



A Case Report: Banana Choking Incidence in Infant

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Introduction

Choking is a common and preventable cause of morbidity and mortality in infants and young children. The American Academy of Pediatrics (AAP) recommends introducing solid foods at around 6 months of age, emphasizing that infants should be exclusively breastfed or formula-fed prior to this milestone. This report describes a choking incident in a 2-month-old, underscoring the need for adherence to recommended feeding practices and proper caregiver education.

Choking incidents in infants are alarming and potentially life-threatening events that necessitate immediate and effective intervention. The anatomy and physiological development of infants make them particularly vulnerable to airway obstruction. Unlike older children and adults, infants have smaller airways, limited ability to chew and swallow, and underdeveloped protective reflexes, all of which contribute to the heightened risk of choking. The importance of adhering to established guidelines for infant feeding cannot be overstated, as premature introduction of solid foods can lead to severe consequences.

This case report focuses on a 2-month-old female who experienced a choking episode after being fed banana by her grandmother. Despite widespread recommendations from pediatric health authorities, incidents like this highlight ongoing gaps in knowledge and practice among caregivers regarding safe feeding practices. The American Academy of Pediatrics (AAP) and other health organizations recommend exclusive breastfeeding or formula feeding until around 6 months of age. This period is crucial for the infant's gastrointestinal and neuromuscular systems to develop adequately to handle solid foods.

At 2 months, infants are still developing the coordination needed to move food safely from the front of their mouths to the back for swallowing. Their oral and pharyngeal muscles are not yet fully developed, and they lack the necessary teeth for chewing, increasing the risk of choking on solid or semi-solid foods. Introducing solids too early, as in this case with banana, poses a significant risk as the infant's ability to manage different textures and sizes of food pieces is immature .

This particular case is emblematic of a broader issue where well-meaning caregivers, often with good intentions, introduce solid foods based on cultural practices or misinterpretations of an infant's readiness cues. The grandmother in this case believed that the infant was ready for solid foods, possibly influenced by observing the baby's interest in watching others eat or early signs of mouthing behaviors. However, these behaviors do not necessarily indicate readiness for solid food consumption .

In the case presented, the infant's choking episode was characterized by acute respiratory distress, highlighting the need for immediate and effective management. The initial signs of choking included coughing, gagging, and visible distress, which rapidly progressed to cyanosis and diminished breath sounds, indicating a potentially complete airway obstruction. The grandmother's attempts to dislodge the obstruction using back blows, although well-intentioned, were unsuccessful, necessitating the involvement of emergency medical services .

The clinical management of this case underscores the critical role of first responders and emergency department personnel in the rapid assessment and intervention to secure the airway. The successful removal of the banana piece through direct laryngoscopy and the subsequent improvement in the infant's respiratory status illustrate the importance of having trained medical professionals capable of performing these life-saving procedures .

Furthermore, this case emphasizes the need for comprehensive education and training for all caregivers on the dangers of early solid food introduction and the appropriate first aid measures for choking. Educational efforts should target not only parents but also extended family members and other caregivers who may be involved in the infant's care. Community health programs and pediatric visits provide valuable opportunities to disseminate this information and reinforce safe feeding practices .

Case Presentation

A 2 months-old female infant (Full-term, spontaneous vaginal delivery, birth weight of 3.2 kg) was brought by her family to emergency room with main complaint of coughing, gagging, difficulty breathing, cyanosis (bluish discoloration of the skin due to lack of oxygen), and diminished breath sound. The infant before was left in the care of her grandmother, who, believing that the infant was ready for solid foods, offered a small piece of banana. The infant initially appeared interested but soon began to exhibit signs of distress, including coughing, gagging, and difficulty breathing. The grandmother, recognizing the signs of choking, attempted to intervene. The grandmother attempted to dislodge the obstructing piece of banana by performing back blows as per her basic first aid knowledge. However, these efforts were unsuccessful in relieving the obstruction.

Upon Emergency Medical Services (EMS) arrival, the infant was found in significant respiratory distress. The EMS team initially attempted back blows followed by chest thrusts, as per pediatric advanced life support (PALS) guidelines, but the obstruction persisted. The infant was promptly transported to the nearest emergency department (ED). The infant had no known congenital anomalies or previous medical conditions. Regular pediatric check-ups indicate normal growth and development. From the clinical findings, vital signs on EMS Arrival were Heart rate: 160 bpm, Respiratory rate: 50 breaths/min, Oxygen saturation: 85% on room air. The physical examination showed the infant exhibited marked stridor, intercostal retractions, cyanosis, and excessive drooling. Breath sounds were diminished, particularly over the right lung field, suggesting partial airway obstruction.

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Emergency Department Management:

1. **Airway Management:** On arrival at the ED, the infant was in severe distress. Rapid assessment confirmed the presence of a foreign body obstructing the airway. Direct laryngoscopy revealed a piece of banana lodged in the oropharynx. Using Magill forceps, the emergency physician successfully removed the obstruction.
2. **Post-removal Care:** The infant was administered 100% oxygen via a non-rebreather mask. A thorough examination for potential aspiration and secondary complications was conducted. A chest X-ray was performed, which showed no signs of aspiration pneumonia or residual foreign body.

