

## Management of Intra-Bronchial Foreign Bodies: About 68 Cases

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### Abstract

Inhalation of intra-bronchial foreign bodies in adults is a diagnostic and therapeutic emergency. The aim of this work is to analyze the epidemiological, diagnostic and clinical characteristics of inhalation of intra-bronchial foreign bodies supported Pneumology department of Avicenna Hospital of Rabat between January 2004 and December 2016, to highlight their particularities in our context as well as to present their means of therapeutic management.

**Keywords:** *Foreign Body; Diagnosis; Treatment*

### Introduction

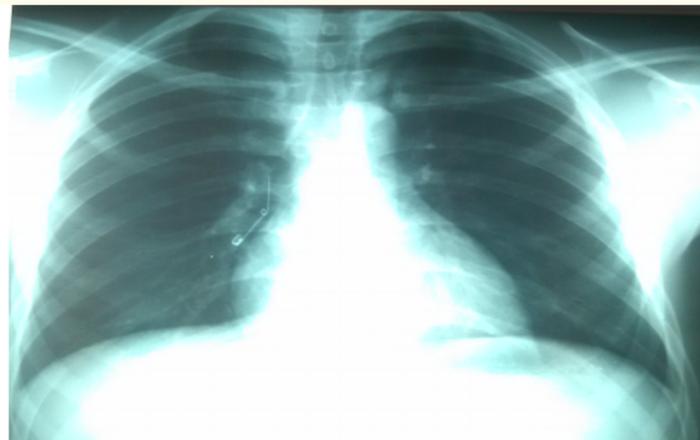
Inhalation of intra-bronchial foreign bodies in adults is a diagnostic and therapeutic emergency. The aim of this work is to analyze the epidemiological, diagnostic and clinical characteristics of inhalation of intra-bronchial foreign bodies, to highlight their particularities in our context and to present their means of therapeutic management.

### Material and Methods

Retrospective study at the Pneumology department of Rabat Avicenne Hospital between January 2004 and December 2016.

### Results

During this period, we recorded 68 cases of foreign body inhalation, including 59 women (87%) and 9 men (13%). The average age is 21 years old. Scarves were found in the majority of cases (85%). Clinical manifestations were dominated by penetration syndrome in 58.8% of cases, while 11.7% of cases were asymptomatic. Chest X-ray, performed in all patients, located the foreign body in 85.3% of cases. Flexible bronchoscopy was performed in all our patients, allowing to locate the foreign body in 60 cases (88.2%) (Figure 1 and 2), and its extraction in 23 cases (33.8%). Rigid bronchoscopy was performed in 31 patients (45.6%), allowing extraction of the foreign body in 20 cases (29.4%) (Figure 3 and 4). The operative indication was asked in 21 patients (30.9%). Spontaneous expulsion was noted in 3 cases (4.4%). The extraction was done by surgical forceps through the tracheostomy port in a patient. The clinical evolution was favorable for all our patients.



**Figure 1:** Nursing forceps in the right bronchus (face).



**Figure 2:** Scarf pin at the level of the left bronchus (face).



**Figure 3:** Scarf pin at the level of the left bronchus (face).



**Figure 4:** Tracheobronchial extraction of a dental prosthesis using a flexible fiberscope and forceps (passed through the intubation cannula).

## Discussion

Flexible bronchoscopy can be used for diagnostic and therapeutic purposes. Recently, flexible bronchoscopy has become the preferred method of extracting tracheobronchial foreign bodies in adults with a high success rate. In fact, it makes it possible to avoid general anesthesia, to better explore the distal airways and shorten the duration of hospitalization [1,2].

Nevertheless, its potential complication is the risk of damaging the larynx or the tracheobronchial tree during extraction, but also the risk of losing the foreign body in the throat which will quickly swallow.

The key to success is, in addition to the operator's experience, the use of adequate and adapted equipment, including biopsy forceps or "crocodile" forceps or a basket.

The success rate varies by series between 56% and 73% [2,3], against 33,8% in our series.

As for rigid bronchoscopy, it is preferred in children because it ensures proper oxygenation, easy passage of the fiberscope and forceps, which allows a quick and efficient removal of the foreign body [4,5].

Finally, the surgery concerns cases of endoscopy failure and cases of parenchymal complications requiring resection [6].

It is important to remember that the best treatment is prevention, which involves awareness of the seriousness of the incident and the elimination of any risky situation that could lead to accidental inhalation, such as the maintenance of certain objects between the lips (scarf pins, nails...).

### Conclusion

Inhaling a foreign object is a potentially serious accident. Its nature, in our context, remains dominated by scarf pins. The extraction is most often done by endoscopy, but sometimes the use of thoracotomy is the only therapeutic way. Preventive measures remain the best way to avoid this incident.

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