

Work in brief

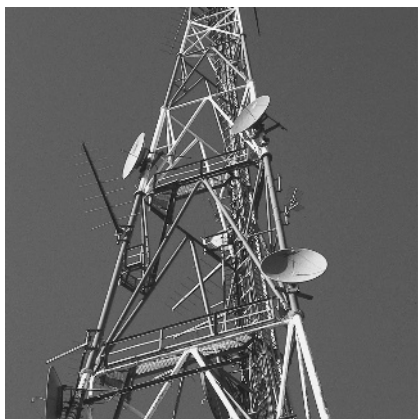


Keith Palmer, Editor



DIABETES AND AIR POLLUTION

People with diabetes may be especially vulnerable to the adverse cardiovascular effects of particulate air pollution, one potential mechanism involving inflammation and endothelial dysfunction. To investigate further, O'Neill *et al*¹ have measured cell adhesion molecules and inflammatory markers (ICAM-1, VCAM-1, vWF) in residents of the Boston area, USA, with type 2 diabetes. Linear regression was used to relate plasma levels of the various inflammatory markers to indices of daily average ambient levels of air pollution (PM_{2.5}, black carbon and sulphates), with adjustment for personal and meteorological risk factors. The authors found consistently positive associations, especially with VCAM-1 in individuals with diabetes who smoke. This report corroborates previous research implicating inflammatory mechanisms in the added risk diabetics carry in relation to air pollution.



HEALTH EFFECTS OF MILITARY ANTENNAE

Anxieties have been expressed over the high power transmissions of high frequency radio waves from antennae. Preece *et al*² investigated concerns related to military antennae in Cyprus. Three villages were studied cross-sectionally and longitudinally with data collected on certain illnesses, general health (SF-36 Short Form-36 Well-Being questionnaire), reproductive history, risk perception and mortality. Field strengths in the "exposed" villages were also measured, with the dominant sources arising from cell phones and national broadcast systems, rather than military signals. Exposed residents perceived their environment as riskier, scored worse in all eight domains of the SF-36, as well as reporting more migraine, headaches and dizziness (odds ratio 2.7 to 3.7). But there were no important differences in hard end points such as adverse obstetric and gynaecological events and cancer. Some symptoms were more common in those closest to antennae, but the authors do not ascribe this to radiofrequency effects.



RHINITIS AND PESTICIDES USED IN GRAPE FARMING

Grape farmers have a high prevalence of allergic rhinitis and respiratory symptoms, as well as an increased sensitisation to specific pollens. Chatzi *et al*³ take research on the topic a step further by exploring associations with the use of pesticides among grape farmers from Crete. In a cross-sectional survey, various health data were collected including specific IgE antibodies to eight allergens and a pesticide usage history. Users more often had symptoms of allergic rhinitis (odds ratio (OR) 3.0 vs non-users and controls) and significant associations were found with 6 of 12 predefined groups of major pesticides, the highest risks being for carbamate insecticides (OR 3.0), dithiocarbamate fungicides (OR 2.5) and bipyridyl herbicides (OR 2.2). Even higher ORs were obtained when the outcome was defined by atopy as well as compatible symptoms. The authors call for further research to confirm these novel findings.



MODELLING INDUSTRIAL EMISSIONS

In the Runcorn area of England, local industry discharged over a ton of mercury per year during 1998 to 2002. Assessing exposures from such emissions is complex, although the simple proxy of residential distance from point of emission has been related to mortality from kidney disease. Hodgson *et al*⁴ have compared "distance as a proxy" to more elaborate atmospheric dispersion modelling, with input information on emissions, local meteorology and topography. Although sensitive to input parameters, the model correlated well in most respects with weekly monitoring data. The authors favour such modelling as a useful adjunct to exposure assessment and as a guide to interpretation of the cruder proxy data.

- 1 O'Neill MS, Veves A, Sarnat JA, *et al*. Air pollution and inflammation in type 2 diabetes: a mechanism for susceptibility. *Occup Environ Med* 2007;**64**:373-9.
- 2 Preece AW, Georgiou AG, Dunn EJ, *et al*. Health response of two communities to military antennae in Cyprus. *Occup Environ Med* 2007;**64**:402-8.
- 3 Chatzi I, Alegakis A, Tzanakis N, *et al*. Association of allergic rhinitis with pesticide use among grape farmers in Crete, Greece. *Occup Environ Med* 2007;**64**:417-21.
- 4 Hodgson S, Nieuwenhuijsen MJ, Colville R, *et al*. Assessment of exposure to mercury from industrial emissions: comparing 'distance as a proxy' and dispersion modelling approaches. *Occup Environ Med* 2007;**64**:380-8.