The Value of Flexible Laryngoscopy in Diagnosis of an Unusual Laryngeal Foreign Body: Spiny Cocklebur (Xanthium Spinosum)

Larinkste Ender Görülen Bir Yabancı Cismin Tanınmasında Fleksibl Laringoskobun Değeri: Dikenli Tohum (Xanthium Spinosum)

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ABSTRACT Foreign body aspiration is a common and dangerous problem among children of all ages. Children under the age of three carry the highest risk for foreign body aspiration. Some cases may present with less severe symptoms or a misleading history that result in a false diagnosis and confusion. The emergency room physician should seek the advice of an experienced otolaryngologist in a child with an acute airway problem regardless of the history and examination. In this article, we present an 8-month-old boy with supraglottic laryngeal foreign body detected by awake flexible laryngoscopy. The patient presented with a history of manual strangulation by his 5-year-old brother and had stridor, tachypnea and persistent cough. Awake flexible laryngoscopic examination in the office yielded prompt diagnosis in a patient with confusing history and presentation. Spiny cocklebur was removed from his larynx by direct laryngoscopy. The clinical presentation of the patient and his management are discussed.

Key Words: Foreign bodies; larynx; airway obstruction; xanthium

ÖZET Yabancı cisim aspirasyonu her yaş grubundaki çocuklarda sık görülen tehlikeli bir sorundur. Üç yaş altı çocuklar yabancı cisim aspirasyonu açısından en yüksek risk grubudur. Bazı olgular daha az ciddi belirtilerle ya da yanlış tanıya ve karışıklığa neden olabilecek bir öyküyle gelebilir. Acil servis hekimleri akut gelişen solunum yolu sorunlarıyla gelen bir çocukta öykü ve muayene bulguları ne olursa olsun, deneyimli bir kulak burun boğaz uzmanından yardım almalıdır. Bu makalede; beş yaşındaki kardeşi tarafından boğazının sıkılması öyküsüyle getirilen, stridor, takipne ve inatçı öksürük semptomlarının olması üzerine fleksibl laringoskopik değerlendirme ile larinkste supraglottik yabancı cisim saptanan sekiz aylık bir olgu sunuldu. Muayene odasında fleksibl laringoskopla uyanık laringoskopik değerlendirme, yanıltıcı öykü ve prezentasyonla gelen hastada tanıyı hemen sağladı. Direkt laringoskopla hastanın larinksinden dikenli tohum çıkarıldı. Klinik bulgular ve tedavi tartışıldı.

Anahtar Kelimeler: Yabancı cisimler; larinks; havayolu tıkanıklığı; ksantium

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Foreign body aspiration (FBA) is a major cause of accidental death in children.[1-9] Children under the age of three carry the highest risk for FBA.[5,7] Laryngeal foreign bodies may present with a variety of symptoms resulting in a confusion with the other causes of upper airway obstruction.[10] The emergency room physician should seek the advice of an experienced otolaryngologist in a child with an acute airway problem regardless of the history and examination. Spiny cocklebur is an erect, multiple branched annual plant that grows up to three feet high. The fruit is more

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or less an egg-shaped burr, up to one-half inch long, armed with numerous hooked spines, some with one or two straight terminal spines. Spiny cocklebur is native to Chile. It is now widespread in the warm and temperate regions of the world, occurring commonly in Europe, Asia, North and South Africa, North and South America, and Australia. To our knowledge, this is the first case of airway obstruction by a spiny cocklebur in the literature. The case is unusual with respect to its misleading history and the type of the foreign body.

In this article, we report an 8-month-old boy with a spiny cocklebur lodged at the supraglottic region. He presented with a history of manual strangulation by his older brother. Awake flexible laryngoscopic examination in the office yielded prompt diagnosis avoiding confusion and delay.

