



Accidental Inhalation of Scarf Pin: A Distinct Respiratory Emergency

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Abstract

Background: The accidental inhalation of scarf pins, a growing and preventable respiratory emergency, predominantly affects veiled Muslim women who hold pins in their mouths while adjusting headscarves. This unique cultural hazard poses significant diagnostic and therapeutic challenges and has important public health implications.

Objective: To present our institutional experience with scarf pin inhalation over a 32-year period, detailing the epidemiological, clinical, and radiological characteristics, management approaches, outcomes, and the importance of preventive strategies.

Methods: We conducted a retrospective descriptive study at the Respiratory Department of Ibn Rochd University Hospital, Casablanca, Morocco, analyzing the medical records of 56 female patients admitted for scarf pin inhalation between January 1994 and June 2026. Data collected included demographic characteristics, clinical presentation, radiological findings, management, outcomes, and procedure-related complications.

Results: All cases involved veiled Muslim women, primarily adolescents and young adults. Most incidents occurred during scarf fixation, often while talking or laughing with the pin held between the lips. The diagnosis was confirmed radiologically in all cases. Spontaneous expulsion occurred in four patients. Flexible bronchoscopy was performed as the first-line extraction procedure in 52 patients and was successful in 47 cases (90.4%). Thoracotomy was required in four patients, while one patient underwent upper gastrointestinal endoscopy following inadvertent ingestion of the pin.

Conclusion: The accidental inhalation of scarf pins represents a rising respiratory emergency closely linked to cultural practices. Increasing healthcare providers' vigilance and implementing focused educational initiatives are crucial steps to lower the occurrence and prevent the complications of this preventable condition.

Introduction

Tracheobronchial foreign body aspiration is a rare but potentially serious occurrence in adults. Among its increasingly reported forms, the accidental inhalation of scarf pins has emerged as a distinct and concerning respiratory emergency, especially in Muslim-majority societies where the wearing of the veil is a widespread cultural and religious practice.

The scarf pin, a slender and pointed metallic device often held between the lips during veil adjustment, may be unexpectedly aspirated during moments of talking, laughing, coughing, or taking a deep breath. Once inhaled, it can lodge in the tracheobronchial tree, leading to a range of respiratory symptoms and, in some cases, severe complications.

The growing prevalence of this preventable incident calls attention not only to its diagnostic and therapeutic challenges but also to its broader public health implications. Bronchoscopic retrieval may be technically demanding, and in some cases, surgical intervention becomes necessary.

In this article, we aim to shed light on this emerging clinical entity by presenting our experience with scarf pin inhalation over a 32-year period. We will detail the epidemiological, clinical, and radiological features of these cases, describe the management strategies employed, and emphasize the critical importance of preventive measures to address this culturally linked yet avoidable respiratory emergency.

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Methods

We conducted a retrospective descriptive study in the Respiratory Department of Ibn Rochd University Hospital Center in Casablanca, Morocco. Medical records of female patients admitted for accidental scarf pin inhalation between January 1994 and June 2026 were reviewed. A total of 56 patients were identified and included in the analysis.

All patients were veiled Muslim women. The variables collected included demographic characteristics, clinical presentation, radiological findings, diagnostic and therapeutic approaches, clinical outcomes, and procedure-related complications.

Results

The mean age of our patient population, consisting entirely of female patients wearing the Islamic veil, was 18.5 years, with an age range of 14 to 37 years. All patients reported a sudden inhalation event occurring during scarf fixation, frequently associated with talking or laughing while holding the pin between their lips. The mean delay between inhalation and hospital admission was six days, although this interval varied widely, ranging from two hours to one year.

Clinically, the most common presenting symptom was the abrupt onset of coughing, consistent with the classical penetration syndrome. Hemoptysis was reported in 12 patients (21.4%). The physical examination was normal in the vast majority of patients (92%).

The frontal chest X-ray revealed a linear radio-opaque foreign body in all patients. Although the scarf pin was more frequently located in the right bronchial tree, reflecting the anatomical predisposition, the example presented in Figure 1 shows a pin located on the left. Migration of the pin was observed in some cases, illustrating its mobile nature (Figure 2).

Spontaneous expulsion of the pin following forceful coughing was observed in four patients (7.1%). Flexible bronchoscopy was used as the first-line extraction technique in the remaining 52 patients (92.9% of the total cohort), resulting in successful removal in 47 cases (90.4% of bronchoscopic procedures) (Figures 3 and 4).

In one patient, proximal migration of the pin to the oropharyngeal area led to inadvertent ingestion, necessitating upper gastrointestinal endoscopy for removal.

Surgical intervention *via* thoracotomy was required in four

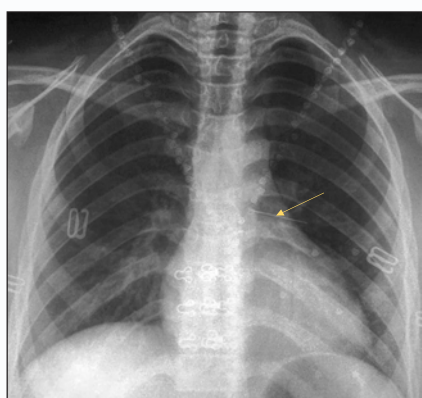


Figure 1: Chest X-ray performed on admission showing a linear opacity projecting over the left hilar region corresponding to the scarf pin location (yellow arrow).

