Role of bronchoscopy in foreign body aspiration management in adults: A seven year retrospective study

Dear Editor,

Foreign body aspiration (FBA), although more frequent in children, is a potentially life-threatening emergency that can occur at any age. Patients may be asymptomatic, have a choking event, cough attacks with inspiratory stridor, or symptoms may vary from trivial or chronic nonspecific symptoms (dyspnea, cough, sputum, wheezing) and mimic other lung diseases. Hence, in sub-acute and chronic respiratory infections, pulmonary abscesses, haemoptysis, asthmatic syndrome, localized bronchiectasis or when a lung neoplasia is suspected FBA must be considered. Although it has little diagnostic value (sensitivity of 28–60%; specificity of 68%), chest radiography (CXR) is the initial test for FBA.

Unless patients remember an aspiration event, diagnosis of FBA can be delayed for months even years, which increases the rate of complications. When FBA is suspected, a bronchoscopy must be performed to remove the FB (foreign body).

In order to evaluate the role of bronchoscopy in FBA, we retrospectively collected data of all suspected FBA that were treated by bronchoscopy in our unit from November 2008 to October 2015 and analyzed those performed in adults aged over 18 years-old. A total of 135 bronchoscopies for FBA suspicion were performed, 69 (51.1%) in adults. The majority of adult patients were male (n=44; 63.8%) and had a mean age of 63 ± 17 years-old. In 12 (17.3%) cases, clinical manifestations were unavailable since patients were referred to our unit from another hospital. The remaining patients reported a choking episode (n=34; 49.3%), pneumonia (n=10; 14.5%), dyspnea (n=4; 5.8%), trauma (n=3; 4.3%) or a cardio-respiratory arrest (n=1; 1.4%). Five patients (7.2%) were asymptomatic. Mean time between aspiration and bronchoscopy was 77.7 ± 173.1 h (not known/available in 36 cases). In the 53 cases (76.8%) with an available CXR, 33 (60.4%) were abnormal, in which a condensation (n=13), atelectasis (n=10), visible FB (n=9) or hyperinflation (n=1) was identified.

Table 1  Crosstabulation between type of bronchoscopy used and visualization of foreign body and between chest X-ray and visualization of foreign body.

<table>
<thead>
<tr>
<th>Bronchoscopy used</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Present</td>
</tr>
<tr>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Rigid</td>
<td>36</td>
</tr>
<tr>
<td>Flexible</td>
<td>17</td>
</tr>
<tr>
<td>Result of chest X-ray</td>
<td></td>
</tr>
<tr>
<td>Abnormal</td>
<td>27</td>
</tr>
<tr>
<td>Normal</td>
<td>12</td>
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</table>
In our study, 23% of the bronchoscopies were negative. As in other series, the majority of FB were found in the right bronchial tree, which can be explained by the vertical nature of the right main bronchus, its larger diameter, the greater airflow through it, and the localization of the carina to the left of the midline of the trachea.

In conclusion, FBA in adults is not rare in adults and, even if there are no clinical or radiological findings, a bronchoscopy should always be performed.

Funding

This article did not receive any grant or other support.

Conflicts of interest

The authors have no conflicts of interest to declare.

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6. Rodrigues AJ, Oliveira EQ, Scordamaglio PR, Gregorio MG, Jacomelli M, Figueiredo VR. Flexible bronchoscopy as the

C. Costa a*, S. Feijó b,c, P. Monteiro b, L. Martins a, J. Rosal. Gonçalves b

a Chest Department, Centro Hospitalar Lisboa Norte, Av. Prof. Egas Moniz, 1649-035 Lisbon, Portugal
b Respiratory Endoscopy Unit, Chest Department, Centro Hospitalar Lisboa Norte, Av. Prof. Egas Moniz, 1649-035 Lisbon, Portugal
c Pulmonology Department, Centro Hospitalar de Leiria, R. de Santo André, 2410-197 Leiria, Portugal

* Corresponding author.
E-mail address: christinesilvacosta@gmail.com (C. Costa).

https://doi.org/10.1016/j.rppnen.2017.12.001
2173-5115/
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