

CORRESPONDENCE

Reply to J. Leysen et al.

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Dear Editor,

We thank J. Leysen et al. for their interest in reading our article 'Prevalence of IgE against neuromuscular blocking agents in hairdressers and bakers' [1]. In a former survey by Dong et al. [2], assay of specific IgE against quaternary/tertiary ammoniums was performed in 303 patients having experienced neuromuscular blocking agents (NMBA) anaphylaxis. Results were positive in 251 cases (82.8%). As noticed by J. Leysen et al., 12 patients had positive IgE assay and negative skin tests (ST). This positive IgE assay had to be considered in the context of the anaphylaxis. Another recent retrospective study evaluated 114 patients who reacted during anaesthesia, including 57 cases with positive ST to the administered NMBA and 57 reactors with negative ST to NMBAs [3]. Fourteen of the patients with negative skin tests had positive serum IgE against quaternary/tertiary ammonium compounds. Ten of them reacted less than 5 min after NMBA injection. These data show therefore that both ST and assay of IgE against quaternary/tertiary ammoniums may produce false-negative results and should be used in association for improving the diagnosis of NMBA anaphylaxis in patients who undergo an adverse reaction during anaesthesia. In contrast, in the general population, it may be expected that few of sensitized subjects with IgE against quaternary/tertiary ammoniums are at risk of allergic reactions, considering the contrast between the relatively high frequency of positive assay of IgE against quaternary/tertiary ammoniums and the low prevalence of

peri-operative NMBA anaphylaxis [1–4]. This explains that it is not recommended to do a systematic pre-operative screening with either ST or serum-specific IgE against quaternary/tertiary ammonium compounds, in the guidelines for clinical practice published by the interest group on drug hypersensitivity of the European Academy of Allergy and Clinical Immunology (ENDA) [4]. This policy is also justified by the absence of sufficient information on the respective positive and negative predictive values of these tests. Indeed, false-negative results and/or false-positive results could inappropriately contraindicate the use of NMBAs in numerous patients who could otherwise benefit from these drugs [4]. In contrast to the above-mentioned retrospective studies of reactors, the present study was performed in subjects who had no previous anaesthesia and no previous allergic manifestation. We observed a 4.6-fold increased rate of IgE sensitization to NMBAs in hairdressing apprentices exposed to quaternary ammonium compounds, compared to baker/pastry makers and control groups. The sensitization was established by the cross-reactivity of specific IgE against choline with quaternary ammonium compounds used in hairdressing. These results show that occupational exposure to quaternary ammonium compounds plays a role in the sensitization against NMBAs, but the study cannot predict an increased risk of NMBA anaphylaxis. In contrast, our results suggest designing epidemiological studies with adapted questionnaires to evaluate the predictive risk of hairdressing occupational exposure in patients who experienced NMBA anaphylaxis.

References

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- 4 Mertes PM, Laxenaire MC, Lienhart A et al. Reducing the risk of anaphylaxis during anaesthesia: guidelines for clinical practice. *J Investig Allergol Clin Immunol* 2005; 15:91–101.

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