Allergic reaction to nanocolloid during lymphoscintigraphy for sentinel lymph node biopsy

Editor—We read with interest the case report by Stefanutto and colleagues, concerning an anaphylactic reaction to isosulphan blue dye during routine sentinel lymph node biopsy for breast surgery. We agree that anaesthetists must be aware of the potential serious risks of anaphylaxis in this group of patients. However, this is not a new finding; anaphylaxis to the blue dye has been well documented. We would like to add a further potential area of concern that was highlighted recently in a patient, of what appears to be an allergic reaction to technetium-99m nanocolloid during lymphoscintigraphy.

The patient, a 31-year-old male weighing 75 kg, was admitted to hospital after previous removal of a malignant melanoma (Breslow thickness 1 mm) from over his left scapula, for further wide local excision, lymphoscintigraphy, and sentinel node biopsy. He was taking no medications, and was without any significant medical history. There was no past history of asthma or any atopic episodes. On the day before surgery, he underwent an intradermal injection of technetium-99m nanocolloid albumen. Within 10 min of injection of the colloid, the patient developed a widespread, non-itchy urticarial skin reaction. There was no associated wheeze, difficulty breathing, or cardiovascular symptoms. Immediately, he was given chlorpheniramine 10 mg i.v., and the rash settled without further consequence over the next hour.

The subsequent general anaesthetic was carried out uneventfully. Induction of anaesthesia was facilitated with fentanyl 0.5 mg kg⁻¹ and propofol 2.5 mg kg⁻¹. Anaesthesia was maintained using isoflurane in oxygen and nitrous oxide with the patient breathing spontaneously. Chlorpheniramine 10 mg and hydrocortisone 100 mg were given intravenously at induction. During surgery, patent V blue dye 0.5 ml was injected intradermally without incident. Another general anaesthetic 5 weeks later for block dissection of axillary nodes was equally uneventful.

The use of sentinel lymph node biopsy in the staging of malignancies, particularly melanomas and breast cancers, has gained in popularity in recent years. The accuracy of injecting blue dye around the site of the primary malignancy can be increased using lymphoscintigraphy and intraoperative gamma probe detection after radiocolloid injection. The most commonly used radiopharmaceutical agent is technetium-99m nanocolloid, which requires standard radiation precautions to be taken when handling to protect personnel. We are unable to find any reports of anaphylactoid type reactions to the radiocolloid in the literature. It could be argued that there is no evidence that the patient in this case had a true anaphylactic reaction. Further skin-prick testing was not carried out as the intradermal injection is a form of skin testing in itself. However, according to a classification based on symptom severity, our patient reacted with Grade 1 type cutaneous symptoms that can consist of generalized erythema, urticaria or angio-oedema. A similar reaction with a widespread blue rash occurred after injection of blue patent V dye during sentinel lymph node biopsy for breast carcinoma. This was treated successfully with hydrocortisone and chlorpheniramine. We suggest that it is possible that there may be some cross reactivity with blue dye and it is worth noting even though the patient did not suffer any serious consequences. Patients who have urticarial reactions at lymphoscintigraphy may have an increased risk of anaphylaxis intraoperatively, which anaesthetists must be aware of and give prophylactic treatment. We would also like to point out that, in our establishment, all such patients are treated as inpatients and not as day cases. We would agree with the authors that the day surgery setting may not be a suitable clinical area for such cases.

D. A. Burton
J. N. Cashman
London, UK

1 Stefanutto TB, Shapiro WA, Wright PMC. Anaphylactoid reaction to isosulphan blue. Br J Anaesth 2002; 89: 527–8

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