

However, simply inserting the GEB into the site below the glottis or the upper trachea can weaken or even eliminate the gritty feel in contact with the tracheal rings, which is a sign of correct tracheal placement of the GEB⁴. Thus, it has the potential to interfere with the operator's judgment of the GEB position. In addition, a short placement of the GEB below the glottis may result in a risk of its slipping out of the glottis when the ETT is railroaded over the GEB.

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A limitation to use a gum elastic bougie through Murphy's eye for difficult intubation – Reply

I have read the comments by Xue et al and I agree that the gum elastic bougie should not be inserted too deeply or too shallowly. I agree also that it is not possible to assess the feel of the tracheal wall using this technique. However, the feel of the tracheal wall during the use of the gum elastic bougie may not be required, and is not mentioned in the paper by McCarroll¹ et al referenced by Xue et al.

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Anaphylaxis and patent Blue V

I refer to two excellent papers with the terms "anaphylaxis" and "blue dye" in the March edition of *Anaesthesia and Intensive Care*^{1,2}.

In the paper by Howard et al¹, case 3 was my patient. In the editorial by Platt and Roberts², one

of three "allergic reactions" alluded to in the SNAC Trial³ was also my patient. This patient had a period of intraoperative hypotension and a prolonged stay in recovery, and was not formally tested either for anaphylaxis or for any possible causative agent.

These constitute the only two cases of anaphylaxis from a series of 2386 consecutive breast cancer patients injected with Patent Blue V. The sentinel node data was collected prospectively through the National Breast Cancer Audit (www.collegeba.org/).

In this personal series the rate of anaphylaxis was approximately 1/2400 or 1/1200 depending on the level of proof necessary for inclusion.

The conveying of medical risk is a competency around which there are some published guidelines⁴. Having accurate information is essential, as is the avoidance of using perjorative terms such as "misdemeanor". Platt and Roberts² have entitled their paper "Anaphylaxis to patent blue dye – misadventure or misdemeanor?" but do not state any rate of anaphylaxis, only a rate of "exhibited symptoms" (2.2%). The authors' understanding of the rate of anaphylaxis to this compound is necessary to judge whether their choice of title was based on evidence; or on a projection of data accrued from "all reactions including anaphylaxis".

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Anaphylaxis to patent blue dye – the benefit and the risk

We reply in relation to the recently published article "Anaphylaxis to patent blue dye – misadventure or misdemeanour?"¹. Drs Platt and Roberts oversimplify the situation.

Patent Blue V Dye (PBVD) has been used as a method for lymphatic mapping for a variety of serious malignancies, most notably melanoma and breast cancer. Allergic reactions to this agent have

previously been described, including the case reports by Howard et al in March 2011².

The benefit is the sentinel node detection rate and accuracy of the method of lymphatic mapping for sentinel node biopsy in relation to melanoma, breast cancer and other solid malignancies. In the long-term, this may impact upon locoregional recurrence and survival relating to the cancer being treated.

The National Breast and Ovarian Cancer Centre published recommendations in relation to sentinel node biopsy early breast cancer in 2007³. Two randomised controlled trials reported on sentinel node detection and accuracy rates with the combination methods of lymphatic mapping (blue dye and radioactive isotope) being significantly higher than single agent methods.

However, the benefit must be evaluated against the risk of allergic reactions. Allergic reactions were reported in a randomised controlled trial from North America comparing sentinel node biopsy-based treatment with axillary dissection in women with early breast cancer⁴. Allergic reactions occurred in 0.7% of patients (0.2% grade 3 or 4). Although PBVD was the presumed cause of the allergy, this was not substantiated by postoperative allergy testing.

A number of unresolved questions are therefore apparent:

1. What is the true incidence of allergic reactions to PBVD? To resolve this, every patient observed to have an allergic reaction during anaesthesia after the administration of PBVD should be referred for subsequent outpatient intradermal skin testing and reported to the Therapeutics Goods Administration if the causative agent is confirmed. This should be mandatory for all cases. This will also determine allergic reactions to the multiple antibiotic and anaesthetic agents used.
2. Are there alternative dyes (i.e. methylene blue) that can be used successfully for lymphatic mapping where the incidence of allergic reactions is minimal?
3. Assuming that perioperative allergy testing to PBVD should be introduced to routine clinical practice, what is the best protocol of ascertaining an allergy which would then preclude its use in lymphatic mapping and sentinel node biopsy?
4. Can surgeons rely on the use of radioactive isotope alone for lymphatic mapping and sentinel node biopsy, reserving the use of PBVD when a sentinel node is not identified on preoperative lymphoscintigraphy?

