

P186 **SERUM SPECIFIC IMMUNOGLOBULINS RELATED TO ORGANOPHOSPHATE PESTICIDE (OP) EXPOSURE**

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Objectives This study investigated the presence and prevalence of specific immunoglobulins to OP-induced organophosphorylation in subjects who have a history of significant exposure to OPs.

Methods 104 subjects with a history of at least one significant depression (>20%) in plasma cholinesterase activity and 96 subjects with no history of occupational exposure to OP pesticides formed the exposed and control groups. Plasma samples were analysed in a standardised ELISA format to detect specific immunoglobulins against; dimethoxyphosphoserine-BSA, diethoxyphosphoserine-BSA, phosphoserine-BSA, phosphotyrosine-BSA, and both human butyrylcholinesterase and acetylcholinesterase in native and in aged forms. Samples were randomised in analytical batches and 'standardisation' procedures employed to reduce potential bias. Abnormality was defined using the 97.5th percentile of absorption in the control group. Where possible, the immunoglobulin class and subclass were identified for positive samples.

Results Increased prevalences of specific antibodies against diethoxyphosphoserine-BSA (21%; $p<0.0001$), phosphotyrosine-BSA (11%; $p=0.003$), acetylcholinesterase aged by diethoxyOP (5%; $p<0.037$) were found in the exposed group. Twenty-two samples with positive specific antibodies were analysed for immunoglobulin class/subclass; 80% of positive responses belonged to the IgG class. Overall 17% of positive responses were found to be IgG4 subclass, but 72% of the samples positive to the diethoxyphosphoserine capture antigen gave a positive IgG4 response.

Conclusions Specific IgG antibodies in those occupationally exposed to reactive chemicals have been widely reported. The prevalence of specific antibodies to diethoxyphosphoserine found in this study appears too low to be diagnostically useful, but is worthy of further investigation in terms of the non-anticholinergic effects of OP exposure.