symptoms and radiological abnormalities resolving within several months due to the long half-life of the amiodarone metabolites.[8]

The peculiarity of our case was the sequential occurrence of reversible interstitial NSIP-like lung abnormalities followed by nodular high-density opacities. Moreover, the onset of lung nodules occurred after the withdrawal of amiodarone and once corticosteroid treatment had been started. Several hypotheses on the late-onset of lung nodules could be made. A late-onset direct toxic injury to lung parenchyma and/or a slow immunologic reaction should not be excluded.[2] However given that the nodules were located in the same lobe where the first biopsy had been performed, a possible increase in lung susceptibility to amiodarone toxic effect after physical insult might be suspected.[1]

To the best of our knowledge, this is the first case of a biphasic manifestation of amiodarone-related lung toxicity with large reversible nodules following interstitial abnormalities. The broad imaging manifestations of APT may account for some temporal heterogeneity.

Consent to publish data

Informed consent to publish data was obtained by the patient.

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Conflicts of interest

The authors have no conflicts of interest to declare.

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Pulmonary cavities—The diagnostic's challenge

Dear Editor,

A pulmonary cavity is defined as a gas-filled space within a zone of pulmonary consolidation or within a mass or nodule, often seen as a lucency or low-attenuation area.[1] Cavities are present in a wide variety of processes, such as lung cancer, autoimmune diseases, infections, congenital malformations and trauma. A chest X-ray and computed tomography (CT) are the radiographic means most often used to assist diagnosis.[1,2]

Traumatic pulmonary pseudocysts (TPP) are uncommon cavitary lesions developed as consequence of blunt thoracic trauma. They are more frequent in children and young adults.[3,4]

A 16-year-old female, equestrian practitioner went to the emergency room because of right chest trauma caused by two horse kicks. She denied any symptoms other than pain. Physical examination showed two bruises and severe pain on palpation of right costal grid and sternum, without other changes.

Chest and ribs X-rays were normal. Thoracic CT performed on the same day as the horse kicks, demonstrated two cavities, one in the lower lobe of the right lung with air-fluid level and 70 mm diameter (Fig. 1) and other in the

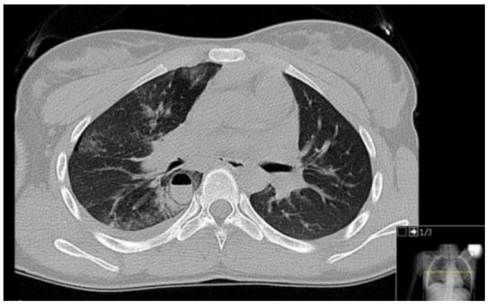

Figure 1 Thoracic CT demonstrating a cavitary lesion ($70 \times 28\,mm^2$) in the lower lobe of the right lung with air-fluid level and several diffuse alveolar consolidations.

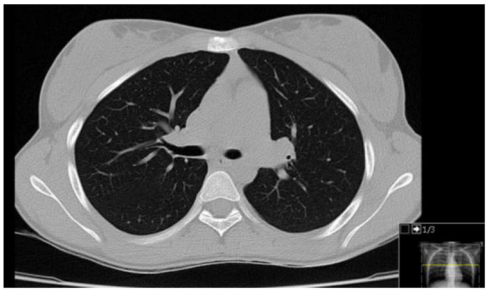

Figure 2 Thoracic CT performed 3 months later demonstrating complete resolution of the pulmonary lesions.

medial segment of the middle lobe with 15 mm diameter, without broken ribs.

White blood cell count revealed leucocytosis (18.200 cells/μL) with neutrophilia (15.900 cells/μL). Mantoux test, Mycoplasma and HIV serology were negative; immunoglobulin A, G and M and complement C3 and C4 were normal; blood culture and aerobic, anaerobic and fungal cultures of bronchoalveolar lavage were negative.

She completed empirical treatment with ampicillin and clindamycin for 10 days. Thoracic pain improved gradually and she remained asymptomatic and was discharged to adolescent consultation. Follow-up CT performed 3 months after the episode demonstrated a complete resolution of the pulmonary changes seen in the previous study (Fig. 2).

TPP is an uncommon cavitary lesion lacking an epithelial lining or bronchial wall elements, which develops within the pulmonary parenchyma after blunt chest trauma. Such pseudocysts can occur at any age but they are most frequent (80–85%) in children and young adults.[3,4]

The mechanism by which this injury occurs is not known exactly, but it is believed that younger people have a more elastic and pliable chest wall, which permits greater transmission of kinetic energy to the intrathoracic structures such as pulmonary parenchyma.[3–5] The rapid compression and decompression lacerates alveoli and interstitium. Retraction of the elastic tissue of the lung results in small cavities filled with air and/or fluid. Cavities tends to grow until the pressure of the adjacent parenchyma equals the intracavitary pressure.[3–6] Another proposed mechanism is that the closure of the glottis or bronchial obstruction, at the moment of trauma, makes it difficult for the air to escape in the compressed segment and the lacerated parenchyma forms a cavity.[4,6]

Most TTP appear in the first 12 h after the trauma. However, they can occur immediately or within a few days of the injury.[3,6] The patient may be asymptomatic or manifest subtle or nonspecifc symptoms such as cough, chest pain, hemoptysis and dyspnea. Occasionally, they also present with mild fever and leucocytosis.[4,6,7]

TTP can be detected on chest X-ray, but CT is better for identification.[4,6] Their sizes range from 2 to 14 cm in diameter and they can be spherical or oval, single or multiple, unilateral or bilateral. They may be observed on the site of injury or on the other side and the majority are found in lower lobes.[3–6]

