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IgE-mediated hypersensitivity to chlorhexidine among first-year dental students (Article)

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Abstract

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Purpose: To investigate immunoglobulin E (IgE)-mediated hypersensitivity to chlorhexidine (CHX), and association between CHX exposure and serum specific IgE (SIgE) levels, among first-year dental students. Methods: Participants completed a questionnaire on medical health, history of allergies/hypersensitivities and CHX exposure. A sample of venous blood (3 mL) was drawn and subjected to SIgE test to CHX; sensitisation defined as SIgE level of ≥0.10 kU_A/L. Results: Fifty-eight (98.3%) participants, consisting of 69% (n = 40) female with a mean age of 21, were recruited; three quarters (84%) reported no known health issue, and over half had no history of allergies (57%); less than 20% reported having had exposure to CHX-containing products with the majority from toothpaste (9%) and mouthwash (12%). The CHX SIgE test showed that 8.6% (n = 5) were sensitised. No association between CHX exposure history and the level of SIgE antibody was noted. Conclusions: Although most participants reported no known exposure to CHX, 8.6% showed CHX sensitisation suggesting unknown exposure and the potential risk of developing hypersensitivity and adverse reactions in the future.

SciVal Topic Prominence

Topic: Anaphylaxis | Hypersensitivity | Perioperative anaphylaxis

Prominence percentile: 88.735

Author keywords

IgE-mediated | ImmunoCAP test | Occupational health | Sensitisation | Serum specific

Indexed keywords

EMTREE drug terms: chlorhexidine | hand sanitizer | immunoglobulin E | mouthwash | toothpaste

EMTREE medical terms: adult | allergic rhinitis | allergy | Article | bioassay | dental student | drug exposure | female | fluoroimmunoenzyme assay | food allergy | glucose 6 phosphate dehydrogenase deficiency | health service | human | hypersensitivity | major clinical study | male | mouth hygiene | questionnaire | sensitization | seroprevalence | systemic lupus erythematosus | venous blood | young adult

Chemicals and CAS Registry Numbers:

chlorhexidine, 3697-42-5, 55-56-1; immunoglobulin E, 37341-29-0

Device tradename:

ImmunoCAP, Thermo, Sweden

Manufacturers:

Device manufacturer:

Thermo, Sweden

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