of red on a white background. Although Sabex has modified the atropine label by removing the stripe, in our opinion, these ampules could still be easily confused with each other.

Medication error is an important cause of patient morbidity. All practical precautions must be taken to label clearly vials and syringes for quick and consistent differentiation.

It is disturbing that a single manufacturer would offer two medications which are visually so similar.

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REPLY

In response to the letter of Drs. Charles Boldt and J.E. Renwick, Sabex is in total agreement with their statement that since medication error is an important cause of patient morbidity, all practical precautions must be taken to clearly label vials and syringes for quick and consistent differentiation. We are also of the opinion that with the number of products that a health care professional must use, he/she cannot rely on glass colour or colour of label for product differentiation. To eliminate medication error, there can be no substitute for reading the label. In that respect, we believe that our very legibly labelled product assists in the reduction of medication errors (Figure).

As a Canadian owned manufacturer of pharmaceutical products, Sabex has the ability to make changes to labels or packaging on very short notice. We are known to be very cooperative and have in the past made several changes after being advised by our clients of a potential risk, and it is our intention to continue to offer this unique service.

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FIGURE

Unintentional left main bronchus intubation

To the Editor:

We would like to draw the readers' attention to the possibility of unintentional left main bronchus intubation in a patient with tracheal stenosis. A 50-yr-old obese woman was scheduled for subtotal thyroidectomy for a huge goitre. The clinical examination revealed no respiratory distress or inspiratory stridor, although on the chest *x*-ray, the trachea looked deviated to the right.

An awake intubation under topical anaesthesia was performed after which the patient was anaesthetized with N_2O/O_2, fentanyl, isoflurane and vecuronium. The endotracheal tube was secured in place and normal and equal breath sounds were heard bilaterally. Throughout surgery the arterial oxyhaemoglobin saturation (SpO_2) remained >97% with FiO_2 0.4 and the peak inspiratory pressures (PIP) were <30 cm H_2O. By the end of surgery, the SpO_2 gradually decreased to 94–95% and the PIP increased to 40 cm H_2O. Decreased breath sounds were noticed at the apex of the right lung. A chest *x*-ray taken at the end of surgery surprisingly revealed the tip of the ETT in the left main bronchus. The right lung received some ventilation through the "Murphy's Eye," but the right upper lobe was atelectatic (Figure). The tube was withdrawn 3 cm and the trachea remained intubated for

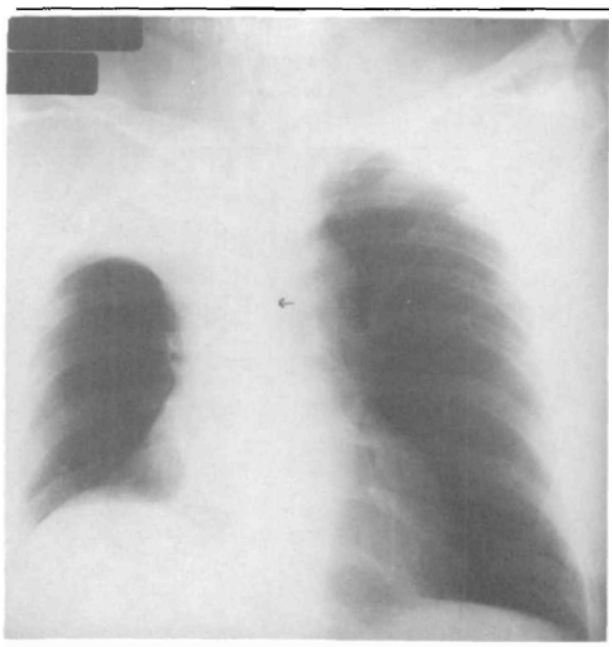

FIGURE Note curved outline of EIT and pressure of tip in left main bronchus.

the next 24 hr. The remainder of her hospital stay was uneventful.

Accidental left main bronchus intubation is more likely to occur in children <3 yr because the two main bronchi take off at the same angle from the trachea.[1] In adults, the angle between the left main bronchus and trachea becomes more acute making an accidental endobronchial intubation more likely on the right side. Thyroidectomy provides an airway challenge through different mechanisms. First, visualization of the vocal cords might be difficult because of the airway distortion. Secondly, the airway can be narrowed permitting the passage of only a small sized ETT. Thirdly, the tip of the tube can be impinged in the angulation produced by the tracheal deviation producing high inflation pressures.

Finally, in the postoperative period, the airway could be compromised by oedema, tracheomalacia, compressing haemotoma, recurrent laryngeal nerve injury and laryngospasm due to hypocalcaemia.[2] We conclude that unintentional left bronchus intubation could occur with tracheal deviation if the tube is threaded beyond the deviation.

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Aprotinin therapy to reduce blood loss in Jehovah's Witnesses

To the Editor:

Several techniques have been described for the management of intraoperative blood loss in Jeohvah's Witnesses[1–4] (deliberate hypotension, deliberate hypothermia, haemodilution, autotransfusion, desmopressin and erythropoietin). However, as far as we know, there are no reports that describe the use of aprotinin to reduce perioperative blood loss in these patients.

We report our experience with aprotinin therapy in five Jehovah's Witnesses who underwent cardiac surgery with extracorporeal circulation, and refused any form of blood transfusion. From March 1992 to April 1993, open heart surgery was performed in four Jehovah's Witnesses. All of them required valvular replacement. After induction of anaesthesia, aprotinin, 280 mg in 200 ml, was infused into a central venous catheter, as a loading dose. Additionally, 280 mg were added to the prime of the heart-lung machine. Immediately, a continuous infusion of 70 $mg \cdot kg^{-1}$ was initiated and was maintained until the patient left the operating room.

Average intraoperative blood loss was 367 ± 151 ml. Blood loss from chest closure until the drains were removed was 310 ± 95 ml. Changes in haemoglobin values before surgery, after cardiopulmonary bypass, and 24 hr later were: 12.8 ± 1.2 $g \cdot dl^{-1}$, 10.32 ± 1.7 $g \cdot dl^{-1}$, 84.4 ± 2.1 $g \cdot dl^{-1}$. The minimum haemoglobin value during admission was 76.2 ± 1.5 $g \cdot dl^{-1}$. No patient required blood transfusion. There were no complications related to the blood loss. Mean haemoglobin value on discharge from hospital was 8.2 ± 1.2 $g \cdot dl^{-1}$.

Bleeding during and after cardiac surgery is a common problem that carries a major risk of early and late complications, especially in patients who refused blood transfusion. It is recognized that blood loss remains the leading cause of death in Jehovah's Witnesses undergoing cardiac surgery. In order to reduce perioperative blood loss in these patients, we have used aprotinin, which is a serine protease and a kallikrein inhibitor that preserves platelet function and inhibits fibrinolysis. The efficacy of high-dose aprotinin in reducing postoperative blood loss in cardiac surgery has been established in several randomized studies.[5]

In our cases aprotinin administration was associated with a reduction in blood loss, thereby avoiding serious side effects related to bleeding. We believe that aprotinin can be useful in the perioperative management of Jehovah's Witnesses undergoing cardiac surgery as it reduces blood loss.

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