

An unusual pressure sore, can the head ring be implicated?

K. Rajan¹, R. Dias², N. Dave¹, D. Galante³, I. Chincoli⁴

¹Paediatric Anaesthesia, Seth GS Medical College & KEM Hospital, Mumbai, India

²Paediatric Anaesthesia, Seth GS Medical College & KEM Hospital, Mumbai, India

³University Department of Anesthesia and Intensive Care, Univesity Hospital Ospedali Riuniti, Foggia, Italy

⁴Department of Anaesthesiology, Seth GS Medical College & KEM Hospital, Mumbai, India

Corresponding author: R. Dias, Paediatric Anaesthesia, Seth GS Medical College & KEM Hospital, Mumbai, India
Email: Raylene.dias@gmail.com

Letter to the Editor

Sir,

many surgeries especially laparoscopic procedures require extremes of positioning and can sometimes cause positional injuries especially if the duration of surgery is prolonged. We recently encountered a problem with a 4 year old child who was scheduled for laparoscopic choledochal cyst excision and hepatico-duodenostomy under general anaesthesia.

To facilitate the surgical exposure the patient was put in reverse Trendelenburg position with a right up tilt after ensuring adequate padding of the pressure points. The procedure was completed in around 9 hours and normocarbica and haemodynamic stability were maintained throughout.

One hour post extubation the mother noticed a soft globular swelling just behind the left mastoid with a demarcating band of erythema above it.

Over the next couple of hours, it evolved to include the entire left post auricular region as well as the lower half of the left pinna.

As it was unilateral and localized, inflammatory reaction to insect bite or contact dermatitis was a possibility and so antihistaminic and steroid was administered intravenously. However the swelling did not regress but expanded to involve the entire left ear and left lower part of the neck in the next few hours. [Figure 1]



Figure 1. Erythematous pressure sore over left ear

Finally, as a diagnosis of exclusion we considered the probability of a positional hazard resulting in such an unusual presentation. We postulated that pressure due to the head ring may have caused venous and lymphatic obstruction and congestion, as the swollen area was in the down facing side of the head. On application of magnesium sulphate dressing and cold compress the swelling and erythema resolved completely in the next 24 hours. Sustained increased pressure on any area of body surface can cause a reduction in skin perfusion leading to ischaemia and tissue necrosis. The risk increases several folds when exerted over bony prominences and in extremes of age due to fragile skin. [1] Often persistent redness is the first sign that the skin has been poorly perfused and hence vulnerable areas must be closely watched. There has been a similar report in the past where acute obstructive transient parotitis and ischaemic

sialadenitis was described related to direct compression over the head ring. [2]

Head rings have been implicated in causing post operative alopecia due to pressure induced ischaemia, exacerbated by prolonged surgery and intraoperative hypotension. [3] Literature review reveals cases of unilateral blindness following pressure over the eyes where a horse shoe head rest was used for pulmonary resection in prone position. [4]

Use of head ring or donut should be omitted in such cases as the head may move in these devices during surgical procedures resulting in direct pressure induced retinal ischaemia.

Semi soft head rings used commonly seems to be responsible for such adverse events. We recommend the use of special head rings to minimize pressure areas on the face. Gel positioning head rests made from viscoelastic polymer gel cause dispersion of pressure and avoids pressure sores from developing. They are 100% free of silicon, latex and other plasticizer thus having a good bio-compatibility with human tissue and at the same time cost effective and reasonably durable. [Figure 2]

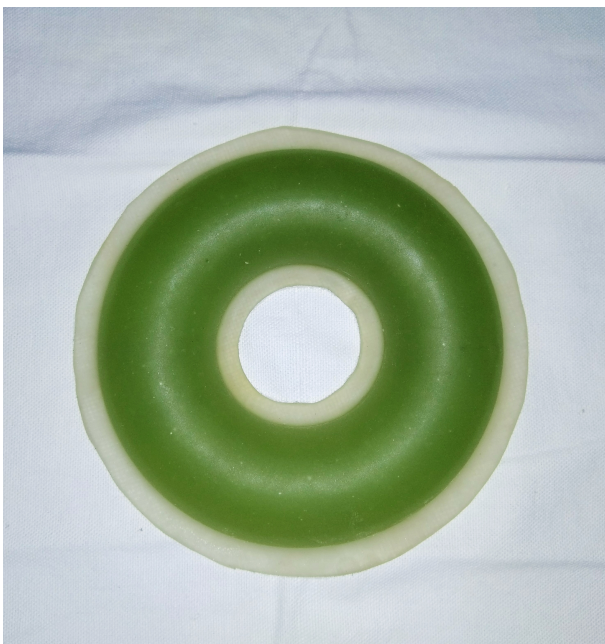


Figure 2. Viscoelastic gel head ring

Many injuries sustained during anaesthesia may be avoided through anticipation and high standards of clinical practice. These critical incidents causing minor injuries occur more commonly than they are reported, may cause severe pain and suffering and are often the subject of medical litigation. However no protective strategy is completely effective and continuous vigilance in procedures involving extreme positioning is warranted.

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