LUNG ALERT

A novel approach to vaccination for common respiratory pathogens

In this study phosphorylcholine (ChoP), an antigenic component found on the cell surface of major bacterial pathogens, is investigated as a potential target for a putative single vaccine with activity against multiple respiratory pathogens and, in particular, *Streptococcus pneumoniae* and *Hemophilus influenzae*. A number of experiments were performed using human ChoP-specific antibody purified from pooled serum gamma globulin. Initially, purified ChoP antibody was shown to recognise both ChoP* H influenzae* and pneumococcal lipoteichoic acid. Subsequently it was shown that the antibody was primarily of the IgG2 subtype. The authors then went on to perform a vitro killing assays and demonstrated effectiveness against some clinical isolates of non-typable* H influenzae* and some serotypes of* S pneumoniae*. Finally, passive immunisation using intraperitoneal injection of human anti-ChoP antibody into mice, followed by intraperitoneal pneumococcal challenge (of the less virulent transparent type), conferred 100% survival on the mice.

Strategies of immunisation designed to increase levels of anti-ChoP IgG2 antibody may enhance host defences against many major bacterial infections of the respiratory tract. This results in a novel vaccine approach—namely, one vaccine for multiple pathogens.

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