TINEA PEDIS, TRICHOPHYTON SENSITIZATION AND RESPIRATORY SYMPTOMS IN SWIMMERS

Ferrari Marcello, Buscemi Laura, Posenato Chiara, Papadopoulou Christina, Tonellotto Laura, Masiero Marina, Giordani Giordano, Tardivo Stefano, Lo Cascio Vincenzo
(University of Verona, Italy)

A variety of microorganism can be found in swimming pools. Among others, there are dermatophyte fungi such as Epidermophyton floccosum and various species in the genus Trichophyton. Other than to skin infections, dermatophyte colonization of the feet and sensitization to its proteins have been related to late onset bronchial asthma and to respiratory symptoms.

Aim of the study was to assess the prevalence of dermatophytosis and of sensitization to dermatophytes in recre-ational swimmers, and to evaluate their possible association with asthma and respiratory symptoms.

We examined 504 subjects aged 18-55, recruited among 4 swimming pools. All subjects had allergy skin prick tests, performed for mold allergens, Trichophyton and 5 common allergens (D.pteronyssinus, cat, pollen of grass, parietaria and betulla). They also underwent lung function measurements (FVC and FEV1) and filled in a questionnaire on respiratory symptoms and on dermatologic disorders. The subjects were divided into tertiles (T) on the basis of pool attendance.

The prevalence of Tinea pedis (positive response to the question: Have you ever had tinea?) was 6.6%, 12.4% and 11.1% in the 1st, 2nd and 3rd T, respectively (p < 0.05). The sensitization to Trichophyton (wheal diameter of > 3 mm) was positively associated with pool attendance (0.0%, 1.2% and 4.0% in the 1st, 2nd and 3rd T, respectively (p < 0.05). On the contrary, mold sensitization, atopy (positive skin test to at least 1 among the common allergens), FEV1 and FVC were unrelated to pool attendance.

In the subjects with Tinea pedis, in respect to those without, the prevalence rate of respiratory symptoms (but not of asthma) were significantly higher (13.9% vs 9.3%), also when in the analysis sex, age, smoking habits and pool attendance were taken into account (p = 0.02).

Our results suggest that: 1) pool attendance is associated with higher prevalence of Tinea pedis and of Tricophyton sensitization; 2) other possible factors, other than chlorine, may explain the excess of respiratory symptoms in swimmers.

Keywords: Swimming, Asthma, Environment