

## Correspondence

### *Effusion after interpleural analgesia*

To the Editor:

Interpleural regional analgesia for postoperative pain relief is simple, safe and effective.<sup>1-2</sup> Pneumothorax is the most common complication.<sup>1-3</sup>

Following an elective cholecystectomy in a 29-yr-old healthy human but before extubation of the trachea, the patient was turned to the left side, and an interpleural catheter was placed using the saline infusion technique.<sup>4</sup> General anaesthesia was then discontinued, 20 ml of 0.5% bupivacaine with epinephrine ( $5\mu\text{g}\cdot\text{ml}^{-1}$ ) were injected and the patient had good pain relief. Nine hours later, when a top-up dose was needed, aspiration of the catheter yielded about 9 ml of hazy, red-tinged fluid. This was sent for examination and the top-up dose was withheld. Overnight the patient received meperidine and promethazine for pain relief. Re-aspiration of the catheter the next day produced no aspirate and interpleural analgesia was continued for a further 48 hr uneventfully using plain bupivacaine.

Examination of the aspirated fluid showed an RBC count of  $60,660\cdot\mu\text{l}^{-1}$  and WBC count of  $360\cdot\mu\text{l}^{-1}$  (differential leucocyte count from concentrated centrifuge was neutrophils 50%, lymphocytes 13%, monocytes 31%, eosinophils 3% and bands 3%).

The mechanism of this effusion is unclear. It could have been a reactionary pleural effusion to the catheter or to sodium metabisulphite and anhydrous citric acid which are added as antioxidants when epinephrine is added to bupivacaine. Subsequent use of plain bupivacaine produced no such effusion. Although no direct cause and effect relationship could be established from this case report, yet it highlights the need for vigilance.

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### *The laryngeal mask airway and fiberoptic laryngoscopy*

To the Editor:

Following a recent case of tracheal intubation using the Laryngeal Mask Airway<sup>®</sup> where other means had failed,<sup>1</sup> we postulated that the Laryngeal Mask Airway might prove an effective means of holding the tongue forward and centrally positioning the fiberoptic bronchoscope during elective fiberoptic tracheal intubation.

The method currently used at our institution consists of fiberoptic bronchoscope insertion through a Williams Airway Intubator<sup>®</sup> with subsequent endotracheal tube insertion through this airway over the fiberoptic bronchoscope.

Patients who were scheduled to undergo elective surgery with general anaesthesia were selected and informed consent was obtained. The patients' airways were evaluated according to Mallampatti classification and general anaesthesia was induced. Either the Williams Airway Intubator<sup>®</sup> or Laryngeal Mask Airway<sup>®</sup> was inserted in random order, a fiberoptic bronchoscope was then directed to the laryngeal inlet, and the time to first view of the cords was recorded by an independent observer monitoring the procedure on a screen.

Our results suggest that the Laryngeal Mask Airway<sup>®</sup> was as effective as the Williams Airway Intubator<sup>®</sup> for quickly directing the fiberoptic bronchoscope to the vocal cords ( $P - NS$ ).

	LMA	TWA
n	14	14
Range (sec)	3-45	2-50
Mean (sec)	8.9	12.9
SD	10.3	15.6

We conclude that the Laryngeal Mask Airway<sup>®</sup>, with modification, would be as effective as the Williams Airway Intubator<sup>®</sup> in fiberoptic laryngoscopy for the purpose of tracheal intubation.

The modifications which we would recommend are enlargement of the diameter of the Laryngeal Mask Airway<sup>®</sup> so that it could accommodate a larger than 6 mm endotracheal tube and its shortening to facilitate removal of the Laryngeal Mask Airway<sup>®</sup> over the endotracheal tube once the trachea has been intubated.<sup>2</sup> We have used such a device with very good results and would encourage the manufacturer of the Laryngeal Mask Airway<sup>®</sup> to look at modifying this very useful anaesthetic device<sup>3</sup> for this purpose.

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## Regurgitation and the laryngeal mask

To the Editor:

Your editorial and the report by Nanji and Maltby<sup>1,2</sup> on the laryngeal mask (LM) raise important issues.

The patient described was unsuitable for the LM. Gastric emptying is delayed by opiates and trauma, vomiting raises the suspicion of ileus and Alzheimer patients are unreliable historians.

The lack of published mortality with the LM after more than four years in the UK suggests it is safe to use in fasting patients and its role in the difficult airway is firmly established.<sup>3</sup>

However, we do need to reduce the chances of regurgitation, recognise its occurrence and treat it appropriately. Instructions for reducing the risks in fasting patients are given in the Instruction Manual p 35, 39.<sup>4</sup>

H2 blockers and metoclopramide are wise in the obese. Gross obesity is normally a contra-indication to using the LM. *Induction:* Avoid etomidate and any agent known to be associated with vomiting. A small dose of droperidol is useful with short-acting opiates. *Maintenance:* Avoid inadequate anaesthesia. *Recovery:* Leaving the LM inflated and in place, maintain adequate anaesthesia until the patient is breathing spontaneously and positioned correctly for recovery.

### Recognising regurgitation

Fluid may suddenly appear inside the LM tube. This should be watched for. The hypopharynx is filled by the inflated LM, so that even 7–10 ml is immediately apparent, giving early warning of regurgitation.

Straining during anaesthesia may produce high intra-abdominal pressures, overcoming the limited resistance offered by the distal LM cuff which lies against the upper oesophageal sphincter. Gastric fluid may thus enter the mask interior where it can be aspirated during inspiration or blown up the LM tube during expiration. The glottis may close limiting the amount of aspiration but causing stridor.

### Treatment

- Head down tilt
- Disconnect circuit to allow fluid to drain
- Reconnect circuit to give 100% oxygen
- Avoid forceful ventilation attempts
- Deliver *small* tidal volumes
- Deepen anaesthesia – *iv* propofol works well
- Perform suction through the LM (fibrescope is best), avoid high vacuum/prolonged suction.

Further treatment will depend on the extent of aspiration but chest x-ray is mandatory. Avoid removing or deflating the LM if possible – it is likely to be holding back more fluid.<sup>5</sup> Laryngeal mask removal followed by paralysis and intubation create new hazards including loss of airway potency, obstruction by biting, further aspiration, loss of cough reflex and possible bronchospasm. Of four cases receiving the above treatment without intubation, none required admission to an intensive care unit.<sup>6</sup>

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