

## Surprise Foreign Body Aspiration with Pistachios in a Patient with Cystic Fibrosis with Persistent Atelectasis on Chest Radiography

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Foreign body aspiration is an important health problem frequently observed in children and adults requiring emergency intervention.<sup>1-2</sup> Small children have a tendency toward aspiration when eating, crying, or playing due to weak chewing abilities.<sup>3</sup> While it causes symptoms such as sudden respiratory distress, cough, hoarseness, and the feeling of stuck in the throat in the early period, it may result in complications such as emphysema, atelectasis, bronchiectasis, and pneumothorax in the later period when the diagnosis is delayed.<sup>4-5</sup>

A 10-year-old male patient, followed up with a diagnosis of cystic fibrosis (CF), was admitted to our pediatric emergency clinic with the complaint of cough, shortness of breath, and fever for 3 days. During the examination, there was a decrease in respiratory sounds in the lower zone of the right lung and widespread crepitanal rales more pronounced in the lower zone of both lungs. His complete blood count was found to be as follows: white blood cell:  $17.3 \times 10^9/L$ , neutrophil:  $13.1 \times 10^9/L$ , and C-reactive protein: 110 mg/L (0-5). Pulmonary radiography showed an atelectasis area and infiltration in the lower zone of the right lung. Thoracic computed tomography (CT) showed consolidation areas at the level of the right lung and in the right main bronchus, a polypoid, millimetric fat density area thought to partially narrow the main bronchial lumen was noted. It was reported that just as this may be long to a foreign body or an intraluminal polypoid lesion.

There was *Pseudomonas aeruginosa* in the sputum culture, which was seen to be sensitive to the treatments he received on the antibiogram. As the thoracic CT reported that the polypoid, millimetric fat density area thought to partially narrow the main bronchial lumen in the right main bronchus, it was decided to perform bronchoscopy, considering that the patient might have a mucus plug or foreign body in the right bronchus. Pistachios were removed from the right bronchus in bronchoscopy. He explained that he had aspirated while lying down and eating pistachio.

Tracheobronchial foreign body aspiration symptoms are not specific, and patients can present with cough, wheezing, shortness of breath, fever, and pneumonia.<sup>3</sup> Organic foreign objects cause more tissue reactions and tend to cause complications like atelectasis and air trapping.<sup>6</sup> Due to progressive inflammation and displacement of the foreign body to the distal airway, they may eventually cause complete obstruction.<sup>7</sup> Mucus plug can cause partial or complete airway obstruction.<sup>8</sup> The incidence of mucus plugs in children without predisposing factors is unknown and probably low.<sup>9</sup> Imaging findings of a mucus plug can also mimic a foreign body.<sup>8</sup> In a study conducted on CT findings in 27 children suspected of having foreign bodies, the mucus plug was associated with atelectasis, atelectasis, and pneumonia or pneumonia alone.<sup>10</sup> Since our patient was prone to form a mucus plug due to CF, and imaging findings of the mucus plug could also mimic the foreign body, it was thought that the findings were primarily due to the mucus plug, but when the pistachios were removed by bronchoscopy, it was understood that the infective process had started after pistachios aspiration besides *P. aeruginosa* pneumonia in our patient.

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Definitive diagnosis is made by bronchoscopy in foreign body aspirations. Anamnesis, physical examination, and radiological examinations are often sufficient to suspect foreign body aspiration. In spite of all these, consideration of foreign object aspiration in patients without any clinical findings or history but with lung problems is sufficient indication for bronchoscopy. The mucus plug that occurs in CF patients may also cause findings and radiological images that can mimic foreign body aspiration. Therefore, in the presence of persistent radiological findings, foreign body aspiration should definitely be considered, even if there is a reason to explain the etiology.

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