



Service Priorities and Programmes Electronic Presentations

Convention ID: 206

Submitting author: Dr Yuen Ling AU

Post title: Resident, Queen Mary Hospital

The use of in-vitro tests in the workup of intraoperative anaphylaxis

Au YLE, Ip WK, Chan YT

Clinical Immunology Division, Department of Pathology, Queen Mary Hospital

Keywords:

Intraop anaphylaxis

skin test

basophil activation test

Sig E test

Introduction

Drug Allergy Clinic in Queen Mary Hospital started service since July, 2012. One major area of our service is to provide workup for patients after an episode of suspected intraoperative anaphylaxis. Diagnosis and workup for intraoperative anaphylaxis is known to be challenging since multiple drugs are usually given prior to the event. Moreover, symptoms and signs of anaphylaxis may mimic other medical conditions during anaesthesia. Checking tryptase during the acute event helps to confirm the diagnosis of anaphylaxis.

Traditionally, skin tests with suspected drugs were used to delineate the allergen. Nevertheless, there are patients with poor skin condition or reluctance for skin test. Moreover, testing multiple agents with various dilutions involves a number of intradermal needle punctures. Hence, the role of in vitro test in these patients workup was explored.

Objectives

To compare the performance of in-vitro diagnostic test with skin test in the workup of intraoperative anaphylaxis

Methodology

Retrospective retrieval of 44 patients records referred for suspected intraoperative anaphylaxis were included for analysis. During workup, skin test, basophil activation tests and specific Ig E test were offered to all patients. Patients may opt to complete both blood and skin tests, or either one, after knowing the indications and potential risks/ benefits involved. Anaesthetic records and all these blood tests results were reviewed.

Result

Allergen was found in 34 out of the 44 cases (77%). There were 10 patients who yielded negative findings in all investigations. Allergen was found in 19/20 (95%) patients with documented elevation of tryptase, whereas only 7/14 (50%) of those

tryptase negative yielded positive findings. Tryptase result was not available in 10 cases, and 8 of those have positive findings (80%).

6 patients refused skin tests. 29 out of 38 patients who underwent skin tests were positive (76%). Basophil activation test was positive in 15 out of 44 cases (24%), whereas, specific Ig E was positive in only 5 out of 41 (12.2%) cases tested.

Among the 8 patients tested positive for neuromuscular blockers by skin test, blood tests were positive in only 2 cases (25%). Whereas, basophil activation test were positive in all 6 cases of gelofusine allergy (100%). For the 2 cases of patent blue allergy, basophil activation test was positive in 1 case (50%). Basophil activation test and Specific Ig E both detected 2/12 (16.7%) cases of beta lactam antibiotic allergy.

There were two case of chlorhexidine allergy and one case of latex allergy which were detected by both skin test and blood test.