Following the removal of the obstruction, the infant's respiratory status improved significantly. Oxygen saturation normalized to 98% on room air. The infant was observed in the ED for several hours to ensure stability and was subsequently discharged with instructions for close follow-up with her pediatrician.

Discussion

First Aid Training:*

In addition to education on feeding practices, caregivers must be trained in basic first aid measures for choking. This training should include recognizing the signs of choking, such as coughing, gagging, difficulty breathing, and cyanosis, and performing age-appropriate interventions like back blows and chest thrusts. The grandmother's initial attempts to dislodge the obstruction using back blows were commendable but ultimately unsuccessful. Proper training and repeated practice of first aid techniques can improve the effectiveness of these interventions during an actual choking incident. Community health programs and pediatric offices can offer first aid courses to ensure that all caregivers are equipped with the necessary skills.

Clinical Management:

The prompt and effective response by EMS and the emergency department staff was crucial in this case. Rapid assessment and intervention to secure the airway are essential in managing pediatric choking incidents. The use of direct laryngoscopy and Magill forceps to remove the obstructing piece of banana was an appropriate and life-saving measure. This case highlights the importance of having trained medical professionals capable of performing advanced airway management techniques in emergency situations. Continuous training and simulation exercises for healthcare providers can ensure preparedness and proficiency in handling such critical cases.

Preventive Strategies:

Preventing choking incidents involves a multifaceted approach that includes education, supervision, and adherence to feeding guidelines. Parents and caregivers should be provided with comprehensive information on safe feeding practices, the appropriate age for introducing solid foods, and the types of foods to avoid due to choking hazards. Supervision during feeding times is essential to promptly recognize and address any signs of distress. Additionally, community health initiatives can raise awareness about the importance of following pediatric feeding guidelines and provide resources for first aid training.

Educating families about safe feeding practices and choking prevention is a crucial component of pediatric care. In this case, the grandmother's well-intentioned but misguided decision to introduce solid foods too early underscores the need for comprehensive and continuous education for all caregivers involved in an infant's upbringing.

Understanding Developmental Readiness:

Families must be educated about the signs of developmental readiness for solid foods, typically observed around 6 months of age. Key indicators include the infant's ability to sit up with minimal support, good head and neck control, and showing interest in food by reaching for and trying to put food in their mouth. Emphasizing these developmental milestones helps caregivers recognize the appropriate time to introduce solids, reducing the risk of premature feeding and choking incidents.

Guidelines for Introducing Solids:

Clear guidelines should be provided regarding the types of foods suitable for initial introduction. Caregivers should be advised to start with single-grain cereals or pureed vegetables and fruits, and to avoid hard, round, or sticky foods that pose choking hazards. Bananas, though generally considered safe when appropriately mashed, should not be introduced until the infant exhibits readiness. Health professionals should stress that infants under 6 months are typically not ready for any solid foods.

First Aid Training:

First aid training is an essential part of family education, equipping caregivers with the skills to handle choking emergencies. Training should cover:

1. ***Recognizing Choking:*** Caregivers should learn to identify the signs of choking, such as sudden difficulty breathing, coughing, gagging, and cyanosis.
2. ***Immediate Interventions:*** Training should include step-by-step instructions on performing age-appropriate interventions such as back blows and chest thrusts for infants under one year of age.
3. ***Practice and Drills:*** Caregivers should have opportunities to practice these techniques through simulations or guided sessions to build confidence and proficiency.

Role of Pediatricians and Healthcare Providers:

Pediatricians play a vital role in family education by:

- ***Routine Check-ups:*** During well-baby visits, pediatricians should discuss feeding practices, assess the infant's developmental readiness, and provide personalized advice based on the infant's growth and development.
- ***Educational Materials:*** Providing pamphlets, videos, and other educational materials can reinforce verbal instructions and offer caregivers a reference for safe feeding practices and first aid measures.
- ***Community Resources:*** Referring caregivers to local community resources, such as first aid courses or parenting classes, can further support their education and preparation.

Community Health Programs:

Community health programs can extend the reach of educational efforts by:

- ***Workshops and Seminars:*** Organizing workshops and seminars on infant nutrition and safety for parents, grandparents, and other caregivers.
- ***Support Groups:*** Creating support groups where caregivers can share experiences, ask questions, and receive guidance from healthcare professionals and peers.
- ***Public Awareness Campaigns:*** Running public awareness campaigns to highlight the importance of following pediatric feeding guidelines and the risks associated with early introduction of solids.

Ongoing Support and Reinforcement:

Education should not be a one-time event but an ongoing process. Healthcare providers should:

- ***Follow-Up Appointments:*** Schedule follow-up appointments to review feeding practices, address any concerns, and reinforce previous education.
- ***Open Communication Channels:*** Maintain open lines of communication, encouraging caregivers to reach out with questions or for clarification on feeding practices and emergency procedures.
- ***Positive Reinforcement:*** Acknowledge and praise caregivers for following guidelines and demonstrating safe practices, which can motivate continued adherence.

Conclusion:

This case underscores the critical need for thorough education and training for all caregivers on safe feeding practices and choking prevention. By providing comprehensive education on developmental readiness, appropriate first aid measures, and continuous support, healthcare providers can significantly reduce the risk of choking incidents and enhance the overall safety and well-being of infants. Families well-informed about these aspects are better equipped to make informed decisions, ensuring the health and safety of their children.