

Healed varicella

Published on 07.12.2017

DOI: 10.1594/EURORAD/CASE.15215

ISSN: 1563-4086

Section: Chest imaging

Area of Interest: Lung Thorax

Procedure: Diagnostic procedure

Imaging Technique: Conventional radiography

Imaging Technique: CT

Imaging Technique: CT-High Resolution

Special Focus: Infection Neoplasia Case Type: Clinical Cases

Authors: Florim, S.; Marques, D. I.; Melo, P.; Castelo, D.; Rocha, M. D.; Portugal, P.

Patient: 56 years, female

Clinical History:

A 56-year-old female patient complaining of cough and dyspnoea for many weeks. No complaints of weight loss. She was a heavy smoker and had chickenpox at 33 years.

Chest radiograph (Fig. 1) was performed followed by thoracic CT examination (Fig. 2).

Imaging Findings:

Chest radiograph (Fig. 1) revealed diffuse, multiple small nodular opacities, with random distribution. Some of them were dense suggesting calcification. In the right perihilar region a spiculated nodule was observed and CT was suggested.

Computed tomography (Fig. 2a, Fig.2b and Fig.2c) showed multiple pulmonary nodules with random distribution, and well-defined edges. They varied from 2 to 5 mm in diameter and they were not cavitated.

In the inferior right lobe there was a subpleural spiculated nodule with 30 x 18 x 29 mm, with some calcifications (Fig.2d). It was considered a suspicious lesion and biopsy was suggested.

Discussion:

Varicella zoster virus pneumonia (VZVP) is a serious complication of an infection with varicella zoster virus, which sometimes proves fatal.[3] Risk factors for developing VZVP are contact with chickenpox, smoking and pregnancy (third trimester). Smoking has been recognised as the most important risk factor. [3] VZVP is more prevalent among young men and usually presents 1–6 days after onset of the skin rash. Symptoms are nonspecific and include tachypnoea, chest tightness, cough, dyspnoea, fever, pleuretic chest pain and occasionally haemoptysis. [4] The initial chest radiograph typically shows ill-defined nodular (2–5 mm in diameter) or reticular densities that represent interstitial pneumonitis, more evident in the periphery of the lung. Radiological abnormalities usually resolve, but may persist for weeks or months and in a few cases nodules can calcify and remain indefinitely. [2] In this case, we present a typical pattern of diffuse calcified pulmonary nodules, with random distribution, seen years after acute VZVP. This is a nonspecific finding; however, when the physician is confronted with disseminated small (< 1cm) calcified pulmonary nodules, a history of prior VZVP should be sought, since it can greatly facilitate the differential diagnosis between tuberculosis, coccidioidomycosis, histoplasmosis and pneumoconiosis, rendering extensive diagnostic workup unnecessary. [3, 5] Definitive diagnosis in the acute phase can be provided by isolation of varicella zoster virus on vesicular fluid cultures. [2] Treatment of VZVP as well as other complications of varicella

zoster virus infection in adults and children is effective by intravenous acyclovir. Recurrence of VZVP has been reported in immunocompromised patients. [3] Another clinically important finding in this patient was a spiculated lesion found in the apical segment of the right lower lobe, whose biopsy revealed an undifferentiated adenocarcinoma. The patient initiated chemotherapy, but developed multiple metastatic pulmonary lesions and died a few months later.

Differential Diagnosis List: Multiple random nodules were related with healed varicella., Metastatic pulmonary calcification, Pulmonary alveolar microlithiasis, Amyloidosis, Silicosis, Tuberculosis, Coccidioidomycosis, Histoplasmosis, Pneumoconiosis

