The evaluation of pulmonary involvement pattern in high resolution computerized tomography of patients with rheumatoid arthritis in Iran from 2010-2011
Kazem Navari, Reza Farokhsersht, Mohamadreza Masoodi, Shahram Zare, Najmen Zare. Internal Medicine Department, Hormozgun Medical University of Sciences, Bandar Abbas, Islamic Republic of Iran Internal Medicine Department, Hormozgun Medical University of Sciences, Bandar Abbas, Islamic Republic of Iran Internal Medicine Department, Hormozgun Medical University of Sciences, Bandar Abbas, Islamic Republic of Iran Internal Medicine Department, Hormozgun Medical University of Sciences, Bandar Abbas, Islamic Republic of Iran Internal Medicine Department, Hormozgun Medical University of Sciences, Bandar Abbas, Islamic Republic of Iran

RA is a chronic systemic disease. Pulmonary involvement is the most frequent manifestations of rheumatoid arthritis. The goal of this study was to assess pulmonary involvement pattern in patients with RA by HRCT Scan in Bandar-abbas.

Methods: In this prospective study fifty patients with RA referred to rheumatology clinic in Bandar-abbas were evaluated. Data were obtained included: age, sex, duration of disease, methotroxate usage, smoking, pulmonary chronic disease, clinical symptoms of pulmonary involvement and patient self assessment. After clinical and laboratory investigations, HRCT were performed.

Results: Mean age of 49.3 years. Three patients with respiratory symptoms and 47 patients without pulmonary complaint. The most frequent pulmonary involvement in HRCT findings sub pleural fibrosis (26%) and followed by air trapping and mosaic pattern (20%), pleural thickening (14%), honey combing (10%), pulmonary nodules (8%), pribronchial thickening (8%), ground glass pattern (8%), Bronchiectasis (8%), Alveolar (2%) and reticular pattern (2%). There was no statistically significant relationship between lung involvement pattern and, rheumatoid factor positivity. Anti ccpp and methotroxate usage but correlation between HRCT findings and age, duration of the disease, disease activity (DAS 28) and respiratory symptoms was significant (P<0.05).

Conclusion: The results of our study indicate HRCT was useful for evaluation of pulmonary involvement in patients with RA although these patients had no respiratory symptoms. Larger and prospective studies are needed to assess of lung involvement pattern in HRCT in asymptomatic RA patients.
P3560
Computed tomography findings of pulmonary nocardiosis at diagnosis
Fatme Samia Ounak1, Afa Yildizım2, Örhan Yıldız1, Davide Pergo2, Emre Deveci3, Gökhan Koçgörk1, Ayse Akbaş1, Hakan Buyukkaya1, Hatayi Demirraiz1, İnci Gümle1,2, Ramazan Demir1.
1Department of Chest Diseases, Erçyes University Medical School, Kayseri, Turkey; 2Department of Radiology, Erçyes University Medical School, Kayseri, Turkey; 3Department of Internal Medicine, Nephrology Unit, Erçyes University Medical School, Kayseri, Turkey.

Computerized tomography (CT) plays an important role in the diagnosis of pulmonal nocardiosis (PN), allowing earlier detection and better characterization of the abnormalities than dos chest radiography. The aim of the present study was to report the results of previously reported CT findings of patients at the time of initial presentation. A computerized database search was performed to find all cases of PN, confirmed positive culture, in patients at our institution over the last 11 years. Twenty-two patients (n=22) with PN were identified. Patients without CT scan available at initial presentation (n=2) and patients with concurrent diseases involving the lungs and pleura were excluded (n=2). For the remaining 20 patients [median age: 46 years (range, 21 to 67 y)], standardized radiographic features were recorded. Some form of immunosuppression was present in 95% of the cases. Preexisting structural abnormalities of the lung were uncommon (COPD): 2). CT features of PN included one or more nodules/masses (16 patients, 73%), airspace consolidation/infiltrates (12 patients, 55%), pleural effusion/thickening (6 patients, 41%), mediastinal lymphadenopathy (6 patients, 27%), diffuse interstitial pattern (4 patients, 18%), chest wall extension (2 patients, 9%). Cavity lesions with pleural retraction or intestinal inclusion including nodules, masses, or air space disease, occurred in 64% of the patients. CT findings of PN in immunocompromised patients are pleomorphic and not specific. CT findings consist predominantly of nodules/masses and cavity lesions without any significant zonal or anatomic distribution. Diffuse interstitial patterns also occur. Pleural effusions are quite common, and lymph nodes may be enlarged.