Questions 3 and 4 could be evaluated in properly conducted prospective randomised trials for both melanoma and breast cancer. However, with a possible incidence of about 0.2% a trial of many thousands would be required.

In a recent study by White et al assessing trial data and case series that focused on adverse reactions to the vital blue dyes used in early breast cancer, the results demonstrated the risk of severe anaphylaxis (grade 3) was as low as 0.06% and up to 0.4%³. The authors stated that adverse reactions associated with blue dyes are reversible with appropriate management and that the surgeon should continue to use vital dyes to ensure that sentinel lymph node biopsy remains a highly sensitive procedure⁵.

Anaphylaxis is a well recognised complication of many medications including rocuronium and PBVD. We fully agree with Drs Platt and Roberts that patients undergoing lymphatic mapping and sentinel node biopsy with PBVD must be informed of this small risk by the treating clinician during the consent process. Furthermore, the treating surgeon should pre-warn the anaesthetist of the use of PBVD during sentinel node biopsy procedures. Certainly, there is no safer environment for management of rare cases of anaphylaxis than in an operating theatre with an experienced anaesthetist and a patient with a secure airway. A co-operative approach between the surgeon and anaesthetist is always in the best interest of the patient.

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Anaphylaxis to patent blue dye – Reply

We thank Dr Pyke and Drs Kollias and Russell for their responses to our recent editorial¹ and value their contributions to this debate. Our concern remains that patent blue V dye (PBVD) is being used without appropriate safeguards.

The use of 'misdemeanour' was not meant to be pejorative but rather to draw attention to this issue, which should be one of major concern to patients, surgeons and anaesthetists. Dr Pyke suggests that the rate of anaphylaxis is central to our argument and that, in his experience, the risk of anaphylaxis is very low. Our editorial has recognised the possibility of regional variation in rates of sensitisation as has been documented in the case of other agents such as muscle relaxants². However, there are now multiple reports that confirm that PBVD, relative to its frequency of use, is associated with more allergic reactions than any other drug used in the operating theatre.

Drs Kollias and Russell make many valid points and express the complexity of the issue by asking a series of questions for which answers are incomplete. They refer to the excellent review by White and colleagues³ that concludes that there is as yet no alternative effective strategy for sentinel node localisation and PBVD should not be abandoned. Clearly all breast surgeons do not agree with this; papers cited by White et al suggest that with improved techniques it may be possible to achieve equivalent localisation rates using radioactive nanocolloid as a single agent, thus safely avoiding PBVD. Our main point remains that if PBVD is to be used, there should be patient consent, discussion with the anaesthetist and preoperative skin testing.

We agree that mortality rates from anaphylaxis in the operating theatre are very low; a testament to the skills of anaesthetists. However, anaphylaxis is life-threatening and may be associated with significant morbidity along with increased length of hospital stay. Every effort should be made to prevent this complication, whether by avoidance of PBVD administration or the use of skin testing to identify those patients most likely to have an adverse response.

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The Proseal laryngeal mask airway and elective caesarean section

We read with interest the paper by Halaseh et al, describing the use of the ProSeal™ laryngeal mask airway (PLMA) during elective caesarean section¹. However we would take issue with the authors concerning the benefits of their technique during elective caesarean section. The authors describe a modified rapid sequence induction, including pharyngoscopy with a Macintosh laryngoscope, instrumentation with Magill forceps for insertion of a 14 FG gastric tube into the oesophagus, and temporary release of cricoid pressure. We question whether this invasive technique offers haemodynamic advantages compared to tracheal intubation, as the authors presented no haemodynamic data for the period of anaesthesia induction. In addition, the authors provided no data on the times to achieve successful insertion or an adequate seal, following cuff inflation prior to initial ventilation. Therefore we also question whether this technique is as quick as rapid sequence intubation. This data would have provided validation for the surprisingly low rate of maternal arterial desaturation (0%) quoted in their paper. The importance of this missing data is very relevant, especially as tolerance of apnoea is significantly reduced in pregnancy². A more rapid fall in arterial oxygen tension reduces the time for the anaesthetist to achieve adequate airway access and ventilation prior to oxygen desaturation. Although the technique used by Halaseh et al has previously been shown to have a high success rate, that study was conducted in a non-obstetric population that did not have the additional risks of hypoxia or gastric reflux³. Furthermore, the authors should clarify who performed PMLA insertion and how experienced they were in using this device, because it is likely that operator experience was an important factor for the high success rate reported with this technique. There is also missing information concerning the patient population (including demographic and obstetric data), so that we are unable to ascertain the external validity of the results in other obstetric populations.

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