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Basotest® and suxamethonium allergy

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Key words: anaphylaxis; basophil; CD63; suxamethonium.

● THE identification of the drugs causing anaesthesia-induced adverse reactions is problematic and dependent on clinical history, detection of specific IgE antibodies, and skin testing. Flow cytometric assessment of drug-induced basophil activation may offer an additional aid to diagnosis.

A 44-year-old woman was admitted for elective endometrial ablation. She had no history of adverse drug reactions, and

previous general anaesthetic procedures had been uneventful. Anaesthesia was induced with intravenous propofol (150 mg) and alfentanil (750 µg). Muscle relaxation was achieved with intravenous suxamethonium (100 mg). Within 1 min of intubation, the patient became cyanosed, with a heart rate of 45 beats/min. Cardiac arrest was

A dose/response expression of CD63 upon allergen challenge.

diagnosed and cardiopulmonary resuscitation commenced. Surgery was cancelled, and the patient transferred to the intensive care unit.

Laboratory results were as follows: mast-cell tryptase, 1000 ng/ml; urinary methylhistamine, 86 ng/µmol creatinine; serum IgE, 1412 kU/l; suxamethonium-specific IgE (RAST), 3.

Skin prick testing, performed 5 weeks after the reaction, gave a positive reaction to suxamethonium (confirmed at 1:10

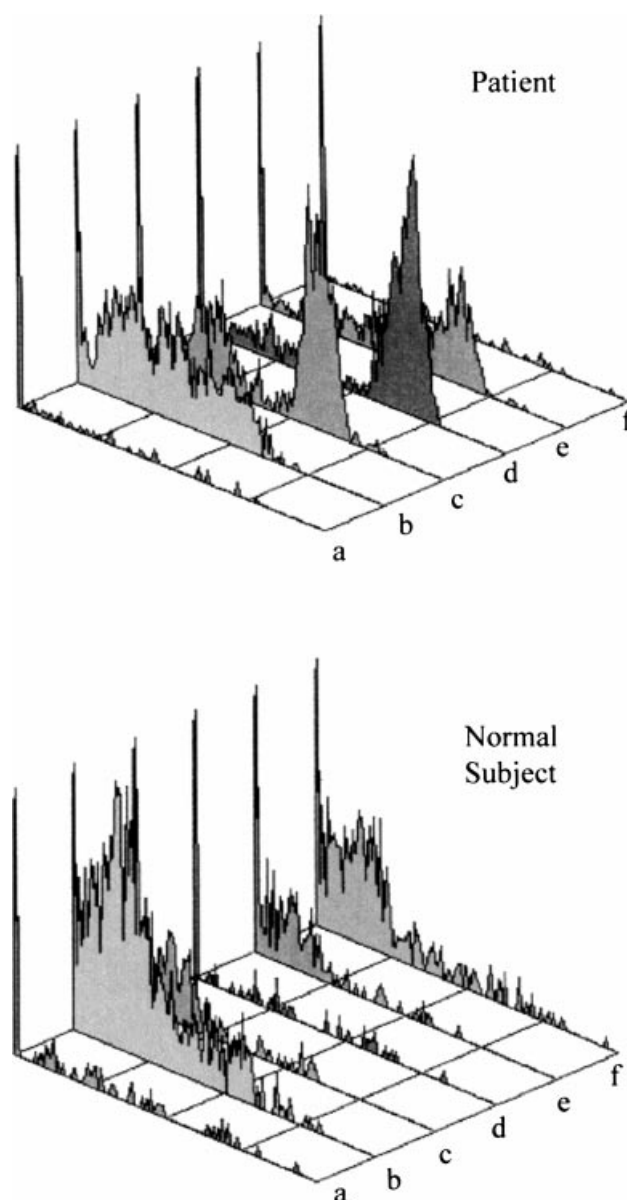


Figure 1. Cumulative fluorescence profiles demonstrating CD63 positivity in response to (a) no stimulus; (b) fmlp; and suxamethonium at following concentrations: (c) 2.0 mmol/l; (d) 1.0 mmol/l; (e) 0.1 mmol/l; (f) 0.01 mmol/l.

dilution). No reaction occurred with vecuronium, rocuronium, pancuronium, thiopental sodium, propofol, or latex extract (ALK-Abelló). The intradermal test with vecuronium, rocuronium, pancuronium, thiopental sodium, and propofol were all negative in dilutions ranging from 1:100 000 to 1:100.

