Background  Protein contact dermatitis has frequently been reported in case studies (usually in cases involving contact with seafood products), but there are very few descriptive series.

Objectives  First, to determine the incidence of protein contact dermatitis among fishermen in France and compare it with data from onshore work involving seafood exposure. Second, to discover what factors could explain any differences.

Methods/materials/patients  We analysed data from the French national occupational disease surveillance and prevention network (RNV3P) and occupational diseases declared to the French National Network for Monitoring and Prevention of Occupational Disease. This retrospective study was done for a 13 year period.

Results  Between 2000 and 2012, we only found eight cases of protein contact dermatitis in the French network. There were no cases of protein contact dermatitis in the seafaring population. The eight cases from the French network are essentially allergies to different fish and chefs are the professionals most affected. Atopy is present in half of these cases.

In the seafaring population we found several cases of eczema due to bryozans and to gloves but no protein contact dermatitis.

Conclusions  Chefs who have to cook seafood are more at risk of occupational protein contact dermatitis than fishermen. We think that skin protection (that is to say glove wearing) is better implemented in the fishing sector than in the catering profession on shore in France.

Introduction  Adverse work-related health outcomes are a significant problem worldwide. Entomologists, including arthropod breeders, are a unique occupational group exposed to potentially harmful arthropods, pesticides, and other more generic hazards. These exposures may place entomologists at risk of a range of adverse work-related health outcomes.1

We sought to determine which adverse work-related health outcomes entomologists have experienced, the incidence and prevalence of these outcomes, and what occupational management strategies have been employed by entomologists, and their effectiveness.

Methods  A systematic search of eight databases was undertaken to identify studies informing the review objectives. Data pertaining to country, year, design, work-exposure, adverse work-related health outcomes, incidence or prevalence of these outcomes, and occupational management strategies were extracted, and reported descriptively.

Results  Showed entomologists experienced work-related allergies, venom reactions, infections, infestations and delusional parasitosis. These related to exposure to insects, arachnids, chilopods and entognathans, and non-arthropod exposures, e.g. arthropod feed. Few studies reported the incidence or prevalence of such conditions, or work-related management strategies utilised by entomologists. There were no studies that specifically investigated the effectiveness of potential management strategies for entomologists as a population.

Critical appraisal indicated poor research quality in this area.

Discussion  Entomologists are a diverse, unique occupational group, at risk of a range of adverse work-related health outcomes. This study represents the first systematic review of their work-related health risks. Future studies investigating the prevalence of adverse work-related health outcomes for entomologists, and the effectiveness of management strategies are warranted to decrease the disease burden of this otherwise understudied group.

REFERENCE

From our previously reports, chronic, recurrent and low-dose exposure to asbestos fibres causes a reduction in antitumor immunity. In addition with natural killer (NK) cells and cytotoxic T lymphocytes (CTL), the analysis of T helper cells showed that surface CXCR3, chemokine receptor, and the productive potential of interferon (IFN)γ were reduced following asbestos exposure in an in vitro cell line model and in peripheral CD4+ cells of asbestos-exposed patients. Moreover, experiments revealed that asbestos exposure enhanced regulatory T cell (Treg) function. This study also focused on CXCR3 expression and the Th-17 cell fraction. Following activation with T-cell receptor and co-culture with various concentrations of chrysotile fibres using freshly isolated CD4+ cells of asbestos-exposed patients. Moreover, experiments revealed that asbestos exposure enhanced regulatory T cell (Treg) function. This study also focused on CXCR3 expression and the Th-17 cell fraction. Following activation with T-cell receptor and co-culture with various concentrations of chrysotile fibres using freshly isolated CD4+ cells of asbestos-exposed patients. Moreover, experiments revealed that asbestos exposure enhanced regulatory T cell (Treg) function. This study also focused on CXCR3 expression and the Th-17 cell fraction. Following activation with T-cell receptor and co-culture with various concentrations of chrysotile fibres using freshly isolated CD4+ cells of asbestos-exposed patients. Moreover, experiments revealed that asbestos exposure enhanced regulatory T cell (Treg) function. This study also focused on CXCR3 expression and the Th-17 cell fraction. Following activation with T-cell receptor and co-culture with various concentrations of chrysotile fibres using freshly isolated CD4+ cells of asbestos-exposed patients. Moreover, experiments revealed that asbestos exposure enhanced regulatory T cell (Treg) function. This study also focused on CXCR3 expression and the Th-17 cell fraction. Following activation with T-cell receptor and co-culture with various concentrations of chrysotile fibres using freshly isolated CD4+ cells of asbestos-exposed patients. Moreover, experiments revealed that asbestos exposure enhanced regulatory T cell (Treg) function. This study also focused on CXCR3 expression and the Th-17 cell fraction. Following activation with T-cell receptor and co-culture with various concentrations of chrysotile fibres using freshly isolated CD4+ cells of asbestos-exposed patients. Moreover, experiments revealed that asbestos exposure enhanced regulatory T cell (Treg) function. This study also focused on CXCR3 expression and the Th-17 cell fraction. Following activation with T-cell receptor and co-culture with various concentrations of chrysotile fibres using freshly isolated CD4+ cells of asbestos-exposed patients. Moreover, experiments revealed that asbestos exposure enhanced regulatory T cell (Treg) function. This study also focused on CXCR3 expression and the Th-17 cell fraction. Following activation with T-cell receptor and co-culture with various concentrations of chrysotile fibres using freshly isolated CD4+ cells of asbestos-exposed patients. Moreover, experiments revealed that asbestos exposure enhanced regulatory T cell (Treg) function. This study also focused on CXCR3 expression and the Th-17 cell fraction. Following activation with T-cell receptor and co-culture with various concentrations of chrysotile fibres using freshly isolated CD4+ cells of asbestos-exposed patients. Moreover, experiments revealed that asbestos exposure enhanced regulatory T cell (Treg) function. This study also focused on CXCR3 expression and the Th-17 cell fraction.
CONTACT DERMATITIS AMONG WORKERS OCCUPATIONALLY EXPOSED TO FERRONICKEL ALLOYS

