



AUTOIMMUNE BULLOUS DISEASES

## ENVIRONMENT TRIGGERS OF PEMPHIGUS VULGARIS AND BULLOUS PEMPHIGOID: A CASE-CONTROL STUDY

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**Introduction:** Previous case-control studies have suggested that environmental factors including exposure to pesticides and organic materials, diet and medications have an important role in the pathogenesis of autoimmune blistering diseases (AIBD), but more studies are needed to characterise these associations.

**Objective:** To determine the environmental risk factors associated with the development of pemphigus vulgaris (PV) and bullous pemphigoid (BP).

**Materials and Methods:** Cases were patients with PV (n=25) and BP (n=29) recruited from 2009 to 2017. Controls for PV (n=72) and BP (n=84) were recruited from the general population or patients from the same clinic without AIBD, matched for age, sex and residential location. Data about demographics, environmental exposures and occupational exposures, was collected using a structured questionnaire. Conditional logistic regression analysis was used for analysis.

**Results:** Significant factors associated with PV included the daily consumption leeks (odds ratio (OR) 3.34; P = 0.045; 95% confidence interval (95% CI) = 1.03-10.88), mustard oil (OR 10.17; P = 0.049; 95% CI = 1.01-102.45) and multivitamins (OR = 3.11, P = 0.022, 95% CI = 1.17-8.25), and high levels of emotional stress (OR= 5.76; P = 0.005; 95% CI = 1.72-19.28). Significant factors associated with BP included the daily consumption of green or herbal tea, glucosamine (OR 3.17, P = 0.043, 95% CI = 1.04-9.66), fish oil (OR 5.79, P = 0.001, 95% CI = 2.02-16.59) and calcium supplements (OR 6.65, P = 0.00, 95% CI = 2.35-18.81), high levels of emotional stress (OR= 8.13; P = 0.014; 95% CI = 1.53-43.28), and the regular use of cleaning product degreasants (OR 14.32; P = 0.014, 95% CI = 1.70-120.50).

**Conclusions:** Dietary factors and high levels of emotional stress may be potential triggers for PV and BP, suggesting the need to consider lifestyle changes as a part of routine management for these patients.

