

Foreign Body Aspiration in Young Children: Keeping Things Simple

We read with interest the recent article in *Indian Pediatrics* [1] on the use of radiodensity measurements on chest X-rays of children with airway foreign bodies using a post-processing software. Diagnosis of foreign body aspiration from a chest X-ray is challenging as findings may be subtle, and may appear normal to the busy clinician. A voluntary expiratory X-ray is rarely possible in young children. While we do not dispute the accuracy of the computed tomography (CT) scan in detecting foreign bodies in the airway, the amount of radiation involved during a CT scan is prohibitive. A simple radiological investigation that can reveal a foreign body is the forced expiratory chest X-ray. In this technique, the doctor or the radiographer wears a lead glove and applies epigastric pressure to prevent lung expansion. Wesenberg and Blumhagen [2] first reported this method in 1979 when they correctly diagnosed 47 out of 50 children with airway foreign bodies. Three children who failed the test had a tracheal foreign body that may not be readily apparent, as the changes are bilateral. This investigation can be readily made available even in the smallest centers, and avoids the increased radiation, technical expertise and costs involved in fluoroscopy and CT scan. It also does not involve the time and effort that densitometry measurements require. We have used the

forced expiratory X-ray with considerable success in our institute, virtually eliminating negative bronchoscopies in children with suspected airway foreign bodies. Similar success has been reported elsewhere with this method [3]. The accompanying inspiratory (**Fig. 1a**) and forced expiratory (**Fig. 1b**) X-rays depict revelation of hyperinflation with this technique. The method however has failed to capture the imagination of pediatricians and pediatric radiologists at large. As mentioned in the accompanying editorial [5], the X-ray should be viewed along with the clinical history as some other clinical conditions may present with a similar radiological picture.

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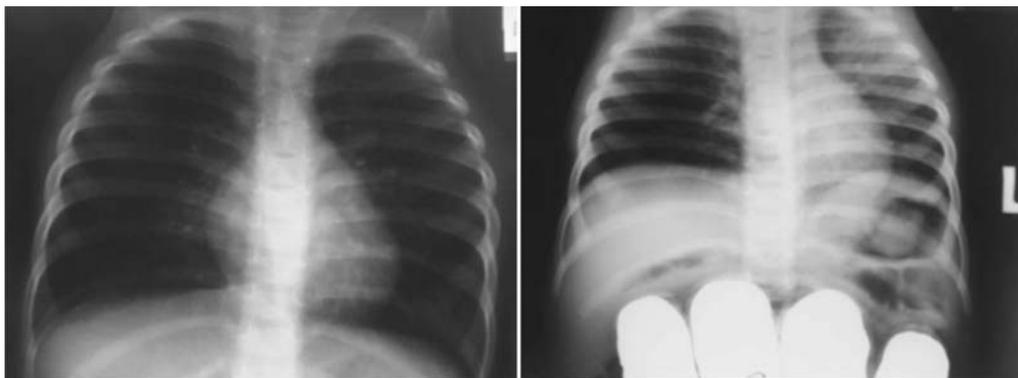


Fig. 1 Chest X-ray of a 2-year-old child with suspected airway foreign body, before (a) and after (b) forced expiration, revealing obstructive hyperinflation on right side.