PBLD #7: 18 Month Old with Safety Pin in Trachea

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Objectives:

After completion of the PBLD, the participant should be able to discuss the preoperative evaluation, anesthetic induction, airway, and perioperative management of the young child with a suspected airway foreign body. The participant will become familiar with surgical management strategies for foreign body removal.

Stem Case:

18 month old boy is scheduled for an EUA/bronchoscopy for airway foreign body. He has a history of reactive airways disease. Two hours ago, just an hour after lunch, he was playing at his grandparents' house when he started coughing. He presented with tachypnea (RR 40), SaO2 97%, and bilateral mild wheezing (R>L) on exam.

CXR shows open safety pin in trachea and right bronchus.

Key Questions

What additional history would be helpful?
How is RADs managed for urgent/emergent anesthetics?
When should this case be done?
What equipment or personnel should be available in the operating room?
Would you premedicate this patient?
    If so, what medications would you choose?
What induction method would you choose?
During inhalational induction, patient develops an obstructed airway,
    how would you manage it?
What would cause the pin to perforate the bronchus?
What could/should be done if patient develops bleeding into the airway?
When is a thoracotomy indicated?
Would you consider post-op intubation?
How should this patient be cared for post-operatively?
If CXR diagnosis is delayed by several weeks (as misdiagnosis as
    exacerbation of RADS), would management be different?

References

1. Causey AL,Talton DS, Miller RC,Warren ET, "Aspirated safety pin requiring thoracotomy: Report of a case and review," Pediatric Emergency Care 1997,13(6) 397-400.
2. Friedman EM "Update on the Pediatric Airway:Tracheobronchial Foreign Bodies,"Otolaryngologic Clinics of North America Feb 2000 33(1),179-185.
3. Kain ZN, O'Connor TZ, Berde CB, "Management of tracheobronchail and esophageal foreign bodies in children: a survey study,"J Clin Anesth. 1994 Jan-Feb; 6(1)28-32.