Anaesthetic hypersensitivity reactions in France between 2011 and 2012: report of the 10th GERAP epidemiologic survey.

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Immediate hypersensitivity reactions during anaesthesia are rare but potentially life-threatening. The epidemiology changes with time and evolving professional practice, so needs to be monitored. Our objective was to follow this epidemiology.

This was a retrospective, observational study in French hospital clinics, conducted by GERAP members. Consecutive patients seen in allergo-anaesthesia outpatient clinics, who had experienced a hypersensitivity reaction during anaesthesia between 1 January 2011 and 31 December 2012, were included. Demographic data, allergy history, drugs received before the reaction, symptoms of the reaction, results of blood samples (histamine, tryptase, IgE-specific assays) and results of the allergy assessment were recorded.

The most common causes of allergic reactions were NMBA (N=302; 60.6%)(Table 1), antibiotics (N=91, 18.2%, Cephalosporin N= 49, 10%) and dyes (N=27; 5.4%). Latex was involved in 26 cases (5.2%), hypnotics in 11 cases (2.2%) and opioids in 7 cases (1.4%). Rocuronium had the highest rate of reaction, (13.8 reactions/100 000 vials sold) followed by Suxamethonium (13.3/100 000 vials sold). Cisatracurium had the lowest rate of reaction (0.4/100 000 vials sold). Patients were sensitized to two or more NMBA in 48.9% of cases. Cross-sensitivity was between suxamethonium and rocuronium was frequent (30,6%) as cross sensitivity between rocuronium and cisatracurium (30,2%). Cross-sensitized reactions between suxamethonium and cisatracurium were uncommon (17,6%). Without testing, cross sensitivity can't be predicted especially between Suxamethonium and Rocuronium.

NMBA	Number of reactions	% of reactions	Market share (2011-2012) Number of vials	% of market share	Number of reaction for 100 000 vials sold
Rocuronium	32	10.6	231847	2.2	13.8 (CI 9.0-18.6)
Suxamethonium	206	68.2	1548630	14.7	13.3 (CI 11.5-15.1)
Vecuronium	5	1.7	156270	1.5	3.2 (CI 0.4-6.0)
Atracurium	42	13.9	3789677	36.1	1.1 (CI 0.8-1.4)
Mivacurium	1	0.3	162783	1.5	0.6 (CI 0-1.8)
Cisatracurium	16	5.3	4552495	43.3	0.4 (CI 0.2-0.6)
Total	302	100	10511412	100	2.9 (CI 2.6-3.2)

Table 1: NMBA IgE-mediated reactions compared with their respective use in anaesthesia during 2011 and 2012 in France

NMBA are still the most frequently triggering allergen, with strong differences between drugs, but they are now followed by antibiotics, (of which greater than 50% were cephalosporins) and dyes. Anaesthesiologists must be aware of existing differences between drugs and of these new emerging allergens. For safe future anaesthesia, allergy assessment is essential.