

Formaldehyde and phenol exposure during an anatomy dissection course: a possible source of IgE-mediated sensitization?

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ABSTRACT: The sensitizing potency of formaldehyde and phenol exposure during 4 weeks of an anatomy dissection course was assessed in 45 medical students. Specific IgE against formaldehyde by RAST and by ELISA and specific IgE against phenol by ELISA were assessed before and after the course. At the start of the course, symptoms, type I allergy, respiratory diseases, and smoking habits were noted. At the end of the course, only symptoms experienced during the dissection lessons were assessed. Indoor formaldehyde levels were measured continuously. The mean indoor formaldehyde level was 0.124 +/- 0.05 ppm, with a minimum of 0.059 ppm and a maximum of 0.219 ppm. Specific IgE against formaldehyde or phenol was found in none of the subjects at the beginning of the course, and no student showed specific IgE against formaldehyde or phenol after the course. Assessment of primarily irritant symptoms during the lesson revealed itch and paraesthesia of hands in 33/45 students ($P < 0.00005$), headache in 15/45 students, burning eyes in 13/45 students ($P < 0.02$), dizziness in 8/45 students ($P < 0.008$), sneezing in 4/45 students, epistaxis in 2/45 students, and shortness of breath in 1/45 students. According to our data, 1-month exposure to formaldehyde and phenol during an anatomy dissection course does not induce specific IgE against formaldehyde or phenol.