Anaphylaxis Update

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My credentials for giving this talk are that I am an anaesthetist and I work in the Anaesthetic Allergy Clinic (along with Dr Peter Cooke and in close collaboration with the immunologists at ADHB) where we investigate about 60 cases of suspected perioperative anaphylaxis every year. I am also a member of ANZAAG (Australia New Zealand Anaesthetic Allergy Group) and I am on the steering group developing the ANZCA Online Anaphylaxis Emergency Management Module.

There is a lot of ground to cover and only a limited amount of time so I have decided to focus on a few areas that fulfil at least some of the following criteria – new, interesting, clinically important and poorly understood. I have used a small number of references which are all well worth reading.

ANZAAG/ANZCA updated perioperative anaphylaxis management guidelines

These guidelines were released at the ANZCA ASM in May this year. I would highly recommend that you familiarise yourself with the management cards and take the time to read the management guidelines and the background paper. These are all available on the ANZCA website but are easier to find on the ANZAAG home page (www.anzaag.com – look under the Anaphylaxis Management tab).

Interpretation of serum tryptase results in suspected cases of anaphylaxis

Laboratory guidelines are misleading. It is vital that the clinical presentation and timings of samples in relation to symptoms are taken into account. Changes from baseline (rather than absolute values) are what count. A "negative" tryptase in no way excludes a diagnosis of anaphylaxis.

Chlorhexidine

The incidence of anaphylaxis to chlorhexidine is increasing worldwide. It is now in the top 3 causes of perioperative anaphylaxis at the Auckland Anaesthetic Allergy Clinic (along with antibiotics and muscle relaxants). It is ubiquitous in the healthcare environment and avoiding re exposure of allergic individuals is a big problem. ANZCA has recently released a Chlorhexidine Policy Document PS60 which, along with the background paper, is well worth a read. They can be found on the ANZCA website (ANZCA 2015 Anaphylaxis Guidelines). The Danish Anaesthetic Allergy group have published a comprehensive review of the subject (IgE-mediated allergy to chlorhexidine, Lene Heise Garvey et al, J Allergy Clin Immunol Volume 120 number 2 pages 409-415). I will also present some data about 14 patients seen at our clinic during the period January 2012 to December 2015 who were skin test positive for chlorhexidine.

Rocuronium and Suggamadex

Rocuronium does cause more anaphylaxis than any of the other muscle relaxants except for suxamethonium (Anaphylaxis is more common with Rocuronium and succinylcholine than with Atracurium, JI Reddy, PJ Cooke et al, Anesthesiology 2015; 122: 39-45). The paper referenced uses data from the Auckland Anaesthetic Allergy Clinic with the denominator being derived from Safersleep records. Suggamadex is not recommended as a treatment for suspected anaphylaxis to Rocuronium. All the evidence is well laid out in this review (Sugammadex and rocuronium-induced anaphylaxis, Takazawa, T., Mitsuhata, H. & Mertes, P.M. J Anesth (2016) 30: 290. doi:10.1007/s00540-015-2105-x) Also, it is expensive and it's use might result in an unwanted pregnancy! (Dalton, J. and Van Hasselt, G. (2016), Sugammadex – time of onset: nine months. Anaesthesia, 71: 115–116. doi: 10.1111/anae.13356).

New receptors

The receptor which Atracurium binds to on the mast cell to cause degranulation has been discovered (Identification of a mast-cell-specific receptor crucial for pseudo-allergic drug reactions, Benjamin D. McNeil et al, Nature 519, 237–241, 12 March 2015, doi:10.1038/nature14022)

PEGs

Polyethylene glycols (PEGs) or macrogols are polyether compounds widely used in medical and household products. Although generally considered biologically inert, cases of mild to life-threatening immediate-type PEG hypersensitivity are reported with increasing frequency. Awareness of PEG's allergenic potential remains low. These patients commonly present with a history of repeated, severe reactions to a range of unrelated products in hospital and at home. (Immediate-type hypersensitivity to polyethylene glycols: a review, E. Wenande and L. H. Garvey, Clinical & Experimental Allergy, 46, 907–922, 2016)