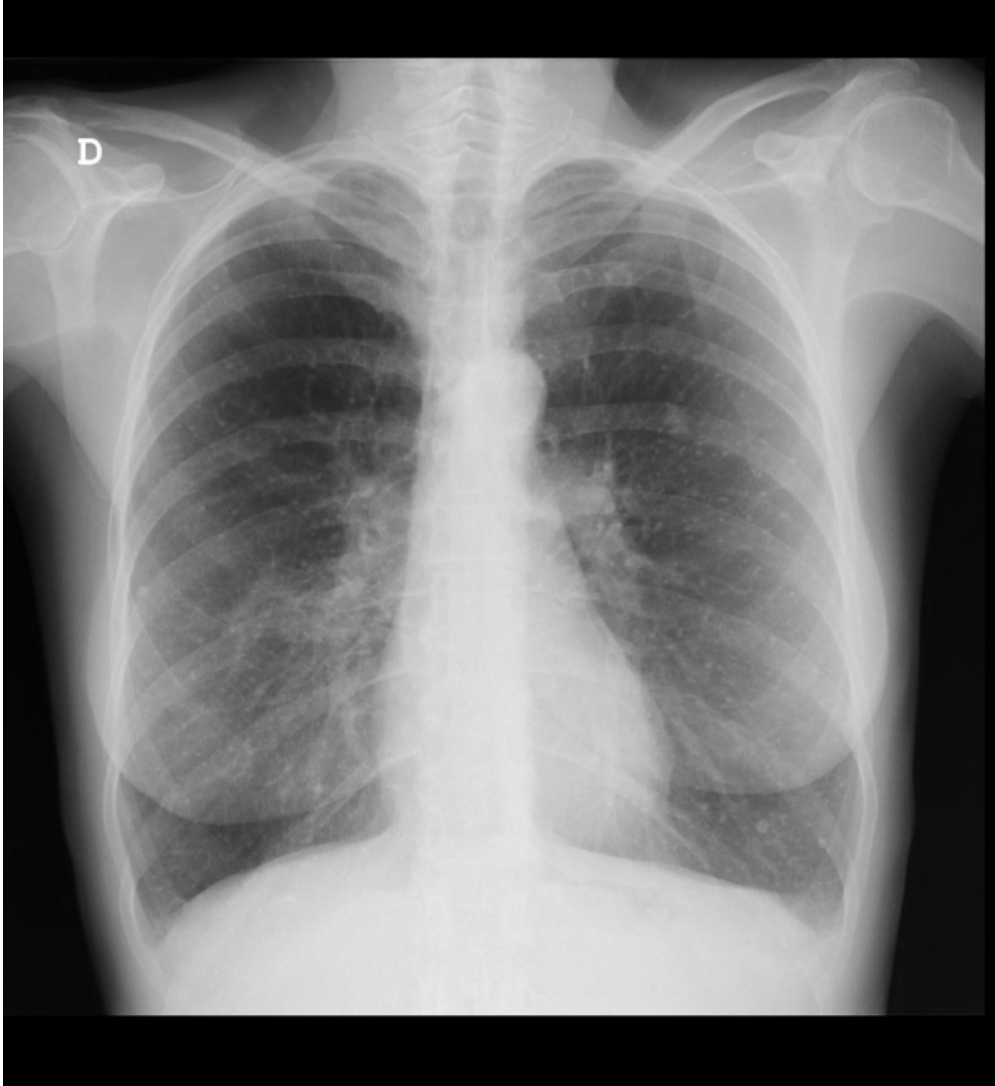
Final Diagnosis: Multiple random nodules were related with healed varicella.

References:

- Jones A.M., Thomas N., Wilkins E.G.L (2001) Outcome of varicella pneumonitis in immunocompetent adults requiring treatment in a high dependency unit. J. Infect Volume 43, Issue 2, Pages 135–139 (PMID: [11676521](#))
- Pugh R.N., Omar R.I., Hossain M.M. (1998) Varicella infection and pneumonia among adults. Int J Infect Dis (PMID: [9763503](#))
- C. S. Floudas M. A. Kanakis A. Andreopoulos G. A. Vaiopoulos. (2008) Nodular lung calcifications following varicella zoster virus pneumonia. An International Journal of Medicine (PMID: [18178592](#))
- Nee PA, Edrich PJ. (1999) Chickenpox pneumonia: case report and literature review. J Accid Emerg Med (PMID: [10191458](#))
- A.H. Mohsen, M. McKendrick (2003) Varicella pneumonia in adults. European Respiratory Journal (PMID: [12765439](#))

