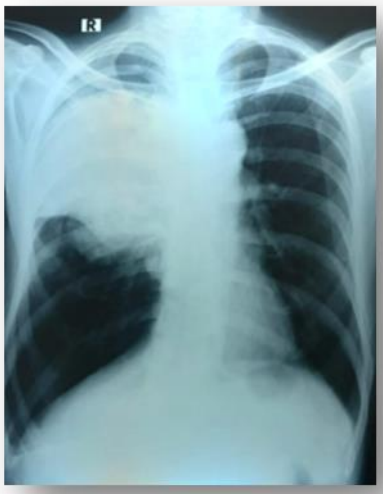
'Roentgen-Ray Shadows in Carcinoma of the Bronchus'.

Three of the cases involved carcinoma of the right upper lobe and shared characteristic features a dense homogeneous shadow, the border of which is convex medially and concave toward the periphery, occupying the upper half of the right lung field.
The inner third of right diaphragm pulled up1.

Case report:
A 65 year old nil pre morbid male with history of smoking for more than 30 pack years presented with complaints of hemoptysis, breathlessness, right sided chest pain, intermittent fever, significant weight loss [10kgs], loss of appetite for 6 months.

He was a farmer by occupation and belonged to lower middle class with no history of malignancy in his family.
On general physical examination :patient was well oriented to time place and person. Moderately built and poorly nourished,
Pallor[+], no signs icterus, clubbing, cyanosis, lymphadenopathy, edema.
Systemic examination- CVS, CNS, ABDOMEN were normal.
Rs-decreased moment on right hemi thorax with normal appearance.
Dull note was present on percussion of right infraclavicular, interscapular and axillary areas. Decreased intensity of breath sounds were heard on auscultation of the corresponding areas.

Investigations:
Initial workup included abg, cxr, complete hemogram, liver and renal function tests.
CHEST XRAY S/O consolidation/collapse of right upper lobe with hilar prominence and adenopathy.



- CBC- WBC-32,140cells/mm3, HB-7.1g/dl,PLT-5.47lakhs/mm3**,**

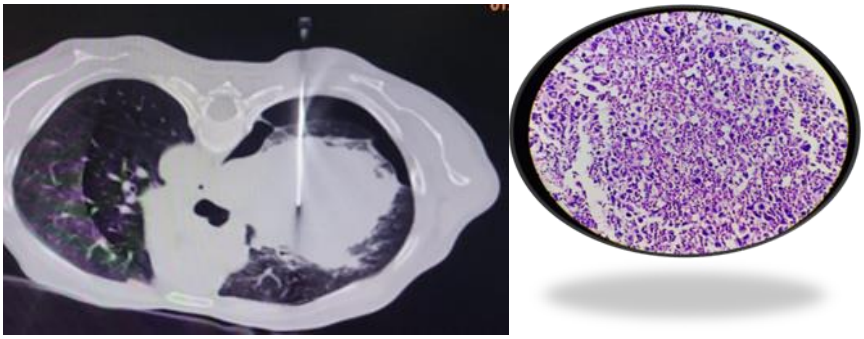
Peripheral smear s/o normocytic normochromic anaemia with neutrophilic leukocytosis with mild thrombocytosis. Platelets are increased in number and normal in morphology.

Erythrocytes show moderate degree of anisopoikilocytosis are predominantly normocytic normochromic.
Few macrocytes,microcytes and elliptocytes and occasional oval macrocytes seen.

Leukocytes are increased in number with increased neutrophil proportion and absolute number with shift to left, neutrophils show toxic granulation and cytoplasmic vaculations.
Increased eosinophil absolute number and few reactive lymphocytes seen Increased immature granulocytes-380cell/mm3.

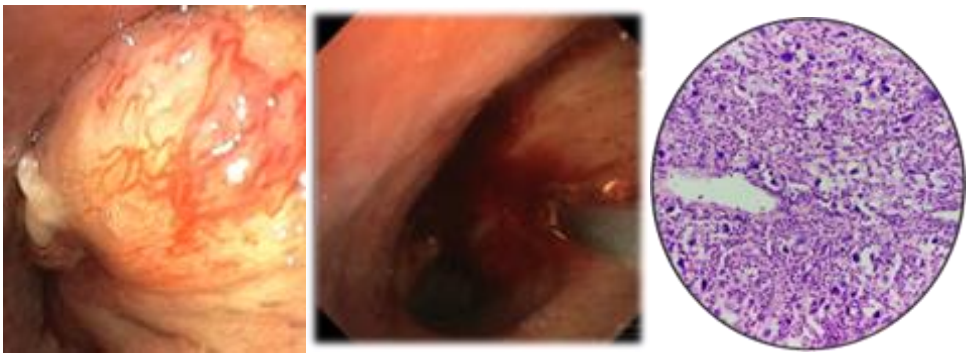
Sputum: afb and cbnaat –negative
Sputum culture and sensitivity: klebsiella species.
Resistant to only amoxycillin + clavulinic acid.

Previous CT thorax s/o large inhomogenous enhancing mass.
CT guided biopsy done and sent for hpe
ON HPE f/s/o tissue bits showing areas of necrosis and histiocytes like cells having vesicular nucleus, prominent nucleoli with moderate amount vacuolated cytoplasm in singles in a neutrophilic background



Cect-thorax done s/o large necrotic soft tissue density mass lesion with ggo of right upper lobe, with enlarged mediastinal nodes2
Bronchoscopy done revealed a mass obstructing the right upper lobe bronchus
Endobronchial biopsy was sent for histopathology which came out to be non-small cell carcinoma of the lung-poorly differentiated.

Patient was managed medically with anaemia correction by 1 pint prbc transfusion and referred to oncologist for further evaluation and management



Discussion
The "Golden S Sign" is classically seen in right upper lobe collapse due to central bronchial obstruction, typically from malignancy. The inner curvature is caused by a central mass while the outer contour is from the collapsed lung. This sign is crucial in suggesting bronchogenic carcinoma, particularly when CT or biopsy results are inconclusive.
The present case underscores the role of thorough clinical evaluation, radiographic interpretation, and persistence with diagnostic procedures like bronchoscopy in establishing a definitive diagnosis.

Conclusion
Eventhough ct guided biopsy s/o pneumonic consolidation ? Viral cytopathic changes. Based on clinical and radiological/chest xray evidence tumour was suspected hence bronchoscopy guided biopsy done and sent for histopathology which turned out to be Non small cell carcinoma of lung3.

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