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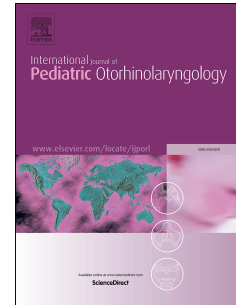
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The use of CT-scan in foreign body aspiration in children: a 6 years' experience.

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Abstract

Introduction

A foreign body aspiration is a risky situation, common in pediatric emergency. The “gold standard” to rule out a foreign body or proceed to its extraction, is rigid bronchoscopy (RB) under general anesthesia. However, RB is an intrusive exam with possible complications. Depending on authors, RB in emergency is a procedure at risk of complications in 4-17% of cases. Advances in radiology allow CT-scanners of fast acquisition and high definition, which could be used as an alternative to RB.

Materials and methods:

This is a retrospective analysis of 6 years from May 2010 to May 2016, in a tertiary referral center. All children that presented a foreign body aspiration suspicion and had a cervical-thoracic CT with multiplanar reconstruction were analyzed.

Results:

200 children were included. The average age was 30 months. 132 were considered normal and 68 pathological. Among the 68 RB performed for pathological scanner, a foreign body was found in 59 cases, and we had 9 cases of false positives. Among the 132 considered normal, 27 have had a RB despite this, due to persistent symptoms, all were negative; 105 were discharged home without endoscopy with monitoring instructions. 1 child was reviewed three months later for asthma, without second choking event reported. A new CT-scan found a foreign body that was removed by RB. Due to the nature of the foreign body it is very unlikely to link it to the first choking event, but retrospectively we cannot be certain. Considering this case as the only false negative, the negative predictive value (NPV) of CT was 99.2% and positive predictive value (PPV) of 83.8%.

Conclusion:

The use of CT -scan with multiplanar reconstruction in suspected foreign body aspiration is a reliable alternative to endoscopy under general anesthesia, especially in asymptomatic patients, avoiding too many negative endoscopies.

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