

CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

Pneumonology Quiz – Case 6

A 65-year-old female patient with a good performance status, current smoker, with a background of ischaemic heart disease, type 2 diabetes and chronic obstructive pulmonary disease (COPD) presented with two day history of progressive breathlessness and more pronounced cough, productive of green phlegm. She denied any breathlessness. On examination she was tachypnoeic and her oxygen saturation was 85% on room air. She had a barrel chest, a centrally placed trachea, decreased chest expansion and the percussion of her lungs was hyper-resonant bilaterally. Her breathing sounds were globally decreased and she had bilateral mild wheeze with rhonchi. An arterial blood gas showed a pO_2 of 7.5, pCO_2 of 6.4 and pO_2 of 5.8. Controlled supplementary oxygen was administered and a chest radiograph was taken in the emergency department (fig. 1). No previous x-rays were available for comparison.

Question 1: Can you describe the chest x-ray? What is the most appropriate next step?

- Left sided pneumothorax. Administer oxygen via non-rebreather mask and observe for 24 hours.
- Left sided pneumothorax. For urgent pleural aspiration.

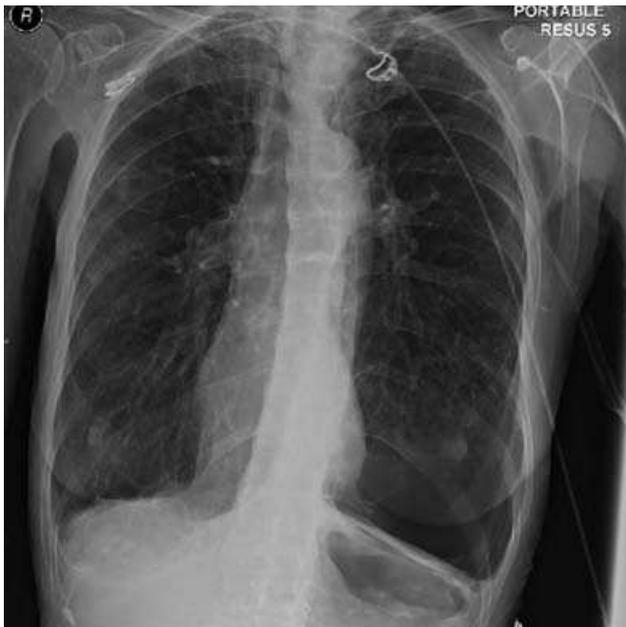


Figure 1

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ΑΡΧΕΙΑ ΕΛΛΗΝΙΚΗΣ ΙΑΤΡΙΚΗΣ 2017, 34(6):851–852

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- Large left sided pneumothorax. For urgent placement of a chest drain.
- Diagnosis is still unclear. For computed tomography (CT) chest.

The chest radiograph shows a large lucent area in the left lower chest cavity. The mediastinum is displaced to the right side. However, the distribution of the air is atypical and there is no obvious visceral pleural line of a deflated lung. While the working diagnosis was that of a pneumothorax, a CT thorax was requested (fig. 2) for confirmation and to guide chest drainage.

Question 2: What is the diagnosis? Can you describe the CT images (fig. 2)?

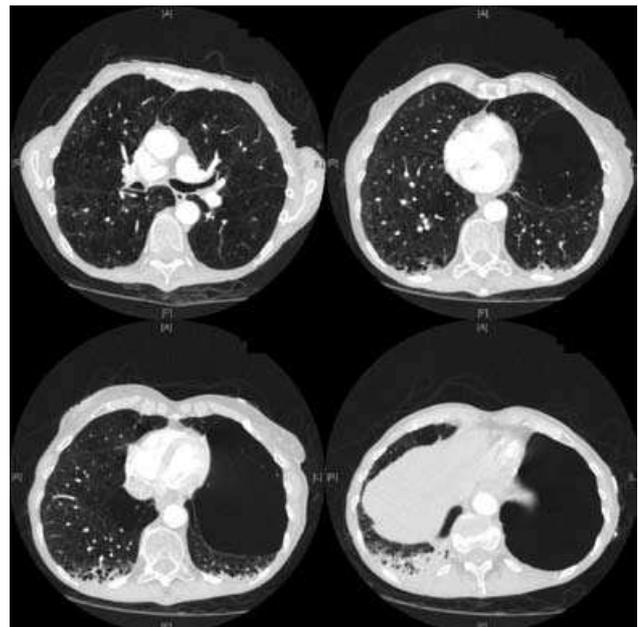


Figure 2

- a. Left basal pneumothorax.
- b. Large left basal emphysematous bullae.
- c. Left sided simple pleural effusion.
- d. Right sided pleural effusion.

The CT chest revealed a giant left basal emphysematous bullae, causing displacement of the mediastinum to the right. It also demonstrated an area of consolidation in the right base, which probably accounts for the current symptoms of the patient. The patient was diagnosed with community acquired pneumonia and COPD exacerbations, and was acutely treated with a course of antibiotics, systemic steroids and bronchodilators and she improved clinically within 48 hours of treatment.

Question 3: Which of the following would you include in your long term plan (more than one answer might be correct):

- a. Optimization of her long-acting bronchodilators.
- b. Referral for smoking cessation.
- c. Inhaler technique and adherence evaluation and training.
- d. Referral for consideration of bullectomy.
- e. All of the above.

Optimisation of her COPD treatment and referral for smoking cessation should be prioritised.¹ Inhaler technique and adherence should also be monitored frequently and re-training should be offered.² Bullectomy should be considered, since this bulla occupies >30% of the left hemithorax. Indications for bullectomy include: severe dyspnea due to the bulla, spontaneous secondary

pneumothorax, pain, repeated infections, hemoptysis, increase in size on serial chest radiographs or occupation of >50% of the hemithorax. Contraindications include significant comorbidities, poorly defined bullae on chest imaging, pulmonary hypertension.³ Other treatments, such as endobronchial valves could also be considered.

References

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