Cryoglobulins

Cryoglobulins are plasma immunoglobulins or immunoglobulin-containing complexes that precipitate on exposure to cold and redissolve on warming. They should be distinguished from red cell agglutinins and from the blood-component cryoprecipitates manufactured from donor plasma. The typical clinical triad of cryoglobulinaemia comprises purpura, arthralgia and weakness, with possible multisystemic organ involvement, notably glomerulonephritis and neuropathy. In blood smears prepared at room temperature, cryoglobulins can be detected by their peculiar morphology, which can assume globular, rhomboid or cylindrical amorphous precipitates (Figure, A–C, arrows; Wright–Giemsa stain, original magnification, × 200). Occasionally, these may be mistaken for blood cells, leading to spuriously high blood cell counts. Cryoglobulins are associated with infections (eg, hepatitis C), lymphoproliferative diseases and autoimmune diseases. Plasmapheresis is a useful adjunctive treatment for severe active disease, but the replacement fluid must be warmed to prevent precipitation of circulating cryoglobulins.

Herman H Lee, Haematology Registrar
Chi-hung Hui, Haematologist
Department of Haematology, Institute of Medical and Veterinary Science, Adelaide, SA.
chi-hung.hui@imvs.sa.gov.au