Quantitative determination of *in vitro* basophil activation was performed with the Basotest[®] kit. Heparinized blood samples were obtained from the patient 5 weeks after the reaction, and from a healthy woman. Aliquots of blood (100 µl) were incubated, for 20 min at 37°C, with the respective muscle relaxants (MR), suxamethonium, vecuronium, pancuronium, and rocuronium. Antibody labelling (IgE-PE; CD63-FITC) and red cell lysis were carried out according to the manufacturer's instructions.

The fluorescence profiles obtained for suxamethonium-induced CD63 expression are shown in Fig. 1. For the patient, a characteristic dose-response was observed for suxamethonium-induced basophil CD63 expression; the cells were unresponsive to other MR (vecuronium 0.3–0.003 mmol/l, pancuronium 0.13–0.0013 mmol/l, and rocuronium 0.08 mmol/l). Basophils from the normal subject were unreactive to all of the drugs tested at all concentrations.

We report, for the first time, use of the Basotest to investigate a MR-induced anaphylactic reaction. Our findings support previous reports which used different methodologies for flow cytometric analysis of MR-induced basophil activation (1, 2). The adoption of this *in vitro* technique may prove useful when skin testing cannot be performed, or in cases where clinical and laboratory evidence is equivocal.

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Rofecoxib safe in NSAID hypersensitivity

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Key words: angioedema; COX; COX-1; COX-2 inhibitors; NSAID intolerance; rofecoxib; urticaria.

● URTICARIA and angioedema (U/AE) after the ingestion of NSAIDs are common disorders in clinical practice, and an alternative therapy is necessary to relieve pain and inflammation in these patients. The new high-affinity COX-2 inhibitors may be an appropriate alternative (1).

This study aimed to determine the tolerance of rofecoxib (2) in 33 patients suffering U/AE associated with NSAIDs. Prominent clinical findings in 15 of the 33 patients are shown in Table 1.

The patients were selected by the following criteria: subjects aged from 18 to 72 years, of both sexes, that all must have

experienced two or more different documented episodes of U/AE after ingestion of two different NSAIDs. The diagnosis was based on a detailed clinical history and, in some cases, was confirmed by an oral challenge with the implicated drugs.

The following were exclusion criteria: β-blocker treatment, pregnancy or lactation, lactose intolerance, and chronic urticaria. Patients in whom epinephrine administration was not indicated, and those considered "difficult collaborators" were also excluded.

Provocation tests were carried out in a single-blinded controlled way. The challenge protocol consisted of increased oral doses of rofecoxib at 60-min intervals. During the challenge procedure, blood pressure, pulse, and the appearance of skin symptoms were monitored. All patients remained in hospital under medical supervision for 3 h after each drug dose challenge.

Day 1. The patients underwent complete history and physical examination. Blood pressure, pulse, and cutaneous examination were measured. If the results of these parameters were normal, patients underwent a placebo (lactose) challenge. Patients were re-examined 1 h later. If all measurements were normal, 6.25 mg of rofecoxib was administered.

Day 2. Clinical supervision measures were repeated 2 days later. A new oral high-dose rofecoxib challenge of 12.5 mg was performed. A dose of 25 mg of rofecoxib was administered 1 h later if no reaction occurred.

Day 3. Only if patients reported no symptoms, was 25 mg of rofecoxib administered again to each patient, 7 days after the challenge procedure onset.

The challenge test was considered positive if one of the following symptoms existed: cutaneous reactions such as

Good tolerance in 33 patients.