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PHOTO QUIZ

A 16-Year-Old Girl with Acute Onset Respiratory Distress

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Figure1: Lateral neck x-ray. ⇧

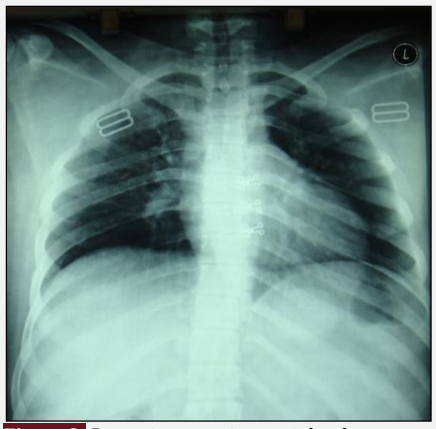

Figure2: Posterior anterior upright chest x-ray. ⇧

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Case presentation:

A 16-year-old girl with an intellectual disability (known case of Down syndrome) arrived in the emergency department with complaints of severe breathlessness, bloody salivation (bright red blood or clots), and difficulty in speaking and swallowing of liquids and solids. The patient gradually developed progressive bloody salivation and hoarseness, never had any history of trauma to the head and neck and respiratory problems, and was symptomatic from the previous 48 h. Furthermore, the patient had a positive history of peptic ulcer, chronic consumption of non-steroidal anti-inflammatory drugs, and traveled out of town and drank water from a well in the mentioned period. On admission, the patient had a respiratory rate of 17 per min, pulse rate of 89 per min, blood pressure of 120/80 mmHg, 90% O2 saturation in room air, and 38°C axillary temperature. The only positive finding on physical examination was inspiratory stridor. The auscultation of lung and heart sounds was normal. Digital rectal examination revealed brown feces. Throat examination was not possible owing to lack of patient cooperation. After initial assessment and essential consideration, electrocardiography (ECG) and imaging was performed. The ECG showed normal sinus rhythm, and analysis of arterial blood gas revealed the following: pH = 7. 35, Pa-CO2 = 39 mmHg, HCO3 = 24 mEq/L, PaO2 = 89 mmHg, and O2 saturation = 92%. All other laboratory data, including complete blood counts (CBC), urine analysis, hepatic and renal function tests, and coagulation profile were in the normal range. Figure 1 and 2 show the lateral neck and chest X-ray of the patient, respectively.

What is your diagnosis?

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Diagnosis:
Live foreign body in oropharynx

Case fate:
Based on history and presentation, a foreign body in the oropharynx was suspected, and hence, a lateral neck X-ray was taken (Figure 1). Imaging revealed an occupant mass in the oropharynx (Figure 3, dash triangle). Owing to the progress of the patient's respiratory problem, direct laryngoscopy was performed under mild sedation and local anesthesia (recurrent laryngeal nerve block with 1% lidocaine). A massive brown-reddish mobile mass was observed protruding in the oropharynx, which was found to be a live leech that ingested blood. After injection of 3 ml of 2% lidocaine of the mobile mass, suctioning was performed and the foreign body was removed. The patient was asymptomatic after regaining complete baseline consciousness.

Discussion:
For the diagnosis of patients with respiratory distress, perfect and detailed history taking and systematic examination followed by relevant investigations are the key points. Respiratory distress is an emergency condition that requires immediate attention, because an ensuing airway obstruction may cause hypoxia and death. Foreign body, rarely the live ones, should be included as a differential diagnosis of these patients. The patients can present with acute onset respiratory distress, hoarseness, hemoptysis, and suffocation sensation, and even oral bleeding and dysphagia. The diagnosis of live foreign body as a cause of respiratory distress should be considered in areas where drinking of water from pond, pit, and river is common (1-5). Among these scarce entities, leeches are one of the well-known ones. These parasites attach themselves to the vertebrate hosts and suck out the blood (4, 6). A medical center in Pakistan, in a period of 10 years, had reported 28 treated cases of foreign body infestation with leeches. In all of these cases, the complaints included recurrent episodes of epistaxis, blood-spitting, dysphagia, dyspnea, odynophagia, and hemoptysis, several days before admission. Examination of the cases showed blood-engorged leech in green-brown mass protruding from different nasopharyngeal or oropharyngeal areas (7). Leeches generally live in streams and puddles. Hence, drinking of contaminated water could lead to infestation of leech anywhere in the gastrointestinal and upper respiratory tract, resulting in various presentations. When a leech is settled in the nasal cavity or nasopharynx, the patients may present with complaints of epistaxis and nasal fullness or even sensation of a mobile foreign body in the nasal cavity. In contrast, attachment of leech to the oral cavity could result in the patients spitting blood and feeling the presence of a foreign body, whereas attachment to the larynx could lead to airway obstruction and voice change (8, 9). Because of dispersed data, there are still considerable controversies over the most suitable treatment option. However, direct laryngoscopy under general anesthesia is necessary for both diagnosis and removal of the leech. Some studies have reported that rapid and careful surgical intervention by applying a forcep to the middle of the leech's body and providing a quick pull under local anesthesia is a successful treatment procedure in adults, and that bleeding in the attached site immediately stops after removal of the leech (7, 8).

Figure3: Lateral neck x ray. The location of foreign body is marked with dash triangle. ⇧

Conclusion:
With the available sporadic reported cases of leech as a live foreign body from around the world, it appears that the sudden onset of respiratory symptoms along with a history of possible drinking of contaminated water are the most helpful clues for consideration of this diagnosis. Future studies on treatment of this condition are necessary to develop a globally acceptable approach.

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Conflict of interest:
There was no conflict of interest.

Author's contribution:
All the authors have contributed to drafting/ revising the manuscript, study concept, or design, as well as data interpretation.

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