

Health Services Research Centre (HSRC)

THE 6TH NATIONAL AUDIT PROJECT (NAP6)

Perioperative Anaphylaxis



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The story so far

NAP6 is not only a comprehensive service evaluation; it also intimately involves the allergy and immunology community – who have engaged enthusiastically, as have patient representatives. More than any previous National Audit Project, NAP6 is a cross-specialty project.

The project is the most comprehensive investigation of the subject ever undertaken, and aims to characterise current patterns in perioperative anaphylaxis, and in its management and investigation. The four phases of NAP6 are:

- a baseline survey of anaesthetists' experiences and perceptions
- a baseline survey of UK anaesthetic allergy clinics
- an allergen exposure survey
- the main registry of clinical reports.

The final report will include incidence and relative-risk metrics and recommendations, as necessary. Data collection is now complete.

Baseline survey for anaesthetists

The online survey was completed by 11,104 (77%) UK anaesthetists in 341 (96%) UK hospitals, making it the largest-ever survey on the topic and potentially the largest anaesthetic survey ever. Respondents reported over 1,000 personal experiences of suspected perioperative anaphylaxis during the previous year, half of which had been confirmed on investigation. The survey showed gaps in referral for further investigation and in reporting to national bodies such as the MHRA – which has implications for any national data based on such figures. The survey provides data on mortality rates from these events and anaesthetists' career anaphylaxis experience –

capturing a cumulative 154,000 years of anaesthetic experience! Personal perceptions of anaphylaxis risk are an important factor in determining practice, and the survey is the first exploration of this. It captures the agents considered by anaesthetists to be high risk for anaphylaxis, the drugs anaesthetists personally avoid for this reason, and the reasons why. This information is then mapped to the drugs implicated in events, with interesting results. The survey sheds light on the impact of newer agents, including blue dyes, sugammadex and chlorhexidine, in anaphylaxis events. The survey has been written up, and will appear in a forthcoming edition of the *British Journal of Anaesthesia*.



Baseline survey for allergy clinics

The first task in undertaking this survey was to identify, for the first time, all those centres performing adult and paediatric anaesthetic allergy testing. A list of such centres is now held at the College and by the allergy/immunology organisations.

The survey compared clinic locations and population density, highlighting variation in the geographical provision of services. The British Society for Allergy and Clinical Immunology national guidelines and AAGBI safety guideline were used as performance benchmarks (e.g. staffing, workload, waiting times, investigation practices, information provided to patients and to relevant clinicians) to enable exploration of compliance with these guidelines and variations in practice. The survey noted areas of good practice where patients are seen jointly by both specialties or multidisciplinary team discussions routinely take place. The paper has been submitted for publication to an immunology journal, and will, we hope, be published soon.

Allergen/Activity survey

The allergen/activity survey aims to record patterns of exposure to relevant drugs and other trigger agents in all NHS hospitals. It follows the model used in the NAP5 activity survey (using a 2-day collection period randomised by day) and will provide denominator data. The survey was administered by NAP6 local co-ordinators, and the response was again magnificent with more than 300 hospitals responding. It will provide unique, detailed information about usage patterns of potential perioperative allergens, including antibiotics and muscle relaxants. It will also shed further light on anaesthetic activity in general – including seven-day working patterns. Responses are currently being analysed.

Main case-reporting phase

Anonymised online case reporting is the mainstay of NAP6, and we have captured cases for the one-year period up to 5 November 2016. Reporting is in two parts: Part A – perioperative details, and Part B – allergy investigations. Submission of completed case-report forms closed in May 2017.

As with previous NAPs, a 'firewall' preserved anonymity by ensuring separation of the case-reporting and

review processes. More than 400 cases were reported, the most reported to a NAP, and each case undergoes detailed review by a panel of anaesthetists, allergists, immunologists and patient representatives, to extract data and explore emerging themes.

What's next?

The review panel will complete the review process in the coming months. Data synthesis and quantitative and qualitative analysis will take several months. The final NAP6 report will be published in May 2018, and will contain an analysis of the incidence of perioperative anaphylaxis, its management, outcomes and investigation, as well as recommendations for future practice. Look out for adverts for the launch.

Our thanks

We would like to thank the local co-ordinators for the huge amount of work they have done to ensure the success of the project. Enthusiastic engagement among practising anaesthetists and allergists/immunologists has been at the core of the success of NAP6, and their time and effort is much appreciated.