

isolates were susceptible *in vitro* to gentamicin, tetracycline, trimethoprim-sulfamethoxazole, ciprofloxacin, rifampicin, fusidic acid and vancomycin. However, two of the Ipswich isolates had erythromycin and inducible clindamycin resistance. When susceptibility testing was performed using standard disc methods, both isolates appeared resistant to erythromycin but susceptible to clindamycin. However, on testing for inducible macrolide resistance (MLSB phenotype) using a disc-approximation method, both showed inducible clindamycin resistance.⁵ These isolates were from superficial abscesses in Polynesian people with community-acquired infection. They were indistinguishable by pulsed-field gel electrophoresis, but there were no epidemiological links. As yet, we have found no community-acquired pulsed-field gel electrophoresis type A strains of MRSA with erythromycin resistance and constitutive (ie, non-inducible) clindamycin resistance.

Two other recent Australian studies found erythromycin resistance in 13 of 153 and three of 29 isolates of non-multiresistant MRSA, respectively.^{3,6} These studies did not report clindamycin susceptibilities, and it was not clear what proportion of the isolates belonged to phage patterns WSPP1 or WSPP2, or were community-acquired.

As clindamycin has been recommended as a therapeutic option for soft-tissue and bone infections caused by non-multiresistant MRSA, this finding of inducible clindamycin resistance has important implications. Microbiology laboratories should screen for inducible clindamycin resistance in erythromycin-resistant strains, and, if found, an alternative antibiotic should be used for treatment.⁷ Alternatively, rather than assessing inducible clindamycin resistance with a disc-approximation test, some laboratories may prefer to report all erythromycin-resistant strains as clindamycin-resistant. Also, given the increasing incidence of community-acquired MRSA infection in Australia, all suspected staphylococcal infections that are not responding to empiric therapy with β -lactam antibiotics should be swabbed for culture.

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Time for a grant category for curiosity-based research

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TO THE EDITOR: We strongly support the proposal¹ that it is time to create a special grant category for curiosity-based research proposals. Having been in biomedical research for over 50 years, we have experienced a period when most research was curiosity based. We can thus compare with the present situation — research aiming for a rapid, practical and commercial outcome has become almost a necessity for survival because of the increasingly severe reduction in government funding for universities and research institutes. We would like to illustrate the value of curiosity-based research with a few Australian examples from our own fields.

In 1946, one of us (F F) was working on the experimental epidemiology of the causative agent of infectious ectromelia of mice (related to vaccinia virus). A chance observation — that the mice which survived the infection developed a skin rash — led to further study of the virus as a model for smallpox, measles and chickenpox infections. Thus, unexpected discoveries were made about the way the virus spreads through the body during the incubation period of these diseases.²

In 1951, myxomatosis spread in rabbits in the Murray-Darling basin of south-eastern Australia. The virus was initially extremely virulent (99% fatal), but the rabbits slowly developed genetic resistance. One of us (F F) studied the virus for 15 years, and this work was acknowledged as the best example of the co-evolution of viral virulence and host resistance.³

In 1957, Macfarlane Burnet proposed the clonal selection theory of antibody formation — that individual B lymphocytes made antibody of a single specificity.⁴ This was one of the most original concepts ever proposed in biology and it took 10 years to be widely accepted. It has since led to the production of monoclonal antibodies,

which are used as basic reagents in research and diagnostic laboratories, and are now being used in immunotherapy.

In the 1970s, Peter Doherty and Rolf Zinkernagel studied the role of the newly discovered cytotoxic T cells (which could lyse virus-infected cells) to find out how T cells recognised the infected cells. They showed that killing was restricted by the major histocompatibility complex (MHC) and that its role was to signal “altered self” to the T cell.⁵ These studies led to the award of the Nobel Prize in 1996. Cytotoxic T cell activity has since been shown to be the main immune mechanism for controlling and clearing many intracellular infections. Induction of a strong cytotoxic T cell response is the mechanism of candidate vaccines currently being trialled against HIV-1.

In the late 1960s, one of us (G A), together with Chris Parish, showed that a bacterial protein, flagellin, induced antibody tolerance over a wide dose range. Parish was the first to show the inverse relationship between antibody and cell-mediated immune responses, which led others to describe two classes of helper T lymphocytes.⁶ These have been shown to be important in the development of allergy in infants, and offer the opportunity for immunotherapy to reduce the later incidence of allergy.

None of these research programs was initiated with a commercial goal in mind. Benjamin Franklin, when asked about the importance of some research, replied “Of what use is a baby?”.

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