



NEWS

Antibiotics are the main cause of life threatening allergic reactions during surgery

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Antibiotics are the most frequent, and a growing, cause of life threatening anaphylaxis in the operating theatre, the largest prospective audit of anaphylaxis related to anaesthesia and surgery has found.¹

The findings of the 6th National Audit Project of the Royal College of Anaesthetists (NAP6) contrast with those of previous studies which found the main culprit to be muscle relaxants.

Details of all cases of life threatening anaphylaxis that occurred in NHS hospitals during one year (5 November 2015 to 5 November 2016) were collected for the audit and 48% of the 266 cases reviewed were found to have been caused by antibiotics administered to prevent surgical site infections and 33% by neuromuscular blocking agents. Other triggers included the antiseptic chlorhexidine (9%), and Patent Blue V dye (4.5%) used to identify lymph vessels during breast surgery.

The report's authors suggest that anaphylaxis caused by antibiotics may be increasing as a result of wider use and sensitisation in the population.

Teicoplanin caused 38% of antibiotic induced anaphylaxis, while accounting for only 12% of antibiotic use. Teicoplanin is regularly used for patients who report allergy to penicillin, but was associated with the highest incidence of life threatening anaphylaxis (16.4 episodes per 100 000 administrations compared with 4.0 per 100 000 administrations for antibiotics overall). As 90% of patients who report penicillin allergy are not in fact allergic, better identification of true allergy is needed to reduce risk, the report's authors said.

Forty of the 266 patients had a cardiac arrest and 10 patients died. Resuscitation by anaesthetists was good, although the

report's authors recommended that cardiac compressions should be used more often.

Although more than 95% of patients survive life threatening anaphylaxis because of timely detection and prompt action, report author Tim Cook said: "We have identified areas where changes might reduce the risk of anaphylaxis, and others where improvement is required, such as during management of the most severe cases. We need to see improved reporting of these cases, better investigation after anaphylaxis, and investment and expansion of perioperative allergy clinics."

Adherence to guidelines for investigating anaphylaxis was low. Only 16% of patients were seen in an allergy clinic within the ideal six week wait time and the 18 week target for appointments was breached in nearly a quarter of cases. Allergy clinic investigation were judged "poor," and fewer than one in four cases were reported to the UK regulatory system.

This was the first National Audit Project to engage with the independent healthcare sector, but only 13% of 304 independent hospitals agreed to take part in the study, which the report's authors described as worrying. Solo anaesthetists, combined with a lack of onsite critical care facilities and integrated allergy clinics, present unique challenges to the management of anaphylaxis in independent hospitals, they said, but low participation meant no formal analysis of performance in this sector was possible.

¹ Cook T, Harper N. Anaesthesia, surgery and life threatening allergic reactions. report and findings of the Royal College of Anaesthetists' 6th National Audit Project: perioperative anaphylaxis. May 2018. <http://bit.ly/NAP6Report>.

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