HYPERSENSITIVITY PNEUMONITIS DUE TO METALWORKING FLUIDS – HOW TO FIND THE ANTIGENS?

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Most surveys of outbreaks of hypersensitivity pneumonitis (HP) in subjects with occupational exposure to water-based metalworking fluids (MWFs) were unable to detect a clear link between symptoms and the precise causative agents. We studied the case of a male 41-year-old industrial knife grinder with exposure to water-based MWFs since 12 years. The diagnosis of HP was made by typical work-related symptoms, the demonstration of high lymphocyte numbers in bronchoalveolar lavage and elevated IgG antibody concentrations to various molds in the patient's serum, and complete recovery after early exposure cessation. Whereas an environmental survey showed only low numbers of mold contamination in one sump sample, high antigenic activity was demonstrated in the same sample by antigen-specific IgG inhibition tests. We conclude that the detection of antigenic molds in water-based MWFs by culture methods may be limited. The link between occupational exposure to specific molds in MWFs and hypersensitivity pneumonitis can be established by the demonstration of antigenic activity by antigen-specific IgG inhibition tests.