

titration with iodide ("iodimetry") and was found to contain 3–4 mg/l.

■ The patient described here developed symptoms of type I hypersensitivity within minutes after ingestion of alcoholic beverages, namely, wine and a specific brand of beer. Wine generally contains sulfite in relatively high concentrations. The beer not tolerated by the patient was also shown to contain readily detectable amounts of sulfite, a finding explicable by the (legal) practice of adding sulfur to hops used in brewing beer (2). Since the symptoms encountered by the patient after consumption of these beverages could exactly be mimicked by pure sodium metabisulfite, this is the most likely cause of the patient's symptoms. Dose dependence and histamine release, as well as the absence of specific antibodies to this substance, argue for the diagnosis of food intolerance according to the classification of the EAACI Subcommittee on Adverse Reactions to Food (3). Other possible causes such as ethanol and its metabolites, food additives, or – in the case of beer – cereals, can be ruled out on the basis of the results of the extensive allergologic test program described above.

Key words: beer; food intolerance; metabisulfite.

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Prevalence of allergic conjunctivitis in Italian young men

THERE are very few reports on the real prevalence of allergic conjunctivitis in the general population (1). In this regard, the conscript model is a very reliable tool to evaluate the prevalence of a disease. The aims of the present study were as follows:

- 1) to evaluate the prevalence of allergic conjunctivitis in a large group of young men
- 2) to consider the possible association with other allergic diseases
- 3) to define the various sensitizations.

■ In 1993, 1994, and 1995, 1529 out of 23 157 Italian conscripts for Navy call-up, resident in northern Italy, underwent an allergologic visit at the Naval Hospital of La Spezia to confirm the doubtful diagnosis of an allergic disease, based on history and/or medical examination.

On this occasion, history, clinic visit, spirometry, methacholine bronchial challenge, and the skin prick test were performed on all subjects. The skin prick test was performed according to methodology and criteria proposed by the Italian Society of Allergy and Clinical Immunology (2). The allergen extracts

used were all of DHS-Bayer Group make; the panel consisted of mites (*Dermatophagoides farinae* and *D. pteronyssinus*), cat, dog, grass mix, Compositae mix, *Parietaria judaica*, birch, hazelnut, olive tree, *Alternaria tenuis*, *Hormodendrum*, and *Aspergillus* mix. They are the most representative causal allergens in our area. Sensitization was considered when there was an agreement between history and skin prick test positivity (i.e., wheal diameter ≥ 3 mm). Subjects with skin prick test positivity alone were considered monosensitized; on the other hand, subjects with two or more skin prick test positivities were considered polysensitized.

Allergic conjunctivitis and rhinitis were diagnosed on the basis of the agreement among history, clinical examination (if reliable), and sensitization(s). Conjunctivitis, itching, and red eye were considered the most important symptoms mentioned by subjects. Asthma was diagnosed on the basis of agreement among history, clinical examination (if reliable), and functional tests.

The medical procedures to examine conscripts are standardized by military regulations.

Statistical analysis was performed with the chi-square test.

■ After analysis of the data of 3 consecutive years (i.e., 1993, 1994, and 1995), the present study shows that 394 subjects out of 23 157 had a diagnosis of allergic conjunctivitis. Therefore, the prevalence of allergic conjunctivitis was 1.7%. Table 1 reports the data on the analysis of single allergens.

The prevalence of allergic conjunctivitis in conscripts to the Italian navy is 1.7% – and is increasing.

Table 1 Prevalence of allergic conjunctivitis (AC) in Italian conscripts

Year	Subjects with AC	Subjects without AC
1983	119	9816
1993-5	394	22 763
$P < 0.001$ (CI 95% = 1.16-1.74)		
Subjects with AC alone		83 (21%)
Subjects with AC and rhinitis		118 (30%)
Subjects with AC and asthma		47 (12%)
Subjects with AC, asthma, and rhinitis		146 (37%)

In comparison of the present data with our previous reports on the prevalence of allergic diseases in a cohort of conscripts in 1983 (3), an increased prevalence of allergic conjunctivitis is demonstrable in our study population model. In fact, a statistically significant trend appears for allergic conjunctivitis prevalence, which rose from 1.2% to 1.7% ($P < 0.001$). A different pattern of sensitization has appeared especially in recent years: in fact, domestic allergens (i.e., mites, 56%, and cat, 4.1%) appear to be more important than pollen allergens. *Parietaria* sensitization decreased from 57% to 21% and grass sensitization from 43% to 24.5%. Moreover, the polysensitizations increased from 48% to 71%.

■ It is well known that allergic diseases are continuously increasing, although the causes are unknown. In fact, numerous epidemiologic studies show a constantly increasing trend in various parts of the world (1). The few epidemiologic studies on conscripts (4, 5) mainly deal with rhinitis and overall asthma prevalence.

We believe that this model is particularly appropriate because the population studied is homogeneous for age, sex, and geographic area, and it is performed during a medical examination, so it is possible to obtain quite exact details on history, and all subjects are constantly visited and their symptoms accurately recorded. There are very few reports concerning epidemiologic studies on the real and exact prevalence of allergic conjunctivitis in

Italy; moreover, no previous study has evaluated its trend.

The most important finding of this study is the trend to increasing prevalence of allergic conjunctivitis over the period studied. In addition, domestic allergens were found to be predominant and there is an increasing trend to polysensitizations. Moreover, allergic conjunctivitis was found to be very frequently associated with other allergic diseases. In other words, it would seem that the epidemiologic role of allergic diseases is growing both in prevalence and spectrum of clinical features and sensitizations.

At any rate, it is clear that allergic diseases are an increasing burden in terms of the cost for public health. The present data showing an increasing trend to prevalence, association, and polysensitization over a period of a few years should persuade all specialists and general practitioners to reflect on the importance of early diagnosis and of following appropriate preventive and therapeutic strategies in the management of allergic diseases in order to prevent irreversible anatomic damage (as in asthma).

Key words: conscripts; Italy; prevalence of conjunctivitis.

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