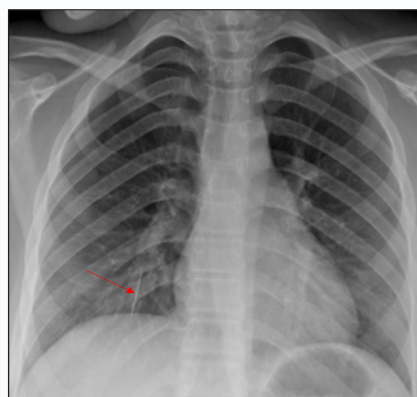


Figure 2: Follow-up chest X-ray prior to bronchoscopy demonstrating the migration of the same scarf pin toward the right paracardiac region, thereby illustrating its mobile and migratory nature (red arrow).



Figure 3: Bronchoscopic sequence demonstrating the extraction of a scarf pin from the left main bronchus. The pin appeared with its beaded head oriented downward and its sharp metallic tip upward, partially embedded in the bronchial mucosa. A rat-tooth forceps was employed to securely grasp and dislodge the foreign body.



Figure 4: Successful extraction of a scarf pin using flexible bronchoscopy.

patients (7.1%) because of distal impaction preventing bronchoscopic removal.

All patients received broad-spectrum antibiotic therapy with amoxicillin–clavulanic acid and a short course of oral corticosteroids to reduce airway inflammation and minimize the risk of post-procedural complications.

Discussion

The accidental inhalation of scarf pins represents a unique clinical

and cultural entity with specific characteristics that differentiate it from other types of foreign body aspiration [1, 2]. The scarf pin's metallic, pointed, and lightweight design facilitates its deep penetration into the bronchial tree, often leading to distal impaction and mucosal embedding [3, 4]. This explains both the diagnostic delays observed and the challenges encountered during extraction. Nevertheless, unlike larger choking hazards, the scarf pin rarely causes complete airway obstruction or asphyxia due to its slender profile, which allows partial airflow to continue around it [3, 6].

The typical context of this accident is closely linked to cultural practices among veiled Muslim women, predominantly adolescents and young adults, who often hold the pin between their lips or teeth while adjusting the Islamic veil [2, 7].

The characteristic posture — head tilted back, talking or laughing — creates a well-documented aspiration risk. This demographic and mechanistic profile explains the homogeneity of patient populations reported in Morocco and other Muslim-majority countries, including Iraq and Egypt [8, 9].

Radiographically, the scarf pin is easily identified due to its radio-opaque metal composition, which is a significant advantage compared to organic foreign bodies that may be radiolucent [6, 10]. The pin's migration potential, as observed in our series and illustrated in radiographs, requires careful imaging and sometimes repeated evaluations to track its location prior to intervention [11, 12]. This migratory tendency, well described in the literature, increases the complexity of management since it may change position spontaneously between imaging and bronchoscopy [12, 13].

Flexible bronchoscopy has become the gold standard for extraction, favored for its minimally invasive nature and capacity to reach distal bronchial segments [10, 14, 15]. Our series demonstrated a high bronchoscopic success rate of 90.4% (47 of 52 procedures), consistent with international reports [5, 10, 16]. However, the bronchoscopic removal depends heavily on the operator's expertise, as some cases may require advanced skills to safely grasp and retrieve the sharp foreign body without causing mucosal injury or further migration [15, 17]. In cases of bronchoscopic failure or distal impaction, surgical approaches such as thoracotomy remain imperative [4, 18].

The need for surgical intervention in four patients (7.1%) underscores that, despite advances in endoscopic techniques, a small proportion of patients may still require more invasive procedures. Although uncommon, the need for surgical intervention has also been reported by Abduljabbar et al., in whose series thoracotomy was required in one of 162 patients [19].

Preventive strategies must therefore be prioritized. Public health education targeting young veiled women — through schools, community and religious centers — can mitigate these risks by raising awareness of the dangers of holding pins in the mouth and advocating safer practices [2, 20]. Alternative fastening methods, such as magnetic scarf holders, brooches, or snap fasteners, have been proposed and should be encouraged [20, 21]. These culturally sensitive interventions are vital because they address the root cause rather than only managing complications after they arise.

Conclusion

Scarf pin inhalation represents a preventable yet increasingly common respiratory emergency with distinct epidemiological and

clinical features. Early recognition, prompt flexible bronchoscopy, and surgical backup are essential for optimal outcomes. Above all, prevention through education and modification of cultural habits remains the cornerstone of reducing this emerging health issue.

Declaration

Abbreviations

Not applicable.

Ethics Approval and Consent to Participate

This retrospective study was based on anonymized patient records. Patient confidentiality was maintained throughout the study, which was conducted in accordance with the principles of the Declaration of Helsinki.

Consent for Publication

Written informed consent for the publication of anonymized clinical data and images was obtained from all patients or their legal guardians, where applicable.

