INTRODUCTION

Lacrosse is a team sport of Native American origin, played using a small rubber ball and a long-handled lacrosse stick. The game is mainly played in the United States and Canada. Moreover, it is becoming increasingly popular in the UK. It is a contact sport requiring padding and protective head gear. But despite these, the throat remains relatively unprotected, except the goalkeeper who often wears a throat protector. The patterns and risk factors of injuries in lacrosse players are still not well known; but the primary injury mechanism is by contact, either with another player, a stick or a ball. These injuries are largely musculoskeletal.

We present a previously unreported case of a laryngeal fracture, secondary to direct trauma from a lacrosse ball, with the aim of raising awareness of this potential injury to players and enthusiasts of the game.

CASE REPORT

A 23-year man sustained a direct blow to the left side of his throat by a lacrosse ball during play, resulting in immediate aphonia and stridor. At the Accident and Emergency, examination showed a target sign on the left side of his anterior neck (Figure 1) with an underlying palpable depressed fracture of left thyroid lamina. No surgical emphysema was noted either clinically or on a soft-tissue lateral X-ray of his cervical spine (Figure 2). Flexible laryngoscopy revealed a left supraglottic swelling along with bilateral haemorrhagic vocal cords. No endolaryngeal mucosal tear was noted, and the subglottis was clear. During flexible pharyngolaryngoscopy, the patient coughed and felt comfortable to resume normal speaking, possibly because of realignment of the fractured laryngeal framework. Overall, there was no immediate threat to the patient's airway. CT scan of his neck confirmed an undisplaced, anterior left thyroid lamina fracture beginning from the level of the thyroid notch (Figure 3).

Decision was made to treat the patient's injuries conservatively and he was admitted for observation and monitoring of his airway for 24 hours. The patient remained stable and was discharged home the following day.

DISCUSSION

Laryngeal fracture following blunt trauma can result in life-threatening airway obstruction. Injuries may range from simple mucosal tears to complex comminuted fractures, both open and closed. It is, however, still comparatively rare, representing only 1% of all blunt trauma. It is likely due to the protected location of the larynx, with the rigid cervical spine posterior and the mandible hanging in a superior and anterior position.

While men's lacrosse is a full contact sport, women's lacrosse differs markedly in the degree of allowable physical contact. Women's lacrosse does not promote physical contact primarily because the only mandatory protective equipment worn are a mouth guard and eye protection. However, the slimmer and longer neck of females predisposes them to a higher susceptibility to laryngeal injury, particularly supraglottic injury. Yet males are still more likely to present with one (77% vs. 33%) and this is likely secondary to a higher likelihood to be involved in fighting and greater participation in contact sports.

Laryngeal fractures can be sub-classified into high- or low-velocity injuries. Lacrosse ball trauma will fall into...
the former category as the speed of the ball can be between 80 and 100 mph in average. There is, therefore, a real possibility of disruption of the laryngeal skeleton. This type of injury should, therefore, be approached as an impending compromise of airway until proven otherwise. Common presenting symptoms in patients with laryngeal trauma include hoarseness, neck pain, dyspnœa, dysphonia, aphasis, dysphasia, odynophonia, and odynophagia. However, no single symptom correlates well with the severity of laryngeal injury. Management will be followed by findings on thorough clinical examination and may involve a tracheostomy, if signs of airway compromise are present like massive oedema or rapidly expanding haematoma. Here the patient suffered only an undisplaced fracture of the thyroid laminar cartilage and sustained with no mucosal tears and a patent airway. This sort of injury may be treated successfully with conservative management in the form of observation, head elevation and humidified air.

Laryngeal fracture, secondary to direct blunt trauma during person-to-ball contact, is a rare but potentially life-threatening injury that may be sustained during the game of lacrosse. The routine wearing of a throat protector during play should be encouraged.

REFERENCES

3. https://www.google.co.nz/search?q=lacrosse&espv=2&source=lnms&tbm=isch&sa=X&ei=bnhMVKrwAdDU8gXq94CYDQ&ved=0CAYQ_AUoAQ&biw=1024&bih=513#tbm=isch&q=lacrosse+ball+and+stick