

Recent Publications

Drug resistance: fast gathering clouds

Two years ago, a task force set up by the Institute of Medicine in the United States issued a report that should have sensitized officialdom and politicians everywhere to the grave global threat once again posed by microbial infection (1). In developed countries, protective immunization and curative antibiotics have largely disposed of the acute viral and bacterial infections that, in previous generations, struck down children and young adults without warning and in such numbers that the average expectation of life remained less than fifty years. However, there is no guarantee that current degrees of protection can be maintained. The microorganisms are fighting a counter-offensive, and at present they are winning the battle.

This warning has now been reiterated by the British Parliamentary Office of Science and Technology, and the message loses none of its impact in re-statement (2). Concern is centred understandably on the progressively worsening problem of multi-drug resistant pulmonary tuberculosis. But there is evidence that this may soon be outpaced by resurgence of other infective diseases.

In Britain, it is estimated, nearly two-thirds of all hospital acquired staphylococcal infections are now resistant to first-line antibiotics. Similarly, the prevalence of penicillin-resistant strains of *Streptococcus pneumoniae* has increased six fold in five years and resistance to erythromycin has quadrupled. In other places, including Alaska, Chile and South Africa, the situation appears to be worse. There is profound concern that, when these drugs fail, patients with bacterial meningitis, in particular, are exposed to considerable risk (3).

Typhoid fever provides another compelling illustration. Resistant strains of *Salmonella typhi* have become 20 times more prevalent in the UK over the past decade. A quarter of all cases reported within the country are now resistant to chloramphenicol and other widely-used alternative antibiotics.

Ultimately, it may be inevitable that common pathogens will learn to live with the antibiotics intended to destroy them, but there can be no doubt that the pace at which resistance is now developing is accelerated by inappropriate and profligate use of antibiotics. British doctors, it is estimated, are more conservative in this respect than many of their colleagues in other countries. None the less, the tendency for doctors to prescribe these vital drugs for trivial conditions is inexorable. It is reported that the number of prescriptions for antibiotics issued in England rose to 70 million in 1991. Every doctor clearly shares a common responsibility to constrain their prescribing of these drugs if the life-saving properties are to be conserved.

References

1. *Emerging infections: microbial threats to health in the United States*. Committee Chairmen: Lederberg, J., Shope, R. Institute of Medicine, Washington DC, 1992.
2. Parliamentary Office of Science and Technology. *Diseases fighting back – the growing resistance of TB and other diseases to treatment*. House of Commons, London, UK.
3. Tonks, A. Drug resistance is a world-wide threat. *British Medical Journal*, 309: 1109 (1994).