Availability of Data and Materials

The datasets used and analyzed during the current study are not publicly available due to patient confidentiality but are available from the corresponding author on reasonable request.

Competing Interests

The authors declare no competing interests.

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None.

Authors' Contributions

Mehdi Maaroufi and Hafsa Mitre contributed to the conception and design of the study, data acquisition, analysis and interpretation, and drafting of the manuscript. Wafaa Jalloul, Hanaa Harraz, Khadija Chaanoun, Zakaria Laklaai, Hanane Benjelloun, and Nahid Zaghba had the acquisition of data, revising the article critically for important intellectual content. All authors read and approved the final manuscript.

References

1. Kaptanoglu M, Dogan K, Onen A, Kunt N. Turban pin aspiration: a potential risk for young Islamic girls. *Int J Pediatr Otorhinolaryngol.* 1999; 48(2): 131–5.
2. Rizk N, Gwely EN, Biron LV, Hamza U. Metallic hairpin inhalation: a healthcare problem facing young Muslim females. *J Otolaryngol Head Neck Surg.* 2014; 43(1): 21.
3. Zaghba N, Benjelloun H, Bakhtar A, et al. Epingle à foulard: un corps étranger intra-bronchique qui n'est plus habituel. *Rev Pneumol Clin.* 2013; 69(2): 65–9.
4. Arsalane A, Zidane A, et al. Deux cas d'extraction chirurgicale de corps étrangers après inhalation d'épingle de foulard. *Rev Pneumol Clin.* 2009; 65(5): 293–6.
5. Kaptanoglu M, Nadir A, Dogan K, Sahin E. The heterodox nature of "turban pins" in foreign body aspiration: the Central Anatolian experience. *Int J Pediatr Otorhinolaryngol.* 2007; 71(4): 553–8.
6. Hamad AMM, Elmistekawy EM, Ragab SM. Headscarf pin, a sharp foreign body aspiration with particular clinical characteristics. *Eur Arch Otorhinolaryngol.* 2010; 267(12): 1957–62.
7. El Ftouh M, Souhi H, et al. Inhalation d'épingle: particularités de ce corps étranger. *Maroc Médical.* 2010; 32(3): 211–5.

8. Al-Sarraf N, Jamal-Eddine H, Khaja F, Ayed AK. Headscarf pin tracheobronchial aspiration: a distinct clinical entity. *Interact Cardiovasc Thorac Surg*. 2009; 9(2): 187–90.
9. Wani ML, Ganie FA, Wani NUD, et al. The pattern, presentation and management of pardah pin inhalation: report from a single center in northern India. *Bull Emerg Trauma*. 2013; 1(4): 171–4.
10. Gencer M, Ceylan E, Koksall N. Extraction of pins from the airway with flexible bronchoscopy. *Respiration*. 2007; 74(6): 674–9.
11. Benjelloun H, Zaghba N, Bakhatar A, et al. Les corps étrangers trachéobronchiques chez l'adulte. *Pan Afr Med J*. 2014; 1: 220.
12. Hebbazi A, Afif H, El Khattabi W, Aichane A, Bouayad Z. L'épingle à foulard: un nouveau corps étranger intra-bronchique. *Rev Mal Respir*. 2010; 27(7): 724–8.
13. Tariq SM, Succony L, Bhatia RS. Spontaneous expulsion of a sharp foreign body. *J Bronchol Interv Pulmonol*. 2012; 19(4): 319–22.
14. Al-Ali MAK, Khassawneh B, Alzoubi F. Utility of fiberoptic bronchoscopy for retrieval of aspirated headscarf pins. *Respiration*. 2007; 74(3): 309–13.
15. Pham Van L. Extraction de corps étranger intra-bronchique chez l'adulte par fibroscopie bronchique. *J Fran Viet Pneu*. 2011; 2(2): 40–3.
16. Gokirmak M, Hasanoglu HC, Koksall N, Yildirim Z, Hacievliyagil SS, Soysal O. Retrieving aspirated pins by flexible bronchoscopy. *J Bronchol*. 2002; 9(1): 10–4.
17. Uçcan ES, Tahaoglu K, Mogolkoc N, Dereli S, Basozdemir N, Basok O, et al. Turban pin aspiration syndrome: a new form of foreign body aspiration. *Respir Med*. 1996; 90(7): 427–8.
18. Caidi M, Kabiri H, Lazrek I, El Maslout A, Ben Osman A. Chirurgie des corps étrangers intra bronchiques. *Ann Chir*. 2002; 127(6): 456–60.
19. Ragab A, Ebied OM, Zalat S. Scarf pins sharp metallic tracheobronchial foreign bodies: presentation and management. *Int J Pediatr Otorhinolaryngol*. 2007; 71(5): 769–73.
20. Ilan O, Eliashar R, Hirshoren N, Hamdan K, Gross M. Turban pin aspiration: new fashion, new syndrome. *Laryngoscope*. 2012; 122(4): 916–9.
21. Cobanoglu U, Can M, Melek M. Turban pin aspirations in children in eastern Anatolia. *Indian J Thorac Cardiovasc Surg*. 2010; 26(1): 20–3.