Correspondence

Airway management in angiotensin converting enzyme inhibitor related angioedema

To the Editor:

In their review of the anaesthetic implications of angiotensin converting enzyme inhibitors (ACEI) and angioedema,¹ Sarkar *et al.* review a limited variety of airway management techniques. Rai *et al.* describe five patients with ACEI related angioedema, all requiring emergency airway control.² Four patients had a tracheostomy, and three of these were performed following awake fibreoptic intubation.

Tracheal intubation in these cases may be difficult. In one series, two of 14 cases required emergency cricothyroidotomy following failed endotracheal intubation. The authors produced an airway management algorithm, which suggested fibreoptic intubation with emergency cricothyroidotomy or tracheostomy if trans-oral intubation fails.³

Our own experience of three patients with ACEI angioedema suggests that early pre-emptive cannula cricothyroidotomy is useful in this setting. We use the Ravussin cannula-over-needle technique (VBM, Sulz, Germany). Pre-emptive, precautionary cricothyroidotomy has been shown to be an effective "insurance policy" in a variety of airway pathologies.⁴ This allows immediate oxygenation and ventilation if the airway becomes further compromised, and provides an effective bridge to definitive management. If the patient can be oxygenated via a cannula cricothyroidotomy, then the airway can be secured by either an awake fibreoptic technique, direct laryngoscopy under general anaesthesia, or by tracheostomy depending on the operator's expertise.

Once the airway has been secured, however, there is little to be gained in performing a tracheostomy, as airway edema from ACEI usually resolves within 48 hr.³

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Reply:

Thank you for the opportunity of replying to the letter of Dr. Kapoor and colleagues.

Dr. Kapoor and colleagues comment that we have reviewed a limited number of airway management techniques in patients with angiotensin converting enzyme inhibitors (ACEI) related angioedema and suggest that early pre-emptive cannula cricothyroidotomy may be useful. This is based on their own experience of three patients in three years.¹ It would be helpful if Dr. Kapoor and colleagues included some clinical details about their patients including presenting signs and symptoms as well as rapidity of diagnosis.

The purpose of our review was not to discuss emergency airway management techniques, but to increase awareness amongst clinicians of the risk of angioedema in patients on ACEI drugs. We again emphasize that initial diagnosis of the condition is most important. Securing the airway is the mainstay of successful management and this may indeed require a tracheostomy. Cannula cricothyroidotomy is a well recognized useful technique in the short term, but is not an effective substitute for securing a definitive airway.

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