P3561
Impact of aspiration pneumonia in community-acquired pneumonia and healthcare-associated pneumonia
Kosaku Komive1, Hiroshi Ishii1, Kenji Umeki1, Shunji Mizunoe2, Jun-ichi Kadota3.
1Respiratory Medicine, Oita University Faculty of Medicine, Oita, Japan; 2Respiratory Medicine, Oita Prefectural Hospital, Oita, Japan; 3Department of Medical Microbiology, Erciyes University Medical School, Kayseri, Turkey.

Background: Aspiration pneumonia is ranked as a considerable etiology in community-acquired pneumonia (CAP) and healthcare-associated pneumonia (HCAP). However, its frequency and role have not been fully evaluated due to difficulties in the diagnosis.

Objective: To determine the frequency of aspiration pneumonia in CAP and HCAP, and to evaluate its impact on the outcome among these patients with acute pneumonia.

Methods: We defined aspiration pneumonia as the following conditions: having risk factors for aspiration pneumonia, including dysphagia due to neurological disorder, mechanical obstruction of the airways and disturbance of consciousness, and also showing lung gravitational opacities in chest CT. Clinical features, microbiology, and outcomes in total 657 patients with CAP (n=417) and HCAP (n=220) were retrospectively analyzed.

Results: Forty-six (11%) patients with CAP and 102 (46%) patients with HCAP met the definition of aspiration pneumonia (p<0.001). The severity score (CURB-65) was higher in HCAP patients (median 3.0, interquartile range: IQR 1.0) than in CAP patients (median 2.0, IQR 1.0, p<0.001). The treatment failure due to resistant pathogens was more frequently seen in HCAP (9.5%) than in CAP (3.4%, p<0.001, respectively). Cavity and bilateral pleural effusions were significantly more frequent in cases of S. pneumoniae pneumonia with concurrent P. aeruginosa infection than in cases of S. pneumoniae pneumonia alone (p<0.001 and p<0.01, respectively) or with concurrent H. influenzae (p=0.05 and p<0.01, respectively) or MSSA infection (p=0.05 and p=0.05, respectively).

Conclusions: When a patient with S. pneumoniae pneumonia has concurrent nodules, bronchial wall thickening, cavity or bilateral pleural effusions on CT images, concurrent infection should be considered.

P3562
The features of high resolution CT (HRCT) in patients with respiratory symptom due to gastroesophageal reflux disease (GERD)
Mito Ibara1, Hirohiko Ibara1, Hisayuki Abe2, Seiichirou Watanabe2.
1Respiratory Medicine, Oita University Faculty of Medicine, Oita, Japan; 2Internal Medicine, Oita University Faculty of Medicine, Oita, Japan.

Background: GERD is well known as one of cause for chronic cough. Gastric acid refluxed stimulates the esophagus and airways, then it induce cough with or without inflammation. This study aimed to evaluate the features of HRCT in patients with GERD.

Materials and methods: Ten consecutive patients (6 males and 4 females) were enrolled. GERD was diagnosed and confirmed by 24-hour pH monitoring and esophageal manometry. Patients with elevated acid refluxes on pH monitoring were included. CT findings of HRCT in patients with GERD were compared with those of healthy control subjects.

Results: Patients were classified into two groups (GERD group, n=10; control group, n=5). The GERD group showed significantly more frequent findings of esophageal sliding hernia, GERD-related lesions such as diverticulum and hiatal hernia. Similarly, GERD group showed more frequent findings of tumor-like lesions and varices. GERD group showed more frequent findings of hypointense lesions in the liver and more frequent episodes of GERD-related symptoms.

Conclusions: HRCT of the esophagus and airways in patients with GERD can provide useful information for the diagnosis of GERD-related disorders.

P3564
Chest CT findings in patients with angioimmunoblastic T-cell lymphoma
Hisaku Kusunoki1, Hiroshi Ishii2, Kosaku Komive1, Hiroaki Oka3, Issei Tomokatsu1, Jun-ichi Kadota2.
1Respiratory Medicine, Oita University Faculty of Medicine, Oita, Japan; 2Respiratory Medicine, Oita Prefectural Hospital, Oita, Japan.

Background: Angioimmunoblastic T-cell lymphoma (AITL) is a subtype of peripheral T-cell lymphoma, and it is an aggressive disorder representing approximately 2% of non-Hodgkin lymphomas. Most of the patients with AITL present with pyrexia, weight loss, lymphadenopathy, splenomegaly, skin rashes, and various thoracic involvements. However, there have been few reports of thoracic images in patients with AITL.