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OCCUPATIONALLY EXPOSED TO FERRONICKEL ALLOYS

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Introduction Many studies have shown that nickel and its alloys can be potential irritants and sensitizers among workers engaged in ferronickel alloy production, and provoke occupational contact dermatitis.

Objective To assess the prevalence of contact dermatitis focusing on allergic contact dermatitis in workers exposed to nickel while producing ferronickel alloys.

Methods A cross-sectional study included 103 male workers (mean age=49.1±10.1) employed as ferronickel smelters (duration of exposure 18.2±11.9) with direct contact to nickel. Their findings were compared with a control group of 37 male office workers (mean age=46.7±10.6), employed in the same facility, without direct nickel contact, matched for age, smoking habits and socioeconomic status. Evaluation of the skin changes on hands, wrists and forearms, and patch test with NiSO4 (5%) were performed. The two groups concerning improvement of skin lesions after the test with NiSO4 (5%) were examined.

Results and discussion Skin rush during six months was registered in 21 (20.4%) exposed worker, and in 4 (10.8%) controls. The prevalence of skin changes, chronic rhinitis, conjunctivitis, and asthma was higher in exposed workers, but without statistical significance. Hand skin efflorescence due to non-occupational substances were present in 10 (9.8%) of exposed workers, and among 2 (5.5%) of controls. There was no significant difference concerning urticaria between two groups, and non-occupational nickel sensitisation (metal buttons, jewellery, etc.). Positive patch test by 5% NiSO4 was registered in 20 (19.5%) exposed workers and in 2 (5.4%) controls (p<0.05). Significant difference was found between the two groups concerning improvement of skin lesions after temporary elimination of workplace exposure. Positive elimination test was registered among 5 (4.9%) exposed workers with hand contact dermatitis.

Conclusion Our data confirmed that workplace nickel exposure can cause occupational allergic contact dermatitis among workers producing ferronickel alloys, and determined the need of preventive activities in order to decrease the pathogenic dermal effect of nickel.

EFFECTS OF IL-15 ADDITION ON THE SUPPRESSED INDUCTION OF CTL UPON EXPOSURE TO ASBESTOS

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Introduction Asbestos exposure can cause malignant mesothelioma and lung cancer. However, in contrast, its effect on anti-tumour immunity remains unclear. Our previous study reported that asbestos exposure suppressed the induction of CTL during mixed lymphocyte reactions (MLR), accompanied by the decrease in proliferation of CD8+ T cells. Recently, we reported that IL-2 showed a tendency to increase% granzyme B+ cells in the CFSE-positive CD8+ lymphocytes without proliferation upon exposure to asbestos. Therefore, we investigated whether IL-15 addition might improve the suppressed induction of CTL upon exposure to asbestos.

Methods For MLR, human PBMCs were cultured with irradiated allogenic PBMCs upon exposure to chrysotile B asbestos at 5 μg/ml for 7 days. After 2 days of culture, IL-15 was added at 1 ng/ml. After 7 days of MLR, PBMCs were collected and analysed for phenotypic and functional markers of CD8+ T cells with fluorescence-labelled anti-CD3, anti-CD8, anti-CD45RA, anti-CD45RO, and anti-granzyme B Abs using flow cytometry.

Result IL-15 didn’t recover the asbestos-caused decreases in% CD25+ and% CD45RO+ cells and increase in% CD45RA+ cells, but recovered the decrease in cell numbers of CD3+CD8+ cells and% granzyme B+ cells, in contrast to IL-2.

Discussion These results indicate that IL-15 is more effective on recovery from asbestos-caused suppressed induction of CTL than IL-2, although the interfered expressions of cell surface markers were not recovered even by addition of IL-15. Further study about the characteristics of CD3+CD8+granzyme B+ cells induced by addition of IL-15 will contribute to clarification for the mechanism of asbestos-caused suppression in CTL induction and to finding out a clue to restore it.

EFFECT OF LONG-TERM EXPOSURE TO ASBESTOS ON FUNCTIONAL PROPERTIES OF HUMAN CD8+ T CELL LINE

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Introduction The tumorigenicity of asbestos, which is thought to cause mesothelioma, has been clarified, whereas its effect on anti-tumour immunity remains unclear. In ICOH Congress 2015, we have reported the enhanced decrease in% perforin+ cells of stimulated CD8+ cells of the patients with malignant