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Improvement of Decerebrate Status in a Hanged Child following Emergent Tracheostomy

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Abstract: This study is a clinical description of one child with decerebrated status due to hanging that made excellent recovery. There are limited reports have explained decerebrated status improvement among children in the literature. The case presented, is an eleven year-old boy brought by Emergency Medical Services into the Emergency Department with decerebrated status due to hanging during swinging. Concerning severe hypoxemia and suspected, emergent tracheostomy was carried out to ensure a proper reliable airway. Patient was put under mechanical ventilation and decerebrated status was surprisingly resolved completely during one hour. We believe that reversible cerebral status has been due to brain stem decreased function without any previous or permanent pathologic neurological disorder.

Key words: Decerebrated status, tracheostomy, brain stem, emergency department, hypoxemia

INTRODUCTION

In children, the most common cause of decerebrate posture is head injury (Springhouse, 2007). Decerebrated status is a situation arisen from inferior brain stem damaging conditions. Following to the painful stimulus arms extend abnormally and become adducted. The wrist and fingers are flexed, and entire arm is internally rotated at the shoulder .the neck undergoes abnormal extension and the teeth may become blenched. The leg is internally rotated and extended, and the feet and toes are plantar flexed (Marx *et al*., 2006).

CASE DESCRIPTION

The case presented, is an eleven year-old boy brought by EMS into the Emergency Medicine Department of Imam Reza Hospital, Tabriz University of Medical Sciences, Iran with decerebrated status due to hanging during swinging. Heart rate was 132, blood pressure was 120/80 and respiratory rate was 35. First pulse oximetery read 55%.

EMS had recorded the SPO_2 of 92% at scene before falling to 75% during 15 min of transport to the hospital. Concerning suspected laryngeal Injury due to hanging, Orotracheal Intubation in the hung case was contraindicated and to ensure a proper reliable airway and appropriate oxygenation and ventilation we applied Bag

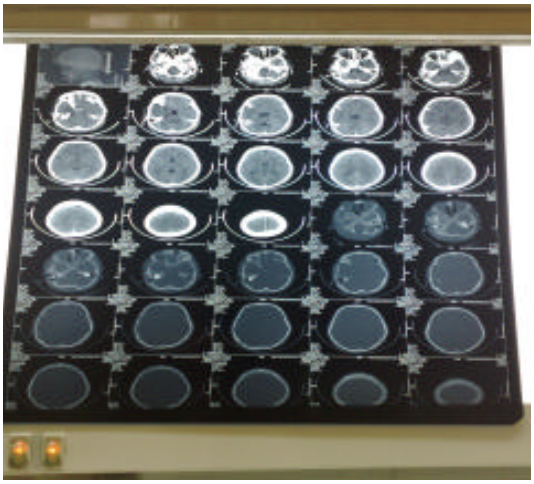

Fig. 1: Patient's brain CT scan

Mask Ventilation as the temporary mean until the emergent tracheostomy was set in continue. Before tracheostomy, ABG revealed any hypercarbia though hypoxia was obvious in. During few minutes after tracheostomy, patient was sent to apply brain and laryngeal CT-scans. Though, any evidences implying brain edema or laryngeal injury was not seen (Fig. 1, 2). Patient was put under mechanical ventilation and decerebrated status was surprisingly resolved completely during 1 h. Post tracheostomy studies revealed no

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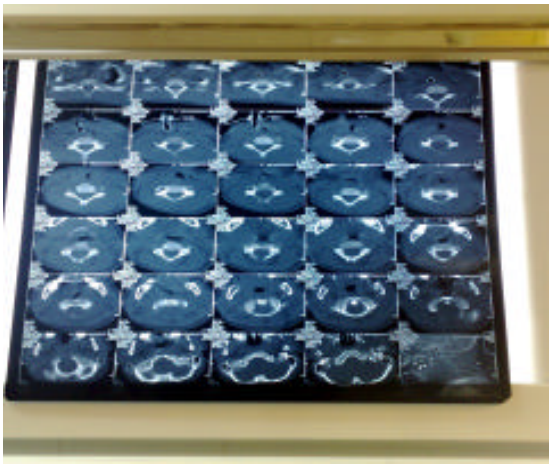

Fig. 2: Patient's Laryngel scan

positive pathologic finding. These studies included; cervical vertebral X-ray, CT-scan studies of brain, larynx and neck, bronchoscopy and biochemistry routine laboratory test. Patient was transferred to Intensive Care Unit (ICU) for post resuscitation care. After a few days he was discharged at complete health.

DISCUSSION

We believe that reversible cerebral status has been due to brain stem decreased function without any previous or permanent pathologic neurological disorder. There are limited reports have explained decerebrated status improvement among children (Scarcella and Fields, 1962). It appears that children cerebral function is much better regained during resuscitation and this fact should be incorporated into all children resuscitation (Meaney *et al*., 2006; Dean *et al*., 1987; Kouwenhoven *et al*., 1960).

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