



SPECIAL ARTICLE

Recommendations for the prevention of foreign body aspiration[☆]



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Abstract The aspiration of a foreign body remains a common paediatric problem, with serious consequences that can produce both acute and chronic disease. Aspiration usually causes a medical emergency that requires a prompt diagnosis and an urgent therapeutic approach as it may result in the death of the child or severe brain injury.

It typically involves organic foreign bodies (mainly food or nuts) aspirated by children under 5 years old, and usually at home.

In this statement, the Committee on Safety and Prevention of Non-Intentional Injury in Childhood of the Spanish Paediatrics Association provides a series of recommendations, both educational (while eating and playing), as well as legal, to prevent such episodes.

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PALABRAS CLAVE

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Recomendaciones sobre la prevención de aspiraciones de cuerpos extraños

Resumen La aspiración de un cuerpo extraño sigue siendo un problema pediátrico frecuente, con graves consecuencias, pudiendo producir tanto patología aguda como crónica. Suele afectar a niños por debajo de los 5 años, normalmente en su domicilio, que aspiran por lo común alimentos o frutos secos. Esta circunstancia puede provocar una crisis de asfixia aguda, constituyendo una urgencia médica que requiere de un diagnóstico precoz y una actitud terapéutica urgente, ya que puede producir la muerte en unos minutos.

En el presente artículo, el Comité de Seguridad y Prevención de Lesiones No Intencionadas en la Infancia de la Asociación Española de Pediatría proporciona una serie de recomendaciones, tanto educativas (en la alimentación y en el juego) como legales para prevenir este tipo de lesiones.

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Introduction

Foreign body aspiration continues to be a common problem in paediatrics that may have severe consequences, as it can result in both acute and chronic health problems. Aspiration usually becomes a medical emergency that requires a prompt diagnosis and an urgent approach to its management. Unfortunately, it may not only result in immediate death, but in some cases it can also cause severe brain injury due to hypoxia.¹

In other cases, foreign body aspiration may cause chronic respiratory disease, producing atelectasis, pneumonia, bronchiectasis, etc.^{2,3}

Consequently, it is important to promote a series of prevention and intervention measures in the general population to address suspected mechanical obstruction of the airways. Educating and raising awareness adequately in the population is essential to prevent foreign body aspirations; parents must be made aware of the significant risk of aspiration and its high incidence in young children, and be acquainted with basic measures for its prevention.⁴⁻⁶

We should not forget that choking on a foreign body accounts for 40% of unintentional deaths in infants aged less than 1 year, and that the prevalence of hypoxic encephalopathy secondary to bronchial aspiration is also substantial.

Epidemiology

Episodes of foreign body aspiration usually happen in children aged less than 5 years, and the majority occur in patients aged less than 3 years (due to the absence of adequate teeth and immaturity in the coordination of swallowing). It is the second leading cause of death at home in children aged 1-3 years.^{7,8}

A review study by Jaswal and Jana⁹ referenced a 1995 study by Darrow and Holinger. After analysing multiple case series, these authors found that 84% of episodes occur before age 5 years and 73% before age 3 years. Of all episodes, 56.4% occurred in the 1-3 year group, and they underscored that there was an incidence of 6% in infants aged less than 1 year.

Other authors have also found a second incidence peak at 8-11 years of age with somewhat different characteristics (for example, aspirated objects tend to be of a different kind, for example, nonfood items).^{10,11}

When it comes to the distribution by sex, foreign body aspirations are slightly more frequent in males, as evinced in several studies.^{1,9,12,13}

As for the setting of aspiration episodes, most take place at home, and most cases of suffocation occur while the child is eating or playing, usually in the presence of another person.¹⁰

We ought to underscore the lack of awareness regarding this issue in households and even in schools. Thus, for example, it is typical for some nurseries and schools to celebrate "chestnut" or "nut" parties with the arrival of autumn that are meant for children to learn about, try and also become exposed to these foods. Needless to say, the presence of these foods in all types of celebrations, including birthday parties, is the norm.¹

As for the nature of the foreign body, and in Spain in particular, the items that are involved most frequently (60-80% of cases) are vegetables, nuts and seeds (especially peanuts and sunflower seeds). Other foods and a variety of inorganic objects (usually toy parts, balloons, pebbles, etc.) are involved less frequently.^{1-6,14} In this regard, a study conducted in the United States that analysed 17 537 episodes of nonfatal choking in children aged less than 14 years found that 59.5% were food-related, 31.4% nonfood-related, and the cause of 9.1% was unknown.¹²

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