Laryngeal trauma is rare and potentially catastrophic. This case describes a 22-year-old male who presented to the Emergency Department (ED) with hoarseness and neck pain after sustaining a blow to his neck from a skateboard. Fiberoptic laryngoscopy demonstrated mild arytenoid edema and computed tomography (CT) showed a displaced cricoid cartilage fracture. He did not require immediate airway protection and he was admitted and managed conservatively. Our case highlights a cricoid cartilage fracture as a result of a low-energy blunt trauma. In such cases, conservative management may be indicated and often provides a viable alternative to tracheotomy.

INTRODUCTION

Laryngeal trauma is a relatively uncommon occurrence and often difficult to diagnose especially in light of other more obvious, ‘distracting’ injuries. However, a missed diagnosis, if not quickly identified and treated, can be catastrophic. A large study investigating nearly 35,000 trauma victims only reported 12 cases of laryngotracheal trauma and only half of these cases sustained injury to the cricoid cartilage or cricothyroid membrane. As recommended by well-documented management algorithms, each patient should be treated in accordance with Advanced Trauma Life Support (ATLS) protocol with primary attention given to securing the patient’s airway.

Although the larynx is usually protected from injury by the mandible, sternocleidomastoid muscle, and the sternum, the neck can be hyper-extended making the larynx susceptible to direct trauma. Shearing forces on the vocal folds may cause mucosal tears, hematomas, or edema while more severe force may lead to cartilage fractures and disruption of the laryngeal framework.

Isolated cricoid cartilage fractures are exceedingly rare and generally life threatening, as the cricoid is the only circumferential cartilage in the larynx and is essential for the stability and integrity of the airway. Here we present a case of an isolated cricoid cartilage fracture, which was managed conservatively.

CASE

A 22-year-old male presented to the ED with the complaint of hoarseness, hemoptysis, odynophagia, and anterior neck pain after sustaining a blow to his neck from his skateboard. He had no stridor and his arterial saturation by pulse oximetry was 99% on room air. He had tenderness to palpation over the thyroid and cricoid cartilages but no subcutaneous emphysema. A fiberoptic laryngeal exam demonstrated mild bilateral arytenoid edema but no evidence of exposed cartilage, mucosal tears, or hematomas. Both true vocal folds were mobile and the view of the subglottis was normal to the level of the cricoid shelf. CT of the neck showed an acute displaced anterior and posterior cricoid cartilage fracture and discontinuity of the cricoid cartilage ring and disruption of the cricoarytenoid joint.

The patient was admitted to the Surgical Intensive Care Unit (SICU) and made NPO. He was placed on voice rest, cool mist humidification, and received daily dosing of a proton-pump-inhibitor and intravenous steroids. He had frequent re-evaluation by otolaryngology including repeat fiberoptic laryngoscopy.

On hospital day 3 he tolerated a diet and on the following day the steroids were discontinued and he was discharged home in stable condition.

CONCLUSIONS

In some cases of isolated cricoid cartilage fractures resulting from low-energy blunt trauma, conservative management may offer a viable alternative to intubation or tracheotomy.

REFERENCES