Objective: To determine the characteristics of the thoracic involvements in AITL.

Methods: The clinical and radiological data of 7 patients (6 males and 1 female, median age: 74 (65-78) years old) with pathologically-diagnosed AITL between 1998 and 2011 were retrospectively analyzed.

Results: The most common manifestations in onset were pyrexia and swelling of the cervical lymph nodes. Radiographic findings of the chest included mediastinal and hilar lymphadenopathy (seen in all 7 patients), pleural effusion (57%), thickening of the bronchovascular bundles (57), ground-glass opacities (57), consolidation (27), and pericardial effusion (17). Two patients (27%) developed interstitial pneumonia after chemotherapy-induced remission, and one of the two patients underwent a surgical lung biopsy and showed cellular and organizing interstitial pneumonia.

Conclusion: AITL is a rare type of non-Hodgkin lymphoma, however, chest physicians should be aware that thoracic involvements are frequently seen in this disease.
Thoracic manifestation of myeloperoxidase-antineutrophil cytoplasmic antibody (MPO-ANCA) related disease: CT findings in 149 patients

Yumiko Ando1, Fumito Okada2, Koichi Honda2, Asami Ono2, Tomoko Nakayama2, Shunro Matsumoto 2, Hiromu Mori 2.

Faculdade de Medicina da Universidade de São Paulo, SP, Brazil

Background: The study of the normal ageing process is becoming more important as life expectancy increases. To our knowledge, no studies reporting chest HRCT findings in asymptomatic, non-smoking elderly subjects with both normal echocardiogram and PFTs were conducted.

Objectives: To describe chest HRCT findings in a population of asymptomatic, non-smoking elderly subjects with normal echocardiogram and PFTs. Methods: After institutional approval, patients over 65 years old recruited from the Geriatrics outpatient clinic were studied and compared with normal volunteers under 50 years old. Written consent was obtained. Participants were submitted to a questionnaire, echocardiography and PFTs for assessing absence of disease, and afterwards submitted to chest HRCT. Scans were interpreted and findings were scored, including pulmonary nodules, cysts, parenchymal bands, interlobular septal thickening, reticular opacities and bronchiectasis. Non-parametric tests were used for the statistical analysis, with P<0.05 representing statistical significance.

Results: The HRCT findings of 53 asymptomatic subjects over 65 years old (mean age 74.6 yrs) were compared with those of 24 volunteers under 50 years old (mean age 35.7 yrs). The prevalence of abnormal scans was higher in the elderly (84.9% vs 12.5%, P<0.001). Comparing both groups, significantly more elderly subjects had scans with parenchymal bands (35 vs 3; P<0.001), interlobular septal thickening (12 vs 0; P=0.014) and lung nodules (10 vs 0; P=0.026).

Conclusion: Parenchymal manifestations can present with unusual findings in uncommon sites so whenever looking at a pulmonary CT we should ask: “Am I dealing with sarcoidosis?”

P3565

Chest HRCT findings in non-smoking, asymptomatic elderly subjects with normal echocardiogram and pulmonary function tests

Daniel Winter1, Marco Manzini1, Alexandre Busse2, Omar Jalaal2, Tânia Guimarães2, Mario Terra-Filho 1.

1Pulmonary Division, Heart Institute (InCor) do Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo, Brazil; 2Department of Geriatrics, Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo, SP, Brazil

P3568

MDCT differences between cardiac edema, viral pneumonia and ARDS

Aleksandar Ivkovic1, Tamara Milosavljevic2, Zoran Radiatovic1, 1Center of Radiology, KC Niš, Serbia; 2Radiology, ZC Vranje, Serbia

Purpose: Acute respiratory distress syndrome (ARDS) is a type of severe, acute lung dysfunction affecting all or most of both lungs that occurs as a result of illness or injury. The main radiological problem is to see differences with cardiac edema or viral pneumonia. Main purpose is to show possibilities of MDCT in detection of important differences.

Methods: We examined 356 patients with ARDS, 656 with viral pneumonia and 456 with cardiac edema. Patiënten were examined by 1664 MDCT using virtual bronchoscopy, perfusion and pulmonary angiography. There were 194 male and 162 female patients from 13 to 82 years with ARDS; 303 male and 353 female with viral pneumonia, 9 to 54 years; 201 male and 255 female, 54 to 76 years old.

