Ectasy induced retropharyngeal emphysema

Madu Onwudike

Abstract

This is the first reported case of isolated retropharyngeal emphysema caused by ingestion of the amphetamine derivatives "Ectasy" and "Speed". The same complication has been reported with marihuana, cocaine, and heroin abuse. The condition resolved spontaneously and this seems to be the experience of others who have reported cases of cervical emphysema and pneumomediastinum associated with substance abuse. Because of the self limiting nature of this condition, extensive investigations may not be neces-

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Sary but hospital admission and close observation are still mandatory. (J Accid Emerg Med 1996;13:359–361)

Key terms: amphetamines; ecstasy; cervical emphysema; retropharyngeal emphysema

Case report
A 22 year old male presented to the accident and emergency department with a 24 hour history of epigastric pain and left sided and anterior cervical pain. The pain was severe and associated with marked odynophagia. The symptoms appeared 24 hours after the patient had consumed amphetamine derivatives which included “speed” (methylenedioxymethamphetamine) and “ecstasy” (3,4-methylenedioxymethamphetamine).  He had taken 1 g of ecstasy by mouth and 1 g of speed, half of which was inhaled while the other half was dissolved in water and ingested. He was a regular drug abuser and had used similar amounts of the same drugs from the same batch two days previously. The only side effect he had suffered in the past was epigastric discomfort, usually relieved by milk.

There was no history of trauma. He had initially dismissed his symptoms as simply a sore throat. However, he reported to hospital when the pain worsened and when he noticed crepitations in his neck. He did not vomit or retch. He had developed a slight cough but there was no fever.

On examination, he was comfortable, afebrile, and had a pulse rate of 78 beats/min and a blood pressure of 110/70 mm Hg. There was tenderness and crepitation on the left side of the neck. Ear, nose and throat examination did not reveal any abnormality. The trachea was central and the chest was clear. There was mild epigastric tenderness but the rest of the abdomen was soft and non-tender. The chest x-ray was normal and in particular there was no pneumomediastinum. The cervical x-ray (figure) showed free air in the retropharyngeal space and soft tissues of the neck.

He was admitted for observation. A GastroGRAFFIN swallow performed the next day did not show any oesophageal leak. His white cell count was 7.3 × 10^9/litre and fell to 3.5 × 10^9/litre after 48 hours.

The surgical emphysema resolved after 72 hours and patient was able to eat and drink normally. He was discharged four days after admission.

Discussion
Causes of cervical emphysema and pneumomediastinum have been extensively reviewed elsewhere.  The pathological anatomy and physiology have been comprehensively described by Macander et al and by Rose and Veach.

Most cases of non-traumatic cervical and mediastinal emphysema are thought to be due to rupture of marginal alveoli and subsequent dissection of air along the pulmonary vascular sheath to the hilum. From the hilum decompression occurs along natural fascial planes to the neck. The alveolus ruptures because of a sudden increase in pressure (barotrauma) often associated with a Valsalva manoeuvre. This is believed to be the mechanism for the cervical emphysema seen in asthma, cough, weight lifting, labour, and intravenous and inhalational drug abuse. It has also been reported that in cases of drug abuse there is a general reduction in lung interstitial pressure which facilitates alveolar rupture by increasing the pressure gradient.

The pathophysiology also explains the frequent coexistence of drug related cervical emphysema and pneumomediastinum. Riccio and Abbott have reported a case of isolated retropharyngeal emphysema associated with free-basing cocaine which resolved spontaneously. It would appear that those presenting very early are more likely to be found with pneumomediastinum. After a variable length of time, the air tracks into the neck to present as cervical and retropharyngeal emphysema.

Review of published reports suggests that cervical and mediastinal emphysema associated with drug abuse or due to barotrauma from other causes is usually benign and self limiting. This has led many authors to conclude that extensive investigations are often unnecessary in the typical young and otherwise fit male patient. Our patient had a GastroGRAFFIN swallow and most clinicians would consider this investigation essential for differential diagnosis.

Because of the potential for the development of life threatening complications such as pneumothorax, tension pneumomediastinum, air block (occlusion of the airways due to the splinting action of air within the connective tissue of the lung), and pulmonary vascular obstruction, hospital admission is mandatory.

Management should in most cases be limited to bed rest, observation, and reassur-
An unusual cause of hiccups

S Perry, J Stevenson

Abstract
A case of persistent hiccups associated with cavitating pulmonary tuberculosis is reported. Though tuberculosis presenting with hiccups is rare, tuberculosis is again on the increase and clinicians should remain alert to the possibility of this diagnosis.


Key terms: hiccups; pulmonary tuberculosis

Case report
A 52 year old unemployed plasterer presented to an accident and emergency department with a five day history of hiccups. He complained of weight loss, haemoptysis, and night sweats. He was a cigarette smoker of 35 years, intermittently abused alcohol, and had been exposed to tuberculosis as a young adult. There was a past medical history of vagotomy and pyloroplasty at the age of 24 years and transthoracic vagotomy at the age of 30 years for peptic ulcer disease.

On examination he was hiccupping, hoarse, emaciated, and pyrexial (37.5°C). Clinical examination of the chest revealed left upper lobe collapse but was otherwise normal.

A chest x-ray showed emphysema, elevation of the left diaphragm, and irregular cavitating opacities in the left upper lobe with hilar lymphadenopathy (figure). The patient was admitted for further investigation with a provisional diagnosis of carcinoma of the lung.

There was a normochromic normocytic anaemia (Hb 10.8 g/dl), raised erythrocyte sedimentation rate (24 mm per hour), and raised alkaline phosphatase (171 U/litre; normal range 45-140 U/litre). Sputum was positive for acid- and alcohol-fast bacilli, identified as *Mycobacterium tuberculosis*. Bronchoscopy showed no evidence of a carcinoma.

Two days after admission he was started on rifampicin 120 mg, isoniazid 50 mg, and pyrazamide 300 mg four times daily, with ethambutol 1 g daily. Chlorpromazine 25 mg three times daily was prescribed on admission to control the hiccups, which stopped three days later. He was discharged after four weeks of inpatient care and is currently under review.

Discussion
Persistent hiccups lasting more than 48 hours is uncommon, and tuberculosis presenting as hiccups is rare. The incidence of tuberculosis is again increasing. In Scotland there were 2033 cases reported in 1965, followed by a steady decline to 425 cases in 1987. By 1993 reported cases had increased to 460.

Hiccups are an involuntary forceful inspiration, with poorly understood pathophysiology. A reflex arc has been proposed with the phrenic nerves, vagi, and T6-12 sympathetic fibres as the afferent limb. The “hiccup centre” is thought to be located in either the brainstem respiratory centre or the cervical cord between segments C3 and C5. The efferent limb is the phrenic nerve. Whether hiccups is a purpose is unclear. Hiccups are common in utero and may be a primitive reflex to prevent amniotic fluid aspiration or to prepare the respiratory muscles for breathing after delivery. Some investigators have suggested that hiccups can have no physiological function.

Most episodes of hiccups associated with acute gastric distention and alcohol ingestion are short lived and resolve spontaneously. Chronic hiccups is defined as an attack lasting longer than 48 hours. Such episodes may be

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