The differential diagnosis is extensive and includes infections such as tuberculosis, mycosis, lung abscess and pneumatocele, autoimmune diseases, lung cancer, bronchogenic cysts and adenomatoid cystic malformation. The history of chest trauma and the presence of a contusion at the site of the impact usually help the diagnosis, but if the cavitary lesion does not decrease with time, other etiology must be considered.[5,6]

TPP are benign lesions and the treatment is generally conservative. Spontaneous resolution usually occurs within 6 weeks after the trauma in adults and 3–4 months in children.[5,6] The use of empirical antibiotic therapy should not be a routine and is only warranted by persistent fever, leucocytosis, radiographic modifications, or other signs of infection.[4,7]

In conclusion, the differential diagnosis of pulmonary cavities includes a wide variety of diseases. The authors emphasize the importance of considering pulmonary pseudocysts when cavities appear in the context of a high energy trauma in patients without comorbidities, and no prior systemic symptoms. In this case, the temporal relationship with chest trauma and the fact that the whole study was normal corroborated the diagnosis of traumatic pulmonary pseudo cysts, a rare condition found in less than 3% of cases.[4,7]

Conflicts of interest

The authors have no conflicts of interest to declare.

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Autonomy and dyspnea in palliative care: A case report

Introduction

Dyspnea is a complex and subjective experience, its intensity is wholly determined by the patient's sensation and how it is perceived depends on previous beliefs, emotions, values and experiences.[1,2] Several measures are employed to alleviate dyspnea, which must be acceptable to the patient. Thus, therapeutic adherence is promoted, and a good symptomatic control is achieved, as illustrated in the present case.

Case report

M.S., female, 61 years old, divorced, retired, with asthma-chronic obstructive pulmonary disease overlap syndrome (ACOS) diagnosed four years ago, and still worsening, currently under noninvasive ventilation (NIV) and long-term oxygen therapy (LTOT). She has a history of hypertensive heart disease and anxiety disorder. She is an ex-smoker (40 Units Year Package).

She was followed in outpatients clinics in General and Family Medicine and Pulmonology, suffering from irreversible respiratory insufficiency, which was potentially difficult to control due to therapeutic failure. She had had multiple admissions to acute hospitals due to the exacerbation of her pathology, ending up being referred to and admitted into a Palliative Care Unit (PCU) for symptomatic control of dyspnea and fatigue. On admission she presented with a grade 4 dyspnea (Modified Dyspnea Scale Medical Research Council) and a performance status of 4 (Eastern Cooperative Oncology Group). Her Palliative Performance Scale was 50–60%. She was prescribed montelukast 10 mg id, aminophylline 225 mg bid, tiotropium bromide 1.25 mcg 2 id inhalations, fluticasone/salmeterol 250/25 mcg 2 bid inhalations, salbutamol 100 mcg PRN inhalations, lisinopril 5 mg id, omeprazole 20 mg id, and hydroxyzine 25 mg bid.

After her admission to the PCU, therapeutic adjustments were made according to her symptoms. Prolonged-release morphine was prescribed (10 mg bid) after proper titration with immediate-release morphine (5 mg PRN), butylscopolamine 20 mg tid, prednisolone 10 mg id and laxatives (macrogol 13.7 g bid and sennosides 7.5 mg bid). Due to the patient's refusal to keep on LTOT and NIV, even after multiple adjustments, they were progressively reduced and suspended; yet symptomatic control was not compromised. Likewise, due to the patient's non-compliance with inhalation therapy, without the symptomatic relief expected, and considering her wishes, it was suspended. She used a hand fan, but because there was an air conditioner unit in the room, she preferred to turn it on. Pulse oximetry, when measured, was more than 90%. A physical rehabilitation plan was implemented with an adaptative training program.

Because she complained of pruritus, an opioid-related side-effect, morphine dose was initially reduced, and an opioid rotation to tapentadol was done.

At follow up evaluation after three weeks, through daily clinical evaluation, symptoms have been well controlled: dyspnea and fatigue are mild (self-assessment). She is fully motivated to her rehabilitation plan and shows good compliance with it.

Currently her regular medications are: escitalopram 10 mg id, pantoprazole 20 mg id, aminophylline 225 mg bid, lorazepam 1 mg id, tapentadol 50 mg bid, prednisolone 5 mg id and bisacodyl 5 mg id.

Discussion

Patients diagnosed with ACOS are over 40 years old (15–55% of them are over 50 years old) and experience frequent exacerbations, showing a quick decline in lung function and high mortality.[3]

Mrs MS frequent exacerbations and worsening of her clinical condition were considered to be due to lack of motivation to adhering to the therapeutic regimen and other inherent factors. In fact, perhaps Mrs MS did not understand the therapeutic plan, or the medications she was prescribed were not adjusted to her needs. Moreover, a lack of an effective doctor–patience communication may have led to non-compliance and therapeutic failure.

The principle of autonomy respects the ability of an individual to self-determination, allowing or enabling patients to make their own decisions about any medical interventions.[4] Consequently, the doctor-patient relationship has moved from a paternalistic and disease-centered model to a person-centered care model. Informed consent is essential to the latter process and the patient has the right to refuse any intervention that is proposed.[5]

In Portugal, according to Decree-Law no. 25/2012 (July 16th), a legally aged and capable person, who is not prohibited or disabled by psychiatric abnormality, can declare and specify the type(s) of healthcare he/she wishes to receive, or not, in case of – for any reason – he/she finds