Abstract

Background Azathioprine (AZA) is an immunosuppressive, cytotoxic agent, which can be used as adjunctive therapy with corticosteroids or as a monotherapy in many inflammatory conditions. Hematological toxicity is a known side effect but severe pancytopenia and alopecia is rare and it is more pronounced with the deficiency of Thiopurin Methyltransferase (TPMT) or Nucleotide diphosphate 15 activity (NUDT 15).

Case presentation A 24 year old male patient with optic neuritis probably secondary to Neuro-Myelitis Optica Spectrum Disorder (NMOSD) or Myelin oligodendrocyte glycoprotein antibody associated disease (MOGAD) presented with fever, generalized macular- papular rash,punched out ulcers involving bilateral upper limb, scrotal skin and oral cavity with non-scaring alopecia for 2 weeks duration. He was started on Azathioprine adjunct to oral steroid approximately 2months prior to this presentation. Investigation revealed severe pancytopenia with evidence of sepsis secondary to Urinary tract infection. After excluding all the possible causes it was concluded that bone marrow suppression is due to Azathioprine toxicity. He was successfully managed with Antibiotics and Granulocyte colony stimulating factor (GCSF) after withholding the offending drug.

Conclusion Though it is rare occurrence to have severe pancytopenia during AZA treatment, assessment of complete blood count (CBC) and if possible TPMT level prior to treatment, and monitoring CBC, liver function in due course will prevent serious adverse reaction to AZA therapy.