

number of involved segments, total scores, nodules, fibrosis, bullae, emphysema, lobar volume loss and bronchiectasis compared to those of spontaneously healed TB group.

Conclusion: The development of airflow obstruction and respiratory symptoms may be preceded by prior TB including spontaneously healed TB or active TB or treated TB. Especially, the airflow obstruction would be more overt if the TB sequelae involve large areas of lung radiologically.

#### P110: Classic Signs in Thoracic Imaging

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Learning Objectives: (1) To describe 50 classic signs in thoracic radiology. (2) To provide illustrations of these signs. (3) To discuss the pertinent features related to each sign with emphasis on the cause of the appearance of these signs, and the differential diagnoses to be considered.

Background: Classic signs in radiology, when invoked, immediately bring an image to mind and add confidence to the diagnosis of certain conditions. Familiarity with these signs helps in arriving at a diagnosis in day-to-day practice.

Procedure Details: The signs that will be discussed in this exhibit are: coin lesion, popcorn calcification, miliary shadowing, sandstorm appearance, ground glass pattern, crazy-paving sign, halo sign, reversed halo sign, honeycomb lung, tree-in-bud pattern, air bronchogram sign, tram-track sign, signet ring sign, finger-in-glove sign, bulging fissure sign, silhouette sign, bat wing appearance, CT angiogram sign, feeding vessel sign, Monod sign, split pleura sign, Westermark's sign, Hampton's hump, Fleischner sign, cottage loaf sign, continuous diaphragm sign, superior triangle sign, S sign of Golden, juxtaphenic peak sign, wave sign, sail sign, Luftsichel sign, spinnaker sail sign, deep sulcus sign, ring around artery sign, Naclerio's V sign, water bottle sign, boot-shaped heart, snowman appearance, scimitar sign, double density sign, cervicothoracic sign, thoracoabdominal sign, epicardial fat pad sign, tapered margins sign, 1-2-3 sign (Garland triad), doughnut sign, hilum overlay sign, hilum convergence sign and fallen lung sign.

Conclusion: The familiarity afforded by recognition of a classic sign allows for a more confident diagnosis. When the sign is recognized, it often brings an impression of the image to mind, and it may have specific diagnostic and pathologic implications.

#### P111: Chest Computed Tomography: Did You Look at the Breasts

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Learning Objectives: The purpose of this exhibit is to discuss and illustrate nonincidental and incidental breast pathology identified on CT examinations of the chest.

Background: A wide variety of disorders of the breast may be identified on CT of the chest, whether intentionally or not, especially with MDCT and thin sections used for routine imaging. Such findings can be missed if the radiologist does not include the breasts in her/his search pattern. Breast lesions may be better imaged with MDCT compared with mammography if the breasts are dense or if the lesion is located near the chest wall, and while the breasts are not the primary focus of most scans of the chest, abnormal findings are not uncommon.

Procedure Details: Representative examples of incidental and nonincidental breast pathology will be shown, including calcifications, cysts, masses, infection, implants, trauma, and postsurgical/postirradiation change. Regionally advanced breast cancer will also be shown. CT cases will be demonstrated, along with

mammographic correlation if appropriate, in some cases. The relevant literature will be briefly reviewed. The approach to incidental breast pathology on CT will also be reviewed.

Conclusion: Mammography is currently the preferred examination for breast cancer screening; however, multidetector computed tomography often provides the first images of the breast when scanning is performed for pulmonary or cardiac disease. The authors have seen numerous cases and call this to the attention of all radiologists interpreting chest CT examinations.

#### P112: The Additional Information by 18 F-FDG PET/CT in Indeterminate Pulmonary Nodules in a Subset of Patients With History of Cancer

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Objectives: To assess the role of 18 F-Fluorodeoxyglucose (FDG) Positron Emission Tomography (PET)/Computed Tomography (CT) in definition of indeterminate lung nodules found by CT scan in cancer patients.

Materials and Methods: 59 consecutive cancer patients (32 male, mean age  $67 \pm 9$  y) with evidence of indeterminate lung nodules at CT scan (lesions with a diameter  $\geq 5$  mm) were retrospectively analysed. Sixteen patients had gastrointestinal, 11 breast, 7 lung, 2 thyroid and 23 other cancer types. All patients underwent 18 F-FDG PET/CT within three months from CT imaging. PET/CT was considered positive in the presence of abnormal FDG uptake in the pulmonary nodules. The nature of lung nodules was defined by histopathology or imaging follow-up.

Results: 32 (54%) patients showed negative and 27 (46%) positive PET/CT scan. At histology and imaging follow-up, 31 (69%) patients were considered positive, in particular 23 (74%) for pulmonary metastases and 8 (26%) for a primitive lung cancer. The overall accuracy of PET/CT for lung lesions was 83% (sensitivity: 77% and specificity: 89%). Furthermore, the sensitivities for PET/CT in evaluating primary lung cancer and lung metastases were 88% and 74%, respectively. The median SUVmax were 4.72 and 7.63 for secondary and primitive lung cancer, being higher in the second one.

Conclusions: PET/CT can evaluate the meaning of indeterminate lung nodules found by CT scan. It has shown a high sensitivity qualitatively and semiquantitatively in particular for primitive lung cancer.

#### P113: Silent Brain Metastases in NSCLC Patients Undergoing Radical Radiotherapy and Surgery: Is Routine Screening Likely to be Worthwhile

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Objectives: The 2011 NICE guidance on non small cell lung cancer (NSCLC) advises "consideration of MRI or CT of the head in patients selected for treatment with curative intent." The literature quotes asymptomatic brain metastases (BM) in 0.5-15.9% of potentially operable cases. There is limited information on radical radiotherapy patients or the impact of routine pre-therapy PET-CT imaging. This project aimed to determine the number of patients developing early BM post radical treatment, assuming this to be representative of the "silent" pre-treatment BM rate.

Materials and Methods: Follow up data was collated on all patients referred in 2010 diagnosed with NSCLC and treated by radical radiotherapy or surgery. None of the patients had symptoms/signs of BM pre-treatment. Routine brain imaging was not performed. Routine PET CT imaging was performed prior to radical treatment. Results: 12 patients had radical radiotherapy: mean follow up 11.8 months; range 7-16 months. Two (16%) developed BM at 5 and 6 months post radiotherapy. (Patient 1: stage 3a, adenocarcinoma. Patient 2: stage 3b, NOS). 51 patients had surgery: mean follow up 10.9 months; range 1-18 months. One patient (2%) developed BM at 4 months post-surgery (stage 2b, adenocarcinoma).