

Management of the Latex-reactive Patient

The author provides a protocol for managing latex-sensitive surgical patients in the preoperative, intraoperative, and postoperative stages. Not only patients with a history of latex reaction but also patients with recurrent daily latex exposure and specific food allergies require careful monitoring. (*Aesthetic Surg J* 2003;23:389-390.)

Patients with a diagnosis of latex sensitivity, latex allergy, or even latex anaphylaxis can undergo surgery safely if the surgical team adheres to some simple common-sense rules. Latex is a polymer of 1,3 cis-polyisoprene derived from rubber plants native to South America and Central America. The protein antigens associated with latex are insoluble in water but may become airborne when attached to the cornstarch commonly used as a donning agent in surgical gloves.

The diagnosis of latex allergy is made on the basis of a history of allergic reaction to latex, physical examination findings, and in vitro testing. The incidence of latex allergy appears to be increasing since its first documentation in 1979. This increase is most likely the result of increased use of gloves and other latex-containing protection associated with the adoption of universal precautions. It is estimated that incidence in the general population is 1% to 6%. Latex has emerged as the second most common cause of anaphylaxis in surgical suites, causing 16.6% of all cases of anaphylaxis.

Management of the latex-reactive surgical patient is based on identifying the sensitivity, alerting staff, and eliminating possible antigen exposure. Operating-room personnel must be diligent enough to recognize a potentially fatal systemic response and be prepared to treat a resultant anaphylaxis. Management of the latex-sensitive surgical patient can be divided into preoperative, intraoperative, and postoperative stages.

Preoperative

The key to preoperative management is identification of groups at risk. There are 2 patient groups in whom latex allergy should be a consideration. The first group comprises those at high risk but with no history of reac-

tion to latex, including patients with:

- Occupational exposure, such as health-care workers, hairdressers, food-service personnel, police officers, and others who routinely wear latex gloves.
- Multiple surgical procedures or urinary catheterizations
- Spina bifida
- Fruit allergies, especially bananas, avocados, mangoes, melons, watermelons, peaches, cherries, and pears; or allergies to chestnuts, papains, potatoes, or tomatoes. These foods contain proteins that may cross-react with latex.

No special precautions are required in these patients, but staff should monitor patients carefully for allergic reaction so that they may recognize problems early on.

The second group comprises patients with:

- History of reaction to latex or positive skin test
- History of allergy or sensitivity to latex
- Pruritus, edema, or erythema after contact with rubber products

These patients require a latex-free protocol. Patients with a history of anaphylaxis may require preoperative medication.

Intraoperative

Intraoperative management consists of a series of steps to eliminate latex exposure and reduce the chance of accidental contamination:

- Schedule the latex-sensitive patient first to minimize the risk of cross-contamination. If it is impractical to begin your surgical schedule with this patient, provide at least a 2-hour lapse between the latex-sensitive patient and the previous patient to permit settling of latex-dust particles.
- Place signs on all doors into the operating room warning of latex allergy.
- Restrict traffic into the room to necessary personnel.



Samuel J. Beran, MD, White Plains, NY, is a board-certified plastic surgeon and an ASAPS member.

- Check all products to ensure that they are latex-free.
- Remove latex-containing products from the room or seal them.
- Monitor the patient for reaction.
- Establish a protocol for latex-allergy reactions.
- Notify the surgeon and anesthesiologist.

Products containing latex include surgical gloves, urinary catheters, tourniquets, rubber syringe plungers, intravenous (IV) tubing, tape, silicone gel-filled implants, and ECG pads. In September 1998, health-care companies began labeling latex-containing products in accordance with a Food and Drug Administration mandate. In theory, the rubber stoppers of medication vials may cause a latex reaction, but this does not seem to be a practical concern.

Reactions associated with latex include contact dermatitis, rash, pruritus, erythema, blisters, edema, and skin lesions. Immediate reactions may include rhinitis, conjunctivitis, urticaria, laryngeal edema, bronchospasm, and anaphylaxis. Each exposure leads to increased sensitization. Most anaphylactic reactions have been reported 40 minutes to 1 hour after the start of a procedure. In the event of anaphylaxis, treat the patient as you would in the case of any anaphylactic reaction and remove any material suspected of containing latex.

Postoperative

Exposure may also occur after a procedure. To minimize this risk:

- Inform all staff of the allergy.
- Use an isolated recovery room, if possible.
- Continue the safety plan.
- Use latex-free equipment.
- Monitor the patient for a reaction.
- Restrict the number of personnel in the room,
- Make sure that the mattress is covered with cotton sheeting.

Patients with a documented history of anaphylaxis in response to latex may require more aggressive treatment. Recommendations include medication 24 hours before surgery, if possible, with at least 2 doses of:

- IV chlorpheniramine, 10 mg every 6 hours (for children < 1 year, 250 µg/kg; 1–5 years, 2.5–5 mg; 6–12 years, 5–10 mg).
- IV ranitidine, 50 mg every 8 hours.
- IV hydrocortisone, 100 mg every 6 hours.

Continue this regimen for at least 12 hours after surgery.

It is impossible to eliminate risk of allergic reaction to latex. However, appropriate identification of patients at risk and strict adherence to safety protocols will reduce the risk to a tolerable level. In my practice, using these protocols, I have seen no adverse reactions.

Reference

1. Latex protocol. American Association of Nurse Anesthetists Web site. Available at: www.aana.com/crna/prof/latex.asp. Last accessed 8/27/03.

Reprint requests: Samuel J. Beran, MD, 10 Chester Ave, 2nd Floor, White Plains, NY 10601.

Copyright © 2003 by The American Society for Aesthetic Plastic Surgery, Inc.

1090-820X/2003/\$30.00 + 0

doi:10.1067/maj.2003.70