Figure 1

a



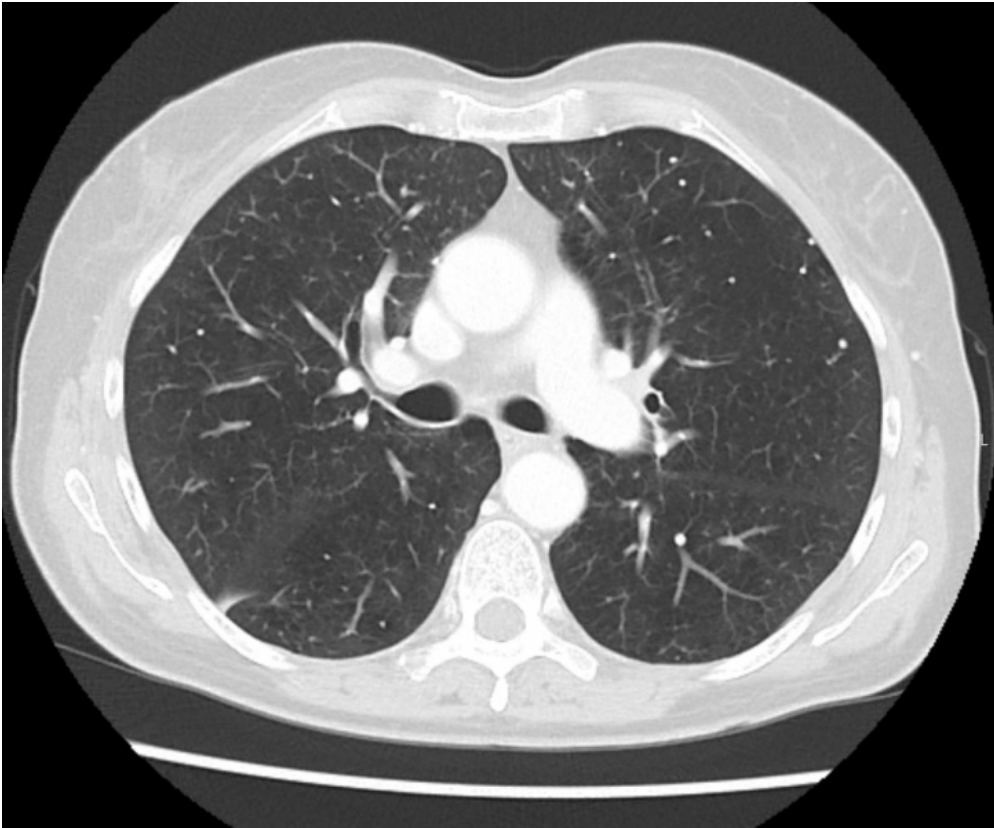
Description: Plain chest film showing multiple, diffuse, small nodular opacities, with random distribution. Some of them were dense suggesting calcification. In the right perihilar region a spiculated nodule was observed. **Origin:** Radiology department, Centro Hospitalar Vila Nova de Gaia/Espinho, Portugal

Figure 2



Description: Coronal CT examination showing multiple pulmonary nodules with random distribution, and well-defined edges. They varied from 2 to 5 mm in diameter. They were not cavitated. **Origin:** Radiology department, Centro Hospitalar Vila Nova de Gaia/Espinho, Portugal

b



Description: Axial CT examination using lung window shows multiple pulmonary nodules with random distribution, and well-defined edges. They varied from 2 to 5 mm in diameter. They were not cavitated.

Origin: Radiology department, Centro Hospitalar Vila Nova de Gaia/ Espinho, Portugal

c



Description: Axial CT examination image using bone window settings shows a few calcified small nodules in the left upper lobe. **Origin:** Radiology department, Centro Hospitalar Vila Nova de Gaia/Espinho, Portugal.

d



Description: Axial CT examination showing in the inferior right lobe a subpleural spiculated nodule with 30 x 18 x 29 mm, with some calcifications. This lesion was biopsied which revealed undifferentiated adenocarcinoma. **Origin:** Radiology department, Centro Hospitalar Vila Nova de Gaia/Espinho, Portugal