

Effectiveness of European Regulation on Euxyl K400 Sensitization in Northeastern Italy From 1996 to 2012 and Occupation

To the Editor:

Euxyl K400 is a preservative used in cosmetics and in commercial/industrial products composed of 20% methylidibromo glutaronitrile and 80% phenoxyethanol. Since 2007, methylidibromo glutaronitrile use in cosmetics has been banned in the European Union, but it can be present as a preservative in other products such as metalworking fluids, cutting oils, drilling oils, coolants, glues, and adhesives and in medical products such as ultrasonic gels.^{1,2} In Europe, the prevalence of sensitization was 3.8% (range, 0.9%–6.8%) in 2002 to 2003,³ from 0.1% in southern states to 5.6% in central states in 2005 to 2006, and from 0.3% in Italy to 5.7% in Lithuania in 2007 to 2008.⁴ In Australia, the prevalence of sensitization was 3.3% in 1993 to 2006.⁵

The aim of this study was to verify the temporal trend of Euxyl K400 sensitivity between 1996 and 2012 in northeastern Italy and associated factors.

From 1996 to 2012, consecutive patients with symptoms and/or signs of suspected allergic dermatitis were patch tested in northeastern Italy following a protocol already reported. The tested allergens included Euxyl K400 0.5% in petrolatum. Data analysis was performed using the software STATA (Stata Corp, College Station, TX). Odds ratios (ORs) and 95% confidence intervals were estimated from the coefficients and the standard errors of logistic regression output. Logistic analysis was conducted, adjusting results by age and considering white collar workers as the reference group. Trend test across ordered groups was performed via the Cuzick test for trend. A *P* value of less than 0.05 was established as the limit of statistical significance.

The study population included 16,056 women (67.5%) and 7718 men (32.5%). The mean age of the population was similar in male and female patients (43.0 ± 17 years). The overall prevalence of Euxyl K400 sensitization was 2.32% significantly higher in men (2.98%) than in women (2.00%), with an OR of 1.49 (95% CI, 1.26–1.79). The temporal trend for Euxyl K400 sensitization in different geographical areas is reported in Figure 1, which shows a gradual increase of prevalence from the beginning of the study to 2002 to 2004 and a decrease in the last years. Padua area had the higher prevalence of sensitization (4.4%) that reached 7.14% in 2002

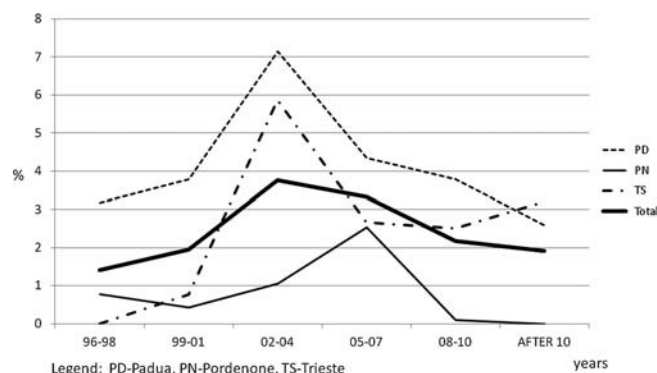


Figure 1. Euxyl K400 sensitization trend in considered years in different centers.

to 2004, whereas the peak in sensitization was reached in 2005 to 2007 in Pordenone area. People sensitized to Euxyl K400 have less occupational dermatitis, especially men (OR, 0.416; 95% CI, 0.21–0.82), and less hand dermatitis (OR, 0.690; 95% CI, 0.51–0.94) but more leg dermatitis (OR, 1.811; 95% CI, 1.20–2.73).

Euxyl K400 is mainly an extraprofessional hapten, but male hairdressers and barbers with hand and forearm eczema have a significantly higher risk to be sensitized to this hapten, with an OR of 8.95 (95% CI, 1.71–46.90).

Our data confirm Euxyl K400 as a prevalent extra-occupational hapten, with a clear reduction of sensitization after EU banning. This trend demonstrated how important laws are that reduce the presence of sensitizing agents in cosmetics and cleansers and how fast the sensitization decreased in our large database of patients.

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Atopic Dermatitis and Sleep Disturbance in Adults

To the Editor:

Yu et al¹ reported sleep disturbance and fatigue in US adults with atopic dermatitis (AD) using the National Health and Nutrition Examination Survey. In multivariate regression models, odds ratios (95% confidence intervals) of AD for shorter sleep duration, trouble falling asleep, and early morning awakenings were 1.61 (1.16–2.25), 1.57 (1.10–2.24), and 1.86 (1.24–2.78), respectively. Atopic dermatitis was also significantly associated with feeling unrested and feeling too tired to perform instrumental activity of daily living. I have a query about their study with special reference to sleep monitoring method.

I previously reported a case study on the association between AD and sleep by subjective sleep evaluation and by physiological apparatus such as sleep polysomnography and actigraphy.² In Yu's study, although sleep was clearly disturbed by movement he presented no sleep disturbance reported by questionnaire. I understand that Yu et al¹ analyzed data from a national survey and insomnia and fatigue from AD would affect activities of daily living. To confirm the association between AD and sleep, monitoring physiological sleep parameters should also be considered for the analysis. Furthermore,

causal association should include considering confounders of sleep disturbance through use of a prospective study.

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Measuring Sleep Disturbance in Atopic Dermatitis: Patient-Reported Versus Objective Outcomes

To the Editor:

We thank Professor Kawada for his commentary¹ on our study of the burden of sleep and fatigue in US adults with atopic dermatitis (AD).² In our study, we sought to determine the impact of sleep disturbance and fatigue on instrumental activities of daily living (IADLs) and health-related quality of life (HRQOL) in adults with AD. The study used a survey-based approach, that is, patient-reported outcomes (PROs), to capture the impact of sleep disturbance and fatigue on IADLs and HRQOL.

Kawada suggested that objective monitoring of physiological sleep parameters should also be considered to confirm the association between AD and sleep. We agree with this suggestion. There are many ways of assessing sleep disturbance. Objective tests, such as polysomnography and actigraphy, describe important characteristics of sleep, including delayed onset, number and duration of awakening, and overall sleep efficiency. In fact, these approaches have been implemented to study sleep disturbances in AD before,^{3,4} and more studies using objective sleep assessments are warranted in AD. However, sleep disturbances can differentially impact patients' HRQOL depending on the nature, severity, and chronicity of the sleep disturbance, as well as the patients' baseline age, level of activity,

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