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Blunt laryngeal Trauma In Sudanese Agricultural Workers:Two case reports

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ABSTRACT

In this article two cases of blunt laryngeal trauma are reported in Sudanese agricultural workers. The clinical presentation and the mechanism of injuries are discussed. The main cause of injury in both cases was trapping of loose clothing in agricultural machinery with a fatal outcome in one of them. Avoidance of loose clothing and wearing of more tight ones (overalls) are advised to avoid somewhat rare but serious injuries.

Key words Laryngeal trauma, loose clothing, agricultural workers

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Introduction. Blunt trauma to the larynx is a rare type of injury which has very serious life-threatening complications. The most serious complication is upper airway obstruction. The larynx is usually protected from direct trauma by the mandible.

In a case reported by Levine et al, there were multiple pathologies of a fractured thyroid cartilage, a retropharyngeal haematoma and the primary cause of airway obstruction was vocal cord paralysis(1). More severe injuries resulting in cervical tracheal disruption were also reported by Asai et al (2). These injuries can result from various mechanisms such as snow mobiles, road traffic accidents and children dashing on low fences or similar objects(3).

In this article two cases of blunt laryngeal trauma are reported in Sudanese agricultural workers.

Case 1

A.M.Y. is 35 years old Sudanese farmer who came from a village in El Rahad Agricultural Scheme. He presented to the E.N.T. department at Wad Medani Hospital on the 27th March 2000 complaining of hoarseness of voice and difficulty in breathing following trapping of his scarf (shal), which he used to cover his face and neck, by the wheels of a wheat harvester two days ago. On examination he had mild inspiratory stridor. There were multiple skin abrasions all around his neck (Fig. 1). Indirect laryngoscopy showed a retropharyngeal haematoma extending to the supraglottic region. The laryngeal airway was further compromised by bilateral abductor paralysis of the vocal cords due to involvement of both recurrent laryngeal nerves. Urine analysis and haemogram were unremarkable. X Rays of the soft tissues of the neck demonstrated narrowing of the laryngeal airway. The patient was advised to have emergency tracheostomy but he and his relatives did not consent for the operation and the patient took his own discharge.

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Two days later he reported back with severe stridor and the Resident Registrar performed emergency tracheostomy under local anaesthesia but unfortunately the patient died during the procedure. The operative notes were not fully descriptive and postmortem was not carried out.

Case 2

O.M.A. is a male agricultural worker of 42 years of age from Gezira area. He was referred by the Accident and Emergency Unit on the 2nd April 2002 as a case of mild stridor following laryngeal trauma which he sustained while he was operating a harvester. His turban (imama) was caught in the machine few hours before his arrival to hospital. On examination he had multiple fresh skin abrasions and lacerations with obvious bleeding from small cutaneous vessels all around his neck (Fig. 2+3). Indirect laryngoscopy showed oedematous interarytenoid area, no haematoma could be detected and the vocal cords were mobile but slightly oedemotous and congested. The patient was admitted, given parenteral antibiotic cover with crystalline penicillin and hydrocortisone four hourly for 48 hours. Tracheostomy was thought to be unnecessary and he was kept in for observation. His stridor disappeared completely following the initial dose of hydrocortisone. The patient showed good progress of his general condition and he was discharged five days later.

Discussion. Meticulous search of the English literature failed to demonstrate reporting of similar cases. The mechanism of injury in both cases was the same. Traditional Sudanese dressings are loose clothing due to the hot climate of the country. Agricultural workers tend to use traditional dressings in most of the times. As they usually work in early morning when the weather is rather cool and windy, they tend to use covers for their faces, heads and necks with even looser coverings such as scarves and turbans.

Loose clothing when caught in operating machinery can cause serious body injuries. The most serious of which is strangulation. The victim or his attending witness in most of the cases helps free the clothes from the machinery but serious injuries can result before complete freeing had occurred.

The first case demonstrated how the patient and his relatives took his injury lightly and underestimated the magnitude of the problem against medical advice.

Blunt laryngeal trauma can result in bilateral abductor paralysis of the vocal cords. The paralyzed cords in this situation can not fully abduct because the only functioning abductor is the cricothyroid muscle which is innervated by the external branch of the superior laryngeal nerve and hence the paralyzed cords lie in the paramedian position. The voice is not usually affected, but the laryngeal airway is seriously jeopardized and stridor occurs on effort or when the cords are affected by inflammatory oedema. This grave situation can also occur when both recurrent laryngeal nerves are damaged during thyroid surgery[1,2].

Conclusions and recommendations. Agricultural Sudanese workers should be warned against wearing loose traditional clothing while operating machineries. They are advised to put on more tight clothing such as overalls to avoid serious injuries.

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Figure 1
Profile Photograph of Case 1

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Figure 2
Front Photograph of Case 2

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Figure 3
Profile Photograph of Case 2