CASE REPORT

An 8-month-old boy from a rural village was referred to the Ear, Nose and Throat department with tachypnea, stridor and persistent cough. The mother stated that her son had started having these symptoms two days previously after being carried by the neck by his 5-year-old brother. She clearly stated that her son was cyanotic. She set the infant free from his brother and tried to stimulate him to breathe. The patient started breathing and the cyanosis resolved. The patient was taken to the village primary health care center and was treated with a humidifier and was given some drugs unknown to the mother. The patient had some relief but his symptoms never resolved completely. After two days, the patient was sent to our department. Upon arrival, the patient was tachypneic and had stridor with a 92% oxygen saturation level. There were suprasternal and intercostal retractions with no cyanosis. The mother denied any witnessed foreign body aspiration or choking episode, and the history was strong for laryngeal trauma by manual strangulation. Awake flexible laryngoscopy (AFL) performed in the outpatient clinic to clarify differential diagnosis, revealed a spiny cocklebur lodged at the supraglottic larynx (Figure 1, 2). The patient was immediately taken to the operating room and the foreign body was removed by direct laryngoscopy under general anesthesia. After removal, direct laryngoscopy and brochoscopy (DLB) with esophagoscopy revealed no other foreign bodies in the airway/digestive tracts. He had significant relief after the procedure and his symptoms resolved completely after two days.

DISCUSSION

FBA is a potentially dangerous problem in the pediatric age group which can be fatal.[1-9] Children under the age of three carry the highest risk since they have an intention to explore objects with their mouths.[5,7,11] A history of choking or aspiration strongly suggests a foreign body aspiration whereas its abscence makes the correct diagnosis more difficult or delayed.[1-13] Of all signs and symptoms, a re-

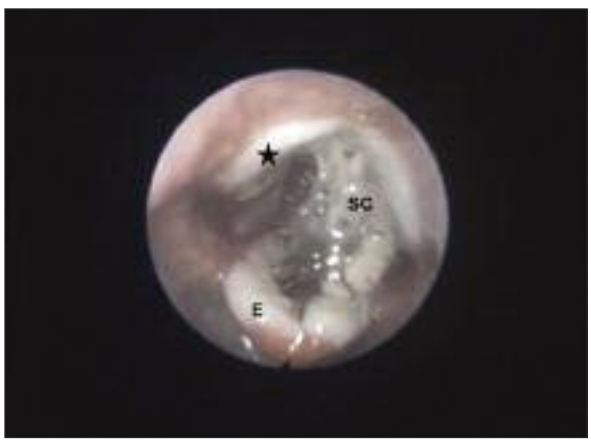

FIGURE 1: Spiny cocklebur lodged at supraglottic larynx.
E: Epiglottis, SC: Spiny Cocklebur, Star: Posterior pharyngeal wall.

FIGURE 2: Spiny cocklebur after removal

cent history of aspiration has the most predictive value. High index of suspicion is crucial for early diagnosis. In our patient, the misleading history was strongly in favor of laryngeal trauma by manual strangulation. FBA was not our anticipated diagnosis. Although radiologic examinations are useful diagnostic procedures, normal radiological findings never exclude the diagnosis of FBA.[1-11] AFL is the proven gold standard for diagnosis in this case. We believe any child with acute airway symptoms, regardless of history, suspicion index and radiological findings, should be evaluated with AFL. On the other hand, abscence of a foreign body in AFL never obviates the need for a DLB under general anesthesia. AFL does not always allow good inspection of the subglottis in a struggling child. DLB under general anesthesia is the ultimate action that needs to be taken regardless of AFL findings when a foreign body is suspected. Guo et al.[14] and Ekinci et al.[15] used awake flexible laryngoscopy for removal of unapproachable laryngopharyngeal foreign bodies in adults. It is available and easy to perform in outpatient settings but it has limitations and dangers in the pediatric age group. It should always be kept in mind that parents can mislead physicians by giving wrong histories while trying to protect themselves.[4] After removal of the foreign body, further interrogation with the parents revealed that the father brought home 4-5 spiny cockleburs and had fun with his kids by throwing them to at each other. The older brother stated that he witnessed his younger brother's choking episode and tried to save him by taking him to his parents. To our knowledge, this is the first case of airway obstruction by a spiny cocklebur in the literature. FBA can present with unusual history and symptoms. It should always be cited in the differential diagnosis of a child having respiratory symptoms of acute onset. Clinical evaluation of such a child is incomplete without awake flexible laryngoscopy.

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