Coexisting allergies to latex and to muscle relaxants in a primigravida

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A 23-year-old primigravida weighing 67 kg required urgent caesarean section for fetal distress. She had been admitted a week earlier at 34 weeks' gestation for bed rest and observation because of worsening pre-eclampsia.

Review of her previous medical history revealed that she was a known asthmatic who had an episode of anaphylactic shock during a general anaesthetic for an ear operation 5 years previously for which she had required intensive care management. She was presumed to have reacted to atracurium, but subsequent skin tests suggested that she was allergic to all commonly used muscle relaxants including suxamethonium, and also to latex.

On preoperative examination, she was alert, orientated but anxious, with a heart rate of 104 beats/min, a body temperature of 36.7°C, and a blood pressure of 146/101 mmHg. Her preoperative investigations showed a leucocytosis (haemoglobin 10.4 g/dl, white cell count 23.3×10^9/litre, platelet count 369×10^9/litre) with a normal blood sugar level (5.5 mmol/litre). Serum electrolytes were unremarkable, and the coagulation screen was normal. She therefore presented the following problems:

1. Risk of anaphylactic shock caused by latex since many surgical and anaesthetic materials and equipment contain latex
2. Potential full stomach in a patient with allergies to suxamethonium and other muscle relaxants
3. Premature and distressed fetus
4. Bronchial asthma.

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Our dilemma in this case was how to ensure a secure and protected airway if severe fetal distress required immediate delivery by caesarean section under general anaesthesia, or whether delivery could be safely accomplished without general anaesthesia. These problems and the options (see below) were discussed fully with the patient, her husband, the obstetric team and her midwife. Following this a decision was made to deliver her by urgent (rather than emergency) caesarean section. The anaesthetic options considered were:

1. General anaesthesia with inhalational induction and spontaneous ventilation without endotracheal intubation
2. Awake fibreoptic intubation, followed by anaesthesia without muscle relaxation
3. Epidural anaesthesia
4. Spinal anaesthesia.

Option 1 was discarded as the patient had a full stomach, was very anxious, and had particular concerns about general anaesthesia. Option 2 was similarly unsuitable, with the additional concern of possible latex content of both endoscope and endotracheal tube.

Option 3 was considered suitable, but had one major caveat in the risk of total spinal anaesthesia which would have necessitated immediate endotracheal intubation, so this option was discarded. Option 4 was chosen because of its simplicity and reliability. This choice was explained more fully with the patient who was happy to be awake during the procedure.

After an intravenous loading dose of 1 litre of Hartmann's solution, her lower back was cleansed with antiseptic. A 25G spinal needle was then inserted atraumatically into the lumbar subarachnoid space at the L3/4 level, and 3ml of hyperbaric, 0.5% bupivacaine was injected.

This produced a block up to T2 bilaterally to light touch. Hypotension was prevented with an infusion of ephedrine 30 mg in 500 ml of Hartmann's solution. The anaesthetist and operating staff wore latex-free gloves (Allergard, Johnson and Johnson Medical Inc, Texas). All materials and equipment used were latex free. Terumo syringes and needles were used as they are known to be latex free, although Kam et al (1997) suggested that drawing up medications and injecting them immediately has not resulted in any problems so far. The latex additive injection ports on the infusion bags were not used and the patient received oral prophylactic erythromycin.

The intraoperative course was uneventful and the baby was born with an Apgar score of 8 at 1 minute. The patient's postoperative course was uneventful, all the ward staff having been warned of her sensitivity to latex.

This case highlights the simplicity and reliability of spinal anaesthesia and the need for full discussion of the problems and options involved in a complex case with the patient and with other staff involved, and that the problems may be exacerbated by a delay in informing the anaesthetic department. Latex allergy may manifest as delayed type IV or immediate type I hypersensitivity reactions and prevention is the key to successful management (Kam et al, 1997). HM

Kam PCA, Lee MSM, Thompson JF (1997) Latex allergy: an emerging clinical and occupational health problem. *Anaesthesia* **52:** 570–5