# Extrinsic Allergic Alveolitis

*DWP IIAC Cm6867*
**Extrinsic Allergic Alveolitis**

The report confirms a causal link between exposure to contaminated metalworking fluids and extrinsic allergic alveolitis.

The Industrial Injuries Advisory Council (IIAC) has been asked to evaluate the prescription of extrinsic allergic alveolitis (EAA) for the purposes of industrial injuries disablement benefit. EAA may also be known as hypersensitivity pneumonitis.

EAA is already, since 1964, a prescribed disease (PD B6) in circumstances where there is exposure to moulds, or fungal spores, or proteins (cell contents) such as in agriculture (e.g. Farmer's Lung), bird handling, food processing (e.g. bagossosis).

| Disease | Source |
|---|---|
| Farmer's lung | Mouldy hay, straw, grain |
| Bird fancier's lung | Avian excreta and bloom |
| Bagassosis | Mouldy bagasse |
| Maltworker's lung | Mouldy maltings |
| Mushroom worker's lung | Spores released during spawning |
| Ventilation pneumonitis | Contamination of air conditioning units |

It is a potentially fatal condition, but more often, it is an acute self limiting reaction to high exposures of biological aerosols. If exposure is repeated, a chronic condition can result, leading to progressive irreversible lung fibrosis.

The review was prompted by three outbreaks of EEA in metalworking settings.

HSE investigation of one of the outbreaks concluded that it was caused by exposures to metalworking fluid mists. In all probability this is due to microbial contamination of the metalworking fluid; the mist being formed upon application. Some of the affected workers had an allergic response to samples of those fluids.

Biocides can be used to control bacterial and fungal growth in these fluids but several very common species are known to survive and may even be provided with an advantage by the addition of such biocides. Cleaning provides only temporary reductions in biological activity.

Identification of cause would probably follow a similar logic to the investigation of occupational asthma.

IIAC conclude that:

> *The diagnosis of EAA is reasonably straightforward and usually possible by non-invasive means. Its differential diagnoses (e.g. cryptogenic fibrosing alveolitis and sarcoidosis) are sufficiently uncommon that a compatible clinical appearance in a worker exposed to the mist of MWF is very likely to be work-related EAA.*
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> *In the majority of EAA cases caused by agents already prescribed, prescription has been supported by the demonstration in individual cases of specific serological response to the antigens in question. However, its absence in many cases of MWF-associated EAA, and the uncertainty about the exact constituents of MWF responsible for symptoms, do not preclude prescription. There can be little doubt that exposure to aerosolised mists of MWF has been the cause of occupational occurrences of EAA.*

Comment

EAA is a very rare disease and can almost always be traced to an occupational exposure. When a disease could arise from several possible causes IIAC look for evidence of a doubling of risk associated with an occupational cause. No such statistical evidence was available for EAA in respect of metalworking fluids; IIAC relied upon the rarity of the disease to conclude that it was too much of a coincidence that one workplace would have more than one case. Other outbreaks have been associated with metalworking fluids in the past and in those cases there was serological confirmation. IIAC came to the view that serological confirmation was not necessary for prescription. In any case the constituents of metalworking fluids are so complex that it would be difficult to identify the right challenge tests to attempt.

It seems clear from the evidence that prevention of EAA would not be straightforward. Mists are an inevitable part of metalworking, storage of recycled fluids is likely to remain the only practicable option, cleaning provides no guarantee of eliminating the causative agent, use of biocides could increase the risk, use of respiratory protection would, most of the time, be overkill. Local exhaust ventilation would be possible.

Foreseeability, in relation to metalworking fluids, would seem to have been established by this IIAC report.

Cessation of exposure would seem to be the only assured method of protection for an affected worker.