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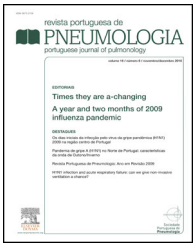

LETTERS TO THE EDITOR

Lung abscesses in children – Twenty four years of experience

To the Editor,

Lung abscess is uncommon in children with an estimated incidence of 0.7 per 100,000 admissions/year.[1,2] Literature concerning this topic is scarce.

The authors carried out a retrospective study of hospital admissions of children with lung abscess from January 1990 to December 2013.

Twenty admissions occurred, related to 18 children (two had recurrent secondary lung abscesses with hyper IgE syndrome and congenital cyst adenomatoid malformation as underlying conditions). Twelve admissions (60%) were male children and ages ranged from 8 months to 12 years (mean of 3 years). Eleven cases (55%) were primary lung abscesses. Congenital cystic adenomatous malformation, immunodeficiency and neurodevelopment abnormality were the underlying conditions related to the secondary lung abscesses. The most common symptoms were fever (100%), cough (60%), chest/abdominal pain (45%) and dyspnea (30%) with a mean duration of 13 days (range 3–60). The chest radiography was diagnostic in every case. A chest computerized tomography (CT) scan was done in 65% and diagnosed congenital cyst adenomatous malformations in two cases. The right lung was involved in 64%. Microbiological studies were made in 70% admissions (12 blood cultures, 8 pleural fluid cultures, 2 bronchoalveolar lavage cultures, 3 sputum cultures, 1 abscess fluid culture). Identification of an agent was possible in 21% of these cases (*Streptococcus pneumoniae* in two blood cultures and one bronchoalveolar lavage and *Pseudomonas aeruginosa* in one sputum culture). The average hospital stay was 18 days (range 5–39). In all admissions, combination IV antibiotics were administered, with an average duration of 17 days. Antibiotics included a third generation cephalosporin in 85%, an antistaphylococcal agent in 80% and an antifungal agent in 10% (in one child, the immunodeficiency diagnosis was made in follow-up and did not receive antifungal therapy for that reason). Radiologically guided needle aspiration was performed in one secondary lung abscess that failed to respond to antibiotic treatment.

There were complications in two cases (one piopneumothorax and bronchopleural fistula; one large pneumotocele). There were no deaths directly related to lung abscess.

Lung abscesses are uncommon in pediatric age.[1–5] There was a delay in diagnosis in our study that is common given the abscess insidious evolution. The main diagnostic test was the chest radiography,[1–3] but chest CT was useful for identification of predisposing/associated lung lesions and aspiration guidance.[1,2] The most frequent location was the right lung, probably a result of the anatomic position of the right main bronchus.[4] Microbiologic findings were scarce which could be explained by our minimally invasive approach. *P. aeruginosa* sputum culture had uncertain significance. To clarify the microbiologic etiology of the lung abscess, the ideal samples are the ones that result from percutaneous aspiration of the abscess or transtracheal aspirates. The samples of the upper respiratory tract are of no value.[3] In addition to cultures, rapid diagnostic tests, such polymerase chain reaction techniques, can also be helpful.

The choice and length of the antibiotic regimen was usually recommended, covering upper respiratory flora and also anaerobes in second lung abscess and fungal pathogens in immunocompromised children.[2–5]

In conclusion, lung abscess has a low incidence in pediatric age and our series showed that a conservative approach still is an appropriate choice.

Conflicts of interest

The authors have no conflicts of interest to declare.

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Non-small cell lung cancer in octogenarian patients – The experience in a tertiary university hospital

Dear Editor,

Lung cancer is the most common cancer worldwide, and the leading cause of cancer-related death.[1] It is considered a disease of the elderly, and octogenarians represent a rapidly growing population of patients diagnosed with this disease.[2] Despite this, the evidence-based standard of care for these patients is limited. Therefore, the clinical practice in this population often poses challenges to clinicians.

The authors report the incidence, clinical characteristics, treatment and prognosis of non-small cell lung cancer (NSCLC) in octogenarian patients (80 years and over), in a tertiary academic hospital in Oporto, Portugal. We retrospectively evaluated 1292 patients newly diagnosed with lung cancer, from January 2009 to December 2014. For the purpose of analysis, only patients with NSCLC that had a follow-up in our center were included.

