Metal detectors to detect aluminium

EDITORS—D M Bradburn and colleagues highlight the poor radiodensity of aluminium. We now use a handheld portable metal detector (Ad ama Electronics, Edenbridge, Kent) to detect the presence of metal fragments in patients presenting to our accident and emergency department with a history of having ingested or inhaled metal fragments. This metal detector is sensitive to all metals, particularly closed rings such as the ring pull on aluminium cans.

In the light of Bradburn and colleagues’ case report we tested the ability of our metal detector to detect a metallic tab placed over the neck of one of us. A strong signal was emitted when scanning was performed from the opposite side. We note that the patient reported on had attended accident and emergency departments and that radiographs obtained in both departments had not shown any abnormality. Had the patient been tested with a metal detector the presence of an aluminium fragment might have been detected earlier.

We propose that metal detectors should be used more widely in accident and emergency departments. They have provided information equivalent to that provided by plain radiographs in patients suspected of having ingested a foreign body, especially in one case in which a razor blade was located in the oesophagus.

Falling sperm quality

EDITORS—Stephen Farrow comments on the quality of the evidence concerning a possible decline in sperm quality, focusing on attention published in 1992. Farrow also responds to a paper by Peter Bromwich and colleagues, for which we provided the commentary.

Farrow questions our systematic search of the databases MEDLINE and Index Medicus. A necessary requirement for a valid overview, however, is that the criteria for including articles in the overview (and for excluding them) are explicit and reproducible to avoid selection bias. Several precautions were taken to avoid any undue influence of papers with small numbers of men in them. Firstly, the statistical analyses were weighted by the inverse of the sample size (not the logarithm of the sample size as Farrow claims). Secondly, we identified those studies that contributed most to the statistical estimates: most of these studies included large numbers of men. Replacing the date of publication by the date of data collection was feasible for only a limited number of publications, and the effect of this on the publication date should not give rise to bias, only to a possible dilution of the effect.

We agree that the distribution of the data is obviously skewed and that use of the medians instead of the means would have been preferable. The information provided in the articles, however, did not allow for an analysis based only on the medians.

Farrow criticises our illustration of the decline in sperm concentration with a simple linear regression analysis. Indeed, the fit of this regression line is not very satisfactory, and before submitting the paper we performed several different analyses. The best fit among the more simple models was obtained by obtaining a probit fit in 1965, estimated as 110±10/ml, and highly significantly different from another sperm count, estimated as 73±10/ml, after 1965. This fit is compatible with the suggestion that the decline may have stopped. On the other hand, interestingly, a recent study by Auger et al showed a clearly significant decline in sperm concentration in 1351 fertile donors examined at the same clinic in Paris between 1973 and 1992. Similarly, Von Wessels et al found a significant deterioration in sperm quality in 360 consecutive Belgian semen donors from 1977 to 1991. In conclusion, on the basis of the admittedly fragile instrument of meta-analysis the evidence cannot lead us to a conclusion other than that sperm concentrations now are lower than those in 1940s and ‘50s. This evidence needs to be combined with other types of evidence, but we do not believe that further statistical analysis will make any qualitative difference to the main message.

Our conclusion should perhaps be seen in the light of other aspects of semen quality in the general population: according to the World Health Organization’s classification, human semen is now considered to be normal even if up to 70% of the spermatozoa have abnormal morphology—a percentage much higher than in most other mammals. Finally, there is no reason to doubt the occurrence of testicular cancer (a disease associated with low semen quality) is increasing considerably.

Epidemic of asthma possibly related to thunderstorms

EDITOR—At 1300 on 25 June the National Poisonous Unit was notified by Whips Cross accident and emergency department that 55 people complaining of asthma had attended during the preceding 15 hours. This was in contrast to an expected five to six cases and represented a 10-fold increase. Further investigation showed a similar excess of people attending with acute asthma in nearby hospitals in London: Newham 96; King George’s, Ifold, 91; Royal London 62; Oldchurch 58; St Thomas’s 44; Guy’s 36; and Queen Mary’s, Roehampton, 20. Several accident and emergency departments reported running out of medication, nebuleurs, and mouthpieces of peak flow meters. Further ad hoc surveillance suggests that the incident spread from Bristol to Cambridge and Barnsley to Newcastle.

This initial information suggests that this epidemic of asthma was substantially larger than previously reported epidemics. Epidemiology coincided with thunderstorms over much of Britain. In the past more circumstantial evidence of thunderstorm asthma has been reported after thunderstorms and is thought to be associated, at least in part, with pollen allergens such as pollen and fungal spores. Other epidemics of asthma have not