

# Diagnostic Approach and Management of Occupational Asthma by Persulfate Salts in a Hairdresser

Gaspar Gala Ortiz, M.D.,\* Santiago Q. Gancedo, M.D.,\* Ph.D., Rosario F. Ordóñez, M.D.,# Ignacio P. Camo, M.D.,\* Eloína G. Mancebo, M.D.,\* Manuela C. Agustín, M.D., Ph.D.,§ and Eloy L. Cosmes, M.D., Ph.D.\* (Spain)

## ABSTRACT

*An 18-year-old female hairdresser, nonsmoker and nonatopic, developed rhinoconjunctivitis followed by asthma after working for 18 months. The methods that were necessary to obtain a definitive diagnosis of occupational asthma are explained, as well as the medical management performed to improve her asthma over the next 12 months. Tryptase and eosinophil cationic protein (ECP) were determined before and after specific bronchial challenge. The application of these parameters as complementary diagnostic methods in some cases of occupational asthma is described. Clinical and functional control performed some months later demonstrated an increase in nonspecific bronchial responsiveness after avoidance, likely related to an upper respiratory infection. (Allergy and Asthma Proc 22:235–238, 2001)*

**P**rofessionals in hairdressing salons are exposed daily to a great number of chemical products, most of them of low molecular weight, which often makes diagnostic testing more difficult. From these products the clinically most

relevant ones are: dyes containing *p*-phenylenediamine, the most important cause of contact dermatitis in hairdressers;<sup>1</sup> vegetable dyes such as henna, reportedly involved in a few cases of occupational asthma;<sup>2</sup> and irritant agents such as lacquers and bleaching agents containing persulfate salts, cause of the harmful effects on hairdressers' occupational asthma,<sup>3,4</sup> contact dermatitis, urticaria, and rhinitis.<sup>5</sup>

The risk of occupational asthma among hairdresser professionals remains an active area of research after Blainey *et al.* described four occupational asthma cases in a hairdressing salon with 23 employees.<sup>6</sup>

We report the clinical, functional, analytical and immunologic studies carried out in a patient who developed asthma, rhinitis, and dermatitis while using these products.

## CASE REPORT

**A**n 18-year-old female employed as a hairdresser for 3 years, nonsmoker and nonatopic, began to notice rhinorrhea, nasal itching, and sneezing 18 months before the beginning of this study. These symptoms were accompanied later by occasional wheezing and dyspnea.

The patient did not have a history of cough, wheeze, chest tightness, or dyspnea with upper respiratory infections, exercise, cold air, strong odors, or perfumes before working as a hairdresser. She did not figure out the allergies herself before presenting.

Among her main duties in the hairdressing salon were cutting and coloring hair. She did not wear gloves to apply the coloring agents. Exposure to bleaching agents contain-

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*From the \*Allergy Service and #Immune Service, Ramón Cajal Hospital, Madrid, Spain; and the §Internal Medicine Service, Segovia Hospital, Segovia, Spain*

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*Address correspondence and reprint requests to Dr. Gaspar Gala Ortiz, C/ Uría, 39 1° Centro, 33202 Gijón (Asturias), Spain*

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