**EMERGENCY CASEBOOK**

**Waldenström macroglobulinaemia presenting as bleeding diathesis with paradoxical coagulation of blood samples**

A 79 year old man, who had been well all his life, presented to our accident and emergency department with episodic epistaxis and bleeding gums of two days’ duration. On examination there were splinter haemorrhages in every finger. Petechiae were present in the hands and over the shins. Cardiac murmurs consistent with aortic sclerosis and mitral regurgitation were present. The patient was apyrexial. Blood taken by different doctors on three occasions, collected in EDTA and citrate, consistently clotted on reaching the laboratory. On the fourth occasion, blood taken and maintained at body temperature allowed analysis. The following results were obtained: haemoglobin 98 g/l, mean corpuscular volume 99 fl, white cell count 5.7 × 10⁹/l, platelet count 127 × 10⁹/l, erythrocyte sedimentation rate 120 mm/hour, prothrombin time 23 seconds, activated partial thromboplastin time 49 seconds, thrombin time 10 seconds, globulin 56 g/l, albumin 36 g/l, and bilirubin 29 μmol/l. A provisional diagnosis was made of a lymphoproliferative disorder with possible cold agglutinins. This was confirmed the next day on bone marrow examination as Waldenström’s macroglobulinaea. The bone marrow showed a diffuse increase in lymphoplasmacytoid cells. Immunophenotyping confirmed a monoclonal proliferation of IgM (K) cells with a paraprotein concentration of 37 g/l. Abdominal ultrasound confirmed a normal sized liver and spleen. The patient was started on chlorambucil and remains well on regular follow up.

In this case bleeding of gums and epistaxis, with no previous relevant history, needed to be investigated for possible bleeding disorders. Blood samples were taken and sent to the laboratory. When it was realised that blood had clotted on three occasions despite all precautions, a possibility of the presence of cold agglutinins was considered. The fourth sample was kept warm by squeezing the bottle in the hand until it was ready for analysis. Cold agglutination is not a true clotting of blood. The coagulum appears like a homogenous jelly and is distinct from clotted blood as there is no separation of serum and clot (fig 1). This process only occurs at temperatures below 37°C and can be reversed by warming the blood. Although the phenomena of cryoglobulins causing cold agglutination of blood at temperatures below 37°C is well documented, an extensive search of literature has not revealed this phenomena as the first presentation of Waldenström’s macroglobulinaemia in an emergency department.

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