

Necrosis of lower lip due to Guedel's airway in a case of head injury

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A 20-year-old male was received in Trauma operation theatre for emergency right fronto-temporo-parietal decompressive haemicraniectomy and duraplasty. Individual had met with a road traffic accident 2 days back and was intubated on admission in casualty due to poor Glasgow Coma Scale (E1 V2 M2). Computerised tomography scan (CT scan) of the head revealed right fronto-temporo-parietal sub-dural haematoma and contusion in the left temporal region without any midline shift or obliteration of the basal cisterns. However, repeat CT scan after 48 hours showed obliteration of the basal cisterns and a midline shift of 5 mm towards the left and hence it was decided to take up the individual for emergency surgery.

At the time of preoperative assessment in operation theatre it was noted that the trachea of the patient was intubated with a 7-mm internal diameter endotracheal tube and a Guedel's airway was *in situ* to prevent biting of the tube. Patient's Glasgow Coma Scale was E1VTM2 and his pupils were bilaterally 2 mm in size, sluggishly reacting to light. When the Guedel's airway was pulled out to do oral suctioning and change the endotracheal tube (ETT), it was noticed that the mucosa of the lower lip had undergone necrosis and blackish discolouration due to sustained pressure of the airway which was inserted along with the endotracheal tube 48 hours back [Figure 1].

Pressure necrosis is commonly seen over the skin which lies over the bony prominences as the blood supply to the skin gets compromised between the compressing structure and the bone. It is commonly seen in patients undergoing lengthy surgical procedures under general anaesthesia especially in the prone position.^[1] Another incidence of pressure necrosis of the lower lip due to compression by endotracheal tube has been reported in a patient



Figure 1: Pressure necrosis of lower lip

undergoing surgery for scoliosis correction in the prone position wherein the ETT was pushed against the lip by the gel pad support for the face.^[2] In the intensive care unit setup it is generally seen over the nose during non-invasive mechanical ventilation using a face mask.^[3]

The most important factor which contributes to pressure necrosis is the pressure itself. Other contributing factors are hypotension, anaemia, dehydration and poor nutritional status. In our case the necrosis was seen over the lower lip which does not have a bony prominence underneath. However, it could have occurred due to the incorrect placement of the Guedel's airway leading to compression of the lower lip between the flange of the airway and the teeth thereby compromising the blood supply. Also the fact that the lower lip could be oedematous due to the injury *per se* and the Guedel's airway would have exerted more pressure than usual to the superficial layers should be taken into consideration. The only factor which can surely prevent such an injury is relieving the pressure at regular intervals. However, using appropriate-sized airways, soft gauze rolls or bite blocks instead of oropharyngeal airways may also help to an extent.

The aim of this correspondence is to highlight a complication of the device which we commonly use in our practice and also to highlight the fact that good nursing care which involves periodic assessment of the airway is vital to prevent such injuries.

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