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EDITORIAL

Sensitization in the UK Supreme Court

Airborne exposures to protein (and some chemical) respiratory sensitizers in the workplace can induce the development of specific IgE—a state known as 'sensitization'. Further significant exposure may give rise to clinical symptoms, and workers who are both sensitized and symptomatic thus present with occupational rhinitis and/or occupational asthma. Importantly, however, a state of asymptomatic sensitization is widely recognized and indeed may not be uncommon. This occurs in the general population who are exposed to common aero-allergens such as house dust mite, pollens and cat dander. While atopy, defined as a propensity to produce specific IgE to one or more of these allergens, is a risk factor for developing atopic diatheses such as asthma and allergic rhinitis, not everyone with atopy develops disease. In a large survey of Italian men and women, no more than 30% of those who were atopic had any respiratory or nasal symptoms [1]. Similarly, in the 1970s, when enzyme asthma was first recognized in the detergent industry, 40% of the workforce were sensitized, while only 15% had symptoms [2]. The strength of the relationship between symptoms and sensitization may depend on a complex interplay of factors including the nature of the allergen [3].

Sensitization may be detected through a raised level of serum-specific IgE or through a positive skin prick test reaction. Its identification has, for many years, been used in the routine health surveillance of workers in industries such as platinum refining and detergent manufacture where there are residual exposures to, respectively, halogenated platinum salts and various enzymes, each well-recognized and potent respiratory sensitizers. Among platinum refiners, the identification of (asymptomatic or symptomatic) sensitization by skin prick test has traditionally precluded an employee from further exposure to platinum salts since sensitization is very strongly predictive of the onset of occupational asthma [4]. Early removal from exposure once symptoms have developed appears not, in most cases, to prevent persistent asthma [5]. In the detergent industry, group immunological test data are used to help evaluate and improve workplace control measures [6] and ensure that cases of occupational asthma are infrequent. Asymptomatic, sensitized workers are permitted to continue their normal jobs with additional training and, initially, more frequent surveillance and are only relocated in the unusual event that symptoms develop [7].

A recent landmark ruling in the UK Supreme Court threatens to cast a shadow over the practice of immunosurveillance, and indeed any health monitoring to detect pre-symptomatic effects. In *Dryden and Others versus Johnson Matthey Plc* [8], the company was found to have breached their statutory duty to adequately contain exposure and as a consequence, three workers developed platinum salt sensitization. One was redeployed, while the other two were dismissed under a long-standing collective agreement which involved *ex gratia* payments and the ability to file for compensation. Overturning earlier judgements in both the High Court and the Court of Appeal that the production of antibodies was not harmful in itself, five Supreme Court judges ruled unanimously that, in the circumstances of this case, asymptomatic sensitization constituted an 'actionable personal injury' on the basis that the damage suffered was not negligible because it affected their capacity for work (with platinum salts), making them significantly worse off. As they put it: '… the sensitization of the claimants … constitutes a change to their physiological make-up which means that further exposure now carries with it the risk of an allergic reaction, and for that reason they must change their everyday lives so as to avoid such exposure. Putting it another way, they have lost part of their capacity to work.' During their deliberations, the Court considered an earlier case concerning the development of pleural plaques from exposure to asbestos fibres. Several important distinctions with the current case were made, notably that the presence of pleural plaques does not prevent a person from engaging in particular types of work.

Negligence and breach of statutory duty are not, in the absence of injury, actionable *per se*; neither is pure economic loss recoverable in tort, so the appellants had been unsuccessful in Court prior to the Supreme Court. The Supreme Court, the final court of appeal, normally treats its own former decisions as binding but will depart from a previous decision when it appears right to do so [9]. This ruling has widened the concept of personal actionable injury in law and all other courts must now consider the judgment to be binding and apply it to future cases.

