Acute Trenant Pneumonia of Possible Bacterial Etiology

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ABSTRACT: A 48 years old, smoker (20 cigarettes/day), without known personal pulmonary antecedents, is presented in the emergency service accusing: dry cough, fever (38.8°C), chills, dyspnea at medium efforts, dizziness, symptoms occurred 4 days ago and gradually accelerated. Following the paraclinical tests two possible major differential diagnoses take shape: bacterial pneumonia and lung cancer. For the diagnosis of pneumonia pleads clinical appearance (fever, chills, cough) and the results of radiological examination. The diagnosis of bronchopulmonary tumor is denied by bronchoscopy, the PBTT which doesn’t reveal tumor cells and clinically well evolution. The case is interpreted as a form of trenant bacterial pneumonia in slow resorption - for this pleads the favorable clinical and radiological evolution, broad-spectrum antibiotic therapy, balancing electrolyte.

KEYWORDS: pneumonia, trenant, bronchoscopy

Introduction

Pneumonias are acute inflammatory diseases, usually having an infectious cause, rarely being determined by chemic or physic agents. Risk factors incriminated in their appearance are: age, smoking and atmospheric pollution, abuse of alcohol, associated chronic diseases, immunosuppressive medication [1].

Bacterial pneumonia is the first cause of pneumonia in our country[2]. The diagnosis of pneumonia starts from the clinic suspicion (anamnesis and clinic general exam) and it’s confirmed by pulmonary X-ray, sputum and blood exam, and other tests in function of the disease severity and associated risk factors, correlated also with the treatment response (pulmonary puncture, bronchoscopy) [3,4].

Although their frequency has reduced by the past[5], pneumonias are still a principle cause of death, especially at elderly, children and those who have chronic bronhopulmonary diseases[6].

Case presentation

Patient T.S., 48 years old, from urban area, smoker (20 cigarettes/day), without known personal pulmonary antecedents, is presented in the emergency service accusing: dry cough, fever (38.8°C), chills, dyspnea at medium efforts, dizziness, symptoms occurred 4 days ago and gradually accelerated.

Physical exam at hospitalization highlights a normal weight patient, with general condition altered, fever (38,8°C), skin and mucosa intensely pale.

At respiratory exam: normal chest complied, bilateral vocal vibrations transmitted, crackles in third upper right hemithorax, respiratory rate 20 breaths / min, SO₂ 92%.

Cardiac exam shows rhythmic heart sounds, tachycardia, heart rate 95 beats / min, TA 120/90 mmHg, without other modifications at clinical exam.

Fig.1. Pulmonary X-ray performed at admission
Biological: Hemoglobin 7.6 g/dl, hematocrit 21.6%.

Pulmonary X-ray performed in the emergency service highlights round opacity of 7 cm diameter, intense, homogeneous, located in the right axillary segment with tumor appearance (Fig.1)

Based on clinical and paraclinically examination is diagnosed with bacterial pneumonia right upper lobe, lung cancer in observation, severely anemic syndrome.

Patient is hospitalized in pneumology clinic for treatment and supplementary investigations.

In the pneumology clinic: Hemoglobin 6.3 g/dl, hematocrit 21%, platelets 166,000, leukocytes 8,600, anisocytosis, poikilocytosis, hypochromia. ESR 90/124mm. Glycemia 85 mg. Urea in blood 20 mg. Cholesterol 179 mg. Triglycerides 93. GOT (AST) 27 U/l. GPT (ALT) 20 U/l. BT 0,40 mg. Uric acid 3.46 mg. Na 135 mEq/l, K 2.9mEq/l, Cl 105 mEq/l.

Thorax and abdomen CT: condensation zone of 7 cm right upper lobe, without mediastinal lymphadenopathy, without pleuropericardic effusion; normal size liver, with homogeneous structure, globular spleen, both kidneys were normal, no ascites, no lymphadenopathy.

