

To the Editors:

## Cytomegalovirus induced haemophagocytic syndrome

A 50-year old woman with rheumatoid arthritis, on methotrexate 7.5 mg weekly for two years, presented with fever of 8 days' duration. After admission she developed loss of appetite, shortness of breath at rest, pallor, icterus, tender hepatomegaly without acute joint involvement, flapping tremor, reduced urine output, bruising and bleeding from puncture sites.

Her WBC count dropped to  $1.2 \times 10^9/l$  (counted only fifty cells), haemoglobin to 6.1 g/dl and the platelet count to  $30 \times 10^9/l$ , with raised levels of alkaline phosphatase (529 IU/l), serum bilirubin, serum ferritin (1200  $\mu g/l$ ), serum creatinine (374  $\mu mol/l$ ) and triglycerides. She had a prolonged prothrombin time, APTT, thrombin time with a low fibrinogen concentration. Bone marrow biopsy showed an increased number of histiocytes with prominent phagocytosis of red cells, platelets and nucleated cells suggestive of haemophagocytic syndrome.

Her condition rapidly progressed to multiorgan failure with severe pancytopenia. She was treated with packed red cell transfusions, fresh frozen plasma and granulocyte colony stimulating factor. The liver and renal failure were managed appropriately. After one week, her blood counts, and renal and liver functions improved. Three weeks later she became clinically normal, with normal blood counts.

Haemophagocytic syndrome is known to cause severe multi-system failure, with a high mortality rate of 40 to 50% (1). This patient had high fever for more than one week, cytopenia affecting all three cell lines, bone marrow

biopsy showing mature histiocytes with prominent haemophagocytosis and positive IgM for cytomegalovirus infection, providing evidence for the diagnosis of haemophagocytic syndrome (2). Known aetiological factors of this syndrome include viral, bacterial, fungal and parasitic infections, drugs (phenytoin), malignancies (lymphoma, acute leukaemia, germ-cell tumour, breast cancer), autoimmune disease (eg SLE) and immunosuppression.

Although the patient was on methotrexate for nearly two years, her CD4, CD8 counts were normal with normal counts of B, T and NK cells. She had positive IgM antibodies with negative IgG for cytomegalovirus, but no evidence of cytomegalovirus retinitis. Of the poor prognostic factors of haemophagocytic syndrome (2,3) she had only elevated levels of serum ferritin and triglycerides.

Since haemophagocytic syndrome has a high mortality rate, it is important to consider the diagnosis in situations where the condition of a patient suddenly deteriorates following a viral infection.

### References

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