It remains to be seen how this will play out in future claims, in other situations, but the potential for widespread confusion and disruption is high. The direct implications are wide and varied; those most immediate and proximate to employers and occupational physicians relate to two core occupational activities—health surveillance and fitness for work assessments. Employers may question the practice of using immunology in routine health surveillance and since the frequency and content of health surveillance are generally not proscribed, some employers may choose to cease or simplify programmes and take their chances with manifest injury. Occupational physicians will need to advise of the scale

of benefits of immunological screening in the context of the particular allergen(s), workplace and risk and the utility of group data to identify trends and opportunities to improve exposure control. Employers and their occupational health and legal advisers are also likely to want to review the policy and/or practice of removing people from exposure once they are sensitized. For example, might sensitized workers be allowed to continue work if they are provided with enhanced protection? Decisions will need to be specific; the antigenic potency of platinum salts and the unusually strong relationship between platinum salt sensitization and subsequent asthma suggest that in that context, a policy of continued, even protected exposure may carry a high risk.

There are, potentially, further implications since the case would seem to set a precedent for considering other pre-symptomatic findings, which might progress to disease if further exposure is not avoided, as actionable injuries—for example, accelerated lung function decline detected by periodic spirometry, or a minor dip in high-tone hearing loss detected by audiometry. The question must also arise as to whether other positive findings detected through biological monitoring and biological effect monitoring will constitute injury. Does the presence of any level of blood lead in a lead worker or urinary protein in a cadmium worker now constitute injury? In all cases, however, the court would have to accept each of the following:

- that the employer had been negligent or breached a statutory duty,
- that the worker had suffered personal actionable injury because their bodily capacity for work has been impaired and
- that the claimant was, as a consequence, significantly worse off.

It is not clear how courts will handle future claims without good understanding of some of the complexities. Sensitization may arise if a worker fails to follow defined safe practices (e.g. not wearing a respirator) despite adequate, documented training. In this situation, in some industries and after education and with closer supervision, the worker may be able to continue in their job, in which case their capacity for work will not have been impaired and they will not be worse off.

We hope that the judgement will encourage employers to be more proactive in managing unsafe exposures and to recognize the limitations of health surveillance, which ranks far below the reduction of exposure in the hierarchy of control. However, the ruling could open several buried cans of worms. Where employers have taken all reasonably practicable measures and yet failed to prevent sensitization, might they move their activities to countries where asymptomatic sensitization is not an actionable injury? Or might they (re)turn their attention to recruiting immunologically resilient employees by, for example, excluding those with (asymptomatic) atopy, or those who smoke, both groups being at increased risk of becoming sensitized? Here, it is worth noting that factors which enhance individual susceptibility appear to act more prominently in environments where exposures are well controlled. This has been demonstrated in the context of platinum salt sensitivity where the association with an HLA-DR3 phenotype is stronger among workers in relatively low-exposure positions [10].

There are still further ramifications. Should sensitization now become reportable, alongside occupational asthma, under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) 2013? Will the Health and Safety Executive have to take more assertive action in cases of sensitization? Will asymptomatic sensitization qualify for Industrial Injuries Disablement Benefit, where even if individual injuries attract sub-threshold awards they can be aggregated?

While there are many unanswered questions, there are lessons we can learn from this judgement. While the Supreme Court decided that, as a result of their sensitization, the claimants 'must change their everyday lives', sensitization does not have a 'substantial and long-term adverse effect on ability to carry out normal day-to-day activities' and so should not be regarded as a disability under the Equality Act 2010, especially since seasonal allergic rhinitis is specifically excluded [11]. Nonetheless, the authors urge employers to take the following steps as good practice over and above their legal obligations:

- take all available and effective measures to reduce both exposure and the incidence of sensitization,
- where sensitized or symptomatic workers are relocated within the organization, they should protect employees' earnings and
- if all attempts to make reasonable adjustments have been exhausted and dismissal is unavoidable and justifiable, workers should be provided with outplacement support to find suitable work elsewhere at equivalent pay, and be 'kept on the books' as an employee until they find such work.

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