Are we going to do a rapid sequence on the next patient, doctor?

Stuart McCorkell

As an anaesthetic senior house officer, when asked this question by my operating department practitioner I would invariably know the answer immediately (and often so did they).

Rapid sequence induction with cricoid pressure has been part of UK anaesthetic practice for over 30 years. Many anaesthetists have strong opinions on how and when to perform it. The Royal College considers it a core topic of continuous education and professional development.

It is surprising then how much practice varies. When should cricoid pressure be used? Brock-Utne (2002) showed that cricoid pressure was used in only half of paediatric patients who could be considered to need it. The conduct of induction varies too. All of us preoxygenate but with differing techniques. Some use propofol or etomidate. Many wait for unconsciousness before giving the succinylcholine. A few use rocuronium instead. Opioids are often given simultaneously. Cricoid pressure may be applied before, during or after loss of consciousness and the variability of force applied by assistants has been well established.

In the general surgical population pulmonary aspiration reportedly occurs with a frequency of between 1 and 5 per 10 000 and has a 5% mortality (Engelhardt and Webster, 1999). Several reports highlight the occurrence of aspiration on induction despite cricoid pressure, or post-extubation (Engelhardt and Webster, 1999; Morris and Cook, 2001; Ng and Smith, 2001). Can we show that rapid sequence induction is effective in preventing aspiration? In France there is a similar incidence of aspiration than in the UK but only 1 in 4 anaesthetists practice rapid sequence induction there. The Confidential Enquiry into Maternal Deaths (Department of Health, 2001) has seen a fall in deaths resulting from aspiration since adoption of cricoid pressure but other changes in obstetric anaesthetic practice have contributed to this. It is unlikely we will ever have a prospective trial – indeed some would consider it unethical.

Rapid intravenous bolus of induction agents may cause cardiovascular instability. Predetermined doses followed immediately by muscle relaxant create the potential for awareness. Succinylcholine's undesirable side effects are well known. Cricoid pressure can be uncomfortable when awake and may provoke vomiting. It may traumatize the larynx and make intubation more difficult, particularly when used by inexperienced anaesthetists and assistants. Unanticipated difficult or failed intubation is more common in emergencies.

Finding the appropriate balance between prevention of rare but serious harm and causing common but minor side effects hinges on identifying patients at increased risk of aspiration. Patients with intestinal obstruction are an obvious case, and most would also include women undergoing caesarean section in this group. It has been suggested that healthy parturients may not be any more at risk of aspiration than a general surgical population but there is a strong historical precedent for rapid sequence with cricoid pressure.

Research demonstrates anxious patients do not have delayed gastric emptying and the obese have less gastric juice and less acid than their lean counterparts (Harter et al, 1998; Lydon et al, 1998). There has been a general acceptance of shorter starvation times particularly for clear fluids in recent years but the situation remains unclear in patients who have received opioids or suffered minor trauma. When the American Society of Anesthiologists (1999) reviewed the routine use of antacid premedication they could not recommend it. Their reasoning was that there was insufficient evidence that it decreased morbidity and mortality in patients who have aspirated gastric contents. Can we judge rapid sequence induction by the same criteria?

Now when asked what we should do for the next patient I have to think longer and harder. HM

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