Coincidental detection of small cell lung cancer in a patient with foreign body aspiration

Yabancı cisim aspirasyonlu bir olguda rastlantısal saptanan küçük hücreli akciğer kanseri

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A 48-year-old man presented with complaints of progressive dry cough, shortness of breath, low-grade fever, and weight loss. He had a history of metal nail aspiration of three-month duration. A chest radiograph and computed tomography scan showed a nail-shaped shadow in the peripheral region of the right lower lobe. A mini thoracotomy was performed after an unsuccessful attempt for rigid bronchoscopy due to hemorrhage. The nail was removed by wedge resection and pathologic examination revealed small cell lung cancer. This coexistence of foreign body aspiration with lung cancer is a very rare entity.

Key words: Carcinoma, small cell; foreign bodies/complications.

Kırk sekiz yaşındaki erkek hasta, sürekli kuru öksürük, nefes darlığı, hafif ateş ve kilo kaybı yakınmalarıyla başvurdu. Hasta üç ay önce çivi aspire ettiğini bildirdi. Akciğer grafisinde ve bilgisayarlı tomografide akciğer alt lobunun periferik kısmında çivi benzeri bir görüntü izlendi. Bronkoskopi sırasında kanama olması nedeniyle hastaya minitorakotomi yapıldı. Çivi wedge rezeksiyon ile çıkartıldı ve alınan biyopsinin patolojik inceleme sonucu küçük hücreli akciğer kanseri olarak bildirildi. Yabancı cisim aspirasyonu ile akciğer kanserinin birlikteliği çok nadir bir durumdur.

Anahtar sözcükler: Karsinom, küçük hücreli; yabancı cisim/komplikasyon.

Foreign body aspiration into the lower airways in adults is uncommon. Children under eight years of age account for 75% of all patients.[1,2] Occult foreign body aspiration in adults may remain undetected for years and lead to an erroneous clinical diagnosis of bronchitis, asthma, chronic pneumonia, bronchiectasis, or even a tumor.[1,3]

CASE REPORT

A 48-year-old male presented with complaints of progressive dry cough, shortness of breath, and low-grade fever for two months and weight loss (10 kg) for a month. He had a history of metal nail aspiration of three-month duration, which happened during painting the floor and did not cause any symptom.

His vital signs on admission were as follows: temperature 38 °C; blood pressure 110/70 mmHg; heart rate 98 beats/min; and respiratory rate 22 breaths/min. Physical examination revealed localized wheeze and course crackles in the right lung base. He had finger clubbing. Examination of other systems was normal. Hematological investigations showed normal white blood cell count and chemical analysis.

A chest radiograph and computed tomography scan revealed a nail in the peripheral region of the right lower lobe (Fig. 1).

Rigid bronchoscopy under general anesthesia was performed. The right main stem bronchus was infiltrated by a tumorous structure and a foreign body was detected in the right lower lobe. The nail could not be extracted with forceps during rigid bronchoscopy because of diffuse hemorrhage, so a mini thoracotomy was performed, during which tight adhesions of the diaphragmatic pleura and right lower lobe collapse were noted. The nail was removed by wedge resection and pathologic examination revealed small cell lung cancer. On the seventh postoperative day, the patient was referred for chemotherapy.

DISCUSSION

Foreign body aspiration can be a life-threatening emergency requiring immediate intervention; however, symptoms can also go unnoticed for years with serious sequelae.[4,5] Foreign body aspiration into the lower airways of adults is uncommon.[1,6] In a 20-year series

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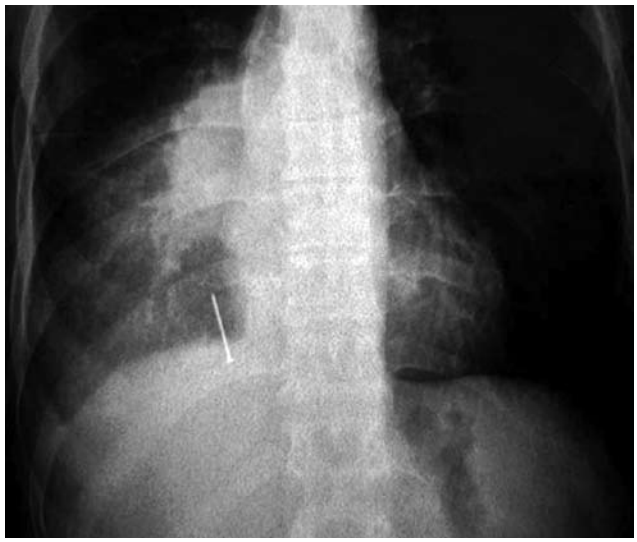

Fig. 1. Chest X-ray showing a foreign body.

involving 112 patients at one center,[2] 75% of the patients were children younger than eight years. The peak age of foreign body aspiration in children was two years, and in adults was the sixth decade.[2] In the United States, up to 2,000 deaths per year occur due to foreign body aspiration, half of which occur in children younger than four years.[3]

Foreign body aspiration in adults with a normal swallowing reflex is rare. Risk factors leading to aspiration are neurologic dysfunction, trauma with loss of consciousness, facial trauma, intubation, dental procedures, underlying pulmonary disease, alcohol consumption, and sedative use.[1,3]

Normally, the swallowing reflex protects adults from foreign body aspiration into the airway.[7] When this mechanism is disrupted (by CNS dysfunction due to stroke, metabolic encephalopathy, alcoholism, sedatives, mental retardation, seizure) or when the foreign body bypasses this reflex in the oropharynx (by intubation, dental procedure, facial trauma, gastroesophageal reflux) it would easily be aspirated.

Patients usually present with persistent respiratory symptoms and are examined for alternative diagnoses, unless there is a definite history of aspiration. Both adults and children present with similar symptoms, with the exception of delay in diagnosis common in adults.[2]

Early complications of foreign body aspiration include dyspnea, asphyxia, cardiac arrest, laryngeal edema, and pneumothorax.[7] Late complications include obstructive pneumonitis, atelectasis, lung abscess, empyema, bronchiectasis, bronchial stricture, hemoptysis, development of inflammatory polyps at the site of lodgment, and decreased perfusion of the lung on the side of foreign body aspiration.[1,3]

Occult foreign body aspiration in adults may remain undetected for years and lead to erroneous clinical diagnoses such as bronchitis, asthma, chronic pneumonia, bronchiectasis, or even a tumor.[1,3,8] Bronchoscopy should always be attempted in adults with foreign body aspiration to inspect thoroughly the entire bronchial tree. In this way, misdiagnoses can be avoided.[8]

Although coexistence of lung cancer and foreign body aspiration has been reported before,[1,7] the presence of small cell lung cancer accompanied by foreign body aspiration is very rare in the English-language literature.

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