Ninety-two octogenarians were included (7.1% of total), 79.3% ($n=73$) were male with a median age of 82.0 years (80–90). Smoking history was present in 65% ($n=58$) of patients. The median time from symptom onset to diagnosis was 2.0 months (0–12.0). The diagnosis was obtained by bronchoscopy in 45.7% ($n=42$) of patients, transthoracic biopsy guided by CT in 46.7% ($n=43$) and blind pleural biopsy in 7.6% ($n=7$). Adenocarcinoma was the most common histopathological type, recorded in 51.1% ($n=47$) of patients, followed by squamous cell carcinoma in 41.3% ($n=38$). Clinical staging revealed 23.8% ($n=22$) of patients with stage I and II, 8.7% ($n=8$) with III-A and 67.4% ($n=62$) with III-B and IV. The initial *Performance Status* (PS) was 0 and 1 in 60.9% ($n=56$) of patients, 2 in 16.3% ($n=15$) and 3 and 4 in 22.8% ($n=21$). After careful consideration, the following treatments were performed: surgery in 5.4% ($n=5$), surgery followed by adjuvant chemotherapy in 1.1% ($n=1$), chemotherapy only in 17.4% ($n=16$), chemotherapy plus conventional radiotherapy in 8.7% ($n=8$), conventional radiotherapy in 5.4% ($n=5$) and stereotactic body radiation therapy (SBRT) in 2.2% ($n=2$). Most patients (58.7%, $n=54$) were submitted to best supportive care (BSC), two-thirds presenting PS ≥ 2. *Platinum-based doublet regimens* were used in one-third of patients submitted to chemotherapy. Surgery was performed on 6 patients: lobectomy and mediastinal lymph node dissection in 3, lobectomy without mediastinal lymph node dissection in 1, segmentectomy in 1 and atypical lung resection in 1. Using Charlson Comorbidity Index, all patients scored high, even the potential surgical candidates, reducing the number of surgeries performed. One postoperative death was the major complication encountered. During the follow-up period, 38% ($n=35$) of octogenarians are still alive, 53.5% ($n=49$) died and 8.7% ($n=8$) were lost to follow-up. In Kaplan–Meier analyses, the median survival rate was about 2.5 months in the BSC group and 12.5 months for those submitted to other non-surgical treatments. More than 80.0% of patients who had surgery are still alive (Fig. 1).

With social and medical evolutions, and consequently global aging, it is expected that more elderly will be affected by lung cancer. For clinicians, it will be increasingly a challenge to manage these patients because they usually have a high burden of comorbidities, a high risk of complications and shorter life expectancy.[3,4] Thus, some clinicians are reluctant to propose anticancer treatments (including surgery) to octogenarians. Nevertheless, surgery is the best chance of a cure,[4] and should not be denied based on older age alone. Furthermore, the mortality rates associated to surgery have reached acceptable levels.[5] In our

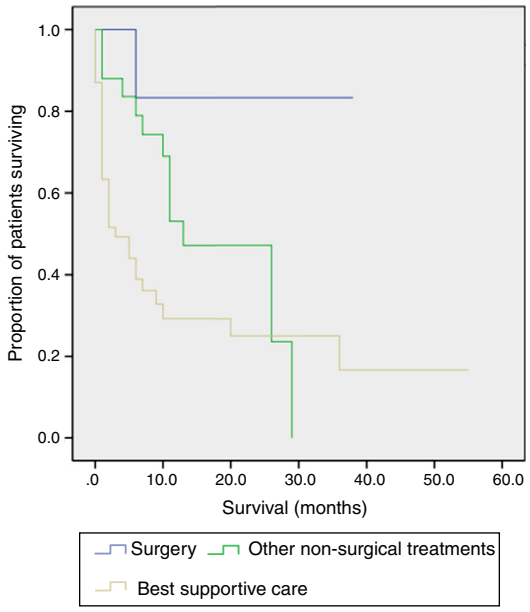

Figure 1 Kaplan–Meier survival curves according to treatment performed (surgery, other non-surgical treatments and best supportive care).