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EXTRINSIC ALLERGIC ALVEOLITIS IN POULTRY BREEDERSEglite M.E., Ivanova I. A., Remez I.M.
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During the last 10 years the incidence of occupational allergic lung diseases among agricultural workers in Latvia has rapidly increased. One of the most severe disease is extrinsic allergic alveolitis (EAA). We have investigated the peculiarities of EAA in poultry breeders in order to work out prophylactic measures. Methods: we have examined 1220 poultry breeders from 2 large factories specializing in the production of chicken meat and eggs. Different occupational allergens were prepared for carrying out the allergologic tests. Hygienic, clinical, physiological allergological and immunological methods of investigation were used. Results: EAA was detected in 3,2% of poultry factories personnel. Higher morbidity was observed in the workers aged 35-50 years. Their length of working service was 5-20 years. We had revealed EAA among poultry breeders with a high level of exposure to the avian proteins. The concentration of dust in the work places exceeded the threshold limit value from 10 to 25 times. EAA occurred in three phases: an acute, subacute and chronic phase. We verified evidence of an immunological mechanism of EAA: high concentrations of IgG antibody are present in the serum of individuals with acute disease; the presence of specific precipitating antibodies, reactions in the skin to intradermal injection of avian antigens have the time characteristics of the type III reaction. We detected peculiarities of the formation and clinics of EAA in different groups of poultry breeders, of different age, length of work experience and work conditions. Conclusions: early diagnostic, rationally arranged working conditions and treatment has yielded positive results of medical and professional rehabilitation.

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GEOGRAPHICAL DIFFERENCES IN MORTALITY FROM PNEUMOCONIOSIS AND CHRONIC BRONCHITIS AND EMPHYSEMA IN BRITISH COAL MINERSDavid Coggon, Hazel Inskip, Paul Winter, Brian Pannett.
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To investigate whether the hazard of chronic bronchitis and emphysema in coal miners relates to dust exposure in the same way as that of coal workers' pneumoconiosis, we compared mortality from the two diseases among miners in 22 counties of England and Wales during 1979-80 and 1982-90. Information about the cause of death, age, place of residence and occupation of decedents was obtained from death certificates, and used to derive age-standardised PMRs with proportions for all occupations combined in the whole of England and Wales as the standard. PMRs for coal workers' pneumoconiosis in miners varied from 135 (95% CI 16-488) in Leicestershire to 3825 (95% CI 1538-7881) in South Glamorgan. PMRs for chronic bronchitis and emphysema in miners were consistently higher than those in other occupations, but showed much less geographical variation and did not correlate geographically with those from pneumoconiosis. These findings indicate that the pathogenetic mechanisms leading to bronchitis and emphysema in coal miners depend on different characteristics of dust exposure from those that produce pneumoconiosis. The hypothesis that the higher prevalence of pneumoconiosis in mines with high coal rank is explained by their having higher mass concentrations of respirable dust may be incorrect.

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HYPERREACTIVITY IN RELATION TO EXPOSURE AND WORKING CHARACTERISTICS IN SWINE CONFINEMENT WORKERS

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In 1992 196 Dutch swine confinement workers, 96 with and 100 without chronic respiratory symptoms, participated in a histamine provocation test to assess aspecific airway reactivity. The objective was to obtain more insight into mechanisms leading to the development of airway morbidity in swine farmers. In the same period measurements of their exposure to dust, endotoxins and ammonia were carried out. To elicit factors directly accessible to preventive measures, an inventarization of farm characteristics was made with a checklist by a trained student.

Increased airway reactivity, defined as PC_{10} less or equal than 16 mg/ml, was more prevalent among those with chronic symptoms (43 %) than among those without (17 %). The strong association with symptoms remained statistically significant after correction for age and smoking. There was a strong and significant association between symptoms and lung function, expressed as percentage of predicted value as well. For those with symptoms mean FEV_1 was 92.5 %, for those without 103.8 %. No clear association between airway reactivity and measured exposure of dust, endotoxins and ammonia could be demonstrated. Several factors in work were associated with increased airway reactivity: use of disinfectants (POR 3.1, 95%CI 1.0 - 9.7), use of wood-shavings as bedding (POR 16, 1.8 - 142), use of automated dry feeding systems (POR 2.2, 0.9 - 5.6) along with other aspects of feeding, air handling and flooring.

Based on the relation with increased reactivity and symptoms we recommend to discourage the frequent use of disinfectants, use of wood-shavings as bedding and dry feeding in swine confinement farming.

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RESPIRATORY SYMPTOMS AND LUNG FUNCTION IN WORKERS EXPOSED TO MOLYBDENUM AND TUNGSTEN DUSTStolca I, G. Inanescu, L. Grecu*, A. David
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A cross-sectional study was carried out among 158 workers exposed to Mo and W dust in a sintered wires section as against 165 nonexposed workers. Air dust concentrations were determined (gravimetry). Workers have undergone a respiratory symptoms questionnaire, clinical examination, ORL examination, lung ventilatory tests (FVC, FEV₁, FEV₁/FVC%, FMF). Chronic rhinitis and pharyngitis were higher as compared to control group. A mild increase of chronic bronchitis was found in the exposed workers as compared to controls. Significant differences between exposed workers and controls were found regarding the mean average values of FMF: exposed women, exposed nonsmokers and workers aged up to 40 years old who had lower values as compared to the same control groups. Occupational exposure to Mo and W dusts in sintering technology represents a risk factor for the respiratory system of these workers.