The bronchoscopy exam is attempted, but the patient is uncooperative to anesthetic maneuvers, the patient shows suffocation, anxiety and a tendency to extubation, therefore the maneuver is interrupted with indication for reprogramming.

The thoracic surgery consultation is made and CT-guided transthoracic puncture is performed (the maneuver shows the appearance of postprocedural minimal hemoptysis) and is harvested for histological with immunohistochemical examination.

Cytology (PBTT) - pulmonary tumor mark - on examined smears are frequent round oval cell groups, some with hypertrophied nucleus, without atypia, frequent lymphocytes, rare polymorphonuclear leukocytes, frequent erythrocytes and small pieces of fibroconjunctive tissue.

Histopathological examination (no. 525741) - fragments of lung parenchyma which shows alveoli filled entirely with content represented of fibrin, red blood cells and leukocytes (Fig.2).


during hospitalization followed antibiotic therapy (Sulcef 4g/day, Ciproquin 500mg/day), red blood cells, electrolyte rebalance.

The patients evolution was favorable (hemoglobin at discharge 10g/dl and hematocrit was 31%), and control chest radiography had the following aspect.

After 3 weeks the patient is again hospitalized at the Pneumology Institute Marius Nasta from Bucharest, in order to continue investigations.

Biological: Hb 12 g/dl; Ht 41,4%; L 7.800; GOT 23 U/l; GPT 26 U/l; ESR 7 mm at hour; urea in blood 21 mg. Sputum exam: BAAR negative.

Pulmonary X-ray: right upper lobe anterior segment condensation aspect possible pneumonia; and at discharge on pulmonary X-ray is observed important resorption of opacity located in the right upper lobe ventral segment (Fig.3).

Frontal sinus radiography: bilateral maxillary and frontal sinusitis.

Bronchoscopy (no. 28961/07.05.2014): vocal cords free, symmetric; trachea normal appearance, normal left bronchial tree. Right bronchial tree without proliferative elements in the approached area, bronchoalveolar lavage at the right upper lobe level, posterior segment, instilled 100 ml saline. Bronchial aspirates BK exam.
Bronchial aspirates: negative BK exam. (no. 10520/08.05.2014). Bronchoalveolar lavage-aspects – total number of cells 4.4×10⁶, vitality 64%, macrophages 82.4%, lymphocytes 15.6%, granulocyte 2%, no tumor cells, Ziehl-Nielson coloration-negative. Conclusions: microbial flora.

Spirometry – normal values. CVF 28294.71%; VEMS 2.39 l/s=93.8%; IT=84.73%.

During hospitalization received treatment with Avelox, Ceftamil, Ketonal and Dexamethasone with favorable evolution.

Patient evolution was favorable with improvement of clinical symptoms and disappearance of radiological image.

The patient was discharged in good general condition, diagnosis at discharge:

- right upper lobe pneumonia in significant resorption; bilateral maxillary and frontal sinusitis; postinfectious secondary anemia remitted; chronic smoking.

It is recommended to continue treatment at home with Avelox another 5 days; the correct antibiotic treatment of respiratory infections and influenza vaccination episodes in winter and antipneumococcal.

Discussions

The particularity of the case is the presence of radiological image hospitalization, suggesting a pulmonary tumor, diagnostic supported by the overall, secondary anemia and very high ESR, but under antibiotic therapy, red blood cells and electrolytic rebalancing symptoms are remitted.

Following the paraclinical tests two possible major differential diagnoses take shape: bacterial pneumonia and lung cancer.

For the diagnosis of pneumonia pleads clinical appearance (fever, chills, cough) and radiological examination.

The diagnosis of bronchopulmonary tumor is denied by bronchoscopy, the PBTT which doesn’t reveal tumor cells and clinically well evolution.

Anemia in cancer: prognosis depends on the background of the disease, usually presenting evolutionary tendency towards chronicity.

The case is interpreted as a form of trentant bacterial pneumonia in slow resorption - for this pleads the favorable clinical and radiological evolution, broad-spectrum antibiotic therapy, balancing electrolyte.

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