Results: ARDS was caused by injury in 204 cases and with acute illness in 148 cases. 6 cases were without known cause, probably drug abuse. Patients were with hypoxia, PF ratio was less than 200 and all had bilateral x-ray changes. The usual diagnostic approach is to perform standard x-ray of the lung but in cases of ARDS it is impossible to determine changes from ARDS and from pneumonia; also if patients have cardiac problems in history it is not necessary that they do not have ARDS. There are 2 major radiological differences: first is quality of alveolar fluid and second is condition of alveolar wall. Also important differences are in condition of airways and blood vessels.Different diagnosis was made in 18.9% of patients.

Conclusion: Fast diagnoses for patients in critical care units are vital to patient life. MDCT with virtual bronchoscopy, perfusion and pulmonary angiography can give us fast answer and prediction. MDCT can be performed in patients with mechanical ventilation.

P3566

Thoracic manifestation of myeloperoxidase-antineutrophil cytoplasmic antibody (MPO-ANCA) related disease: CT findings in 149 patients

Yumiko Ando1, Fumito Okada2, Koichi Honda2, Asami Ono2, Tomoko Nakayama2, Shunro Matsumoto 2, Hiromu Mori 2.

Materials and methods: The pulmonary CT scans of 149 patients with elevated serum MPO-ANCA levels (77 with microscopic polyangiitis, 18 with Churg-Strauss syndrome, 12 rapidly progressive glomerulonephritis and 42 with unclassified disease). The HRCT findings of 53 asymptomatic subjects over 65 years old (mean age 74.6 yrs) were compared with those of 24 volunteers under 50 years old (mean age 35.7 yrs). The prevalence of abnormal scans was higher in the elderly (84.9% vs 12.5%, P<0.001). Comparing both groups, significantly more elderly subjects had scans with parenchymal bands (35 vs 3; P<0.001), interlobular septal thickening (12 vs 0; P=0.014) and lung nodules (10 vs 0; P=0.026).

Conclusion: Parenchymal manifestations can present with unusual findings in uncommon sites so whenever looking at a pulmonary CT we should ask: “Am I dealing with sarcoidosis?”

P3567

Sarcoidosis; the great mimicker: A CT study

Sheida Rostamzadeh, Shahram Kalkouei, Shirin Dianati. Radiology, Masih Daneshvari Hospital, Shahid Beheshti University of Medical Science, Tehran, Islamic Republic of Iran

Purpose: Assessing manifestations of sarcoidosis in chest CT to make clinicians and radiologists consider this disease in daily practice.

Material and methods: CT and HRCT scans of 59 patients with biopsy-proven sarcoidosis were reviewed.

Results: Many of the classical findings including bilateral hilar and paratracheal adenopathy and parenchymal involvement like bronchovascular bundle thickening, nodularity, fibrobronchiectatic and fibrocavitary changes affecting upper and middle zones as well as pleural thickening were noted as previously mentioned by others. But what highlights our study, is the interesting uncovering of 30.5% unilateral and 45.8% bilateral asymmetric parenchymal involvement, also scattered parenchymal metastasis-like nodules (20.3%), Patchy ground glass opacities mimicking BOOP (33.9%), the galaxy nodular pattern (11.9%) and enlargement of main pulmonary artery (23.7%).

Introduction: Bronchopulmonary sequestration is a rare congenital malformation of the lower respiratory tract consisting of non-functioning lung tissue that receives its blood supply from the systemic circulation.

Aims and objectives: To evaluate clinical and diagnostic aspects in a case diagnosed primarily by abdominal US.

Methods: Evaluation was done by US, color doppler, MRI and Xray.

Results: A 12 year old girl was admitted to US due to unspecific abdominal pain and a systolic auscultation. In US and CCDS a stenosis of aorta, renal arteries and mesenteric arteries could be excluded. A thick, aberrant arterial vessel was seen, running paravertebral up to the diaphragm (Fig.1). MR and MR-A showed an atypical artery running from the celiac axis to a sequestrated lung tissue area and than communicate to lung veins. Discussion: Sequestrations are characterized by their location, connection to pulmonary or other structures, vascular supply, and association with other abnormalities. If the celiac axis is involved a bronchopulmonary-foregut malformation (BFPM) should be considered. The clinical diagnostic, clinical consequences and therapeutic options will be discussed.
Conclusions: In cases with aberrant vessels going up to the diaphragm a sequestration of the lung should be considered.