Secondary myelodysplastic syndrome following long-term treatment with azathioprine in patients with multiple sclerosis

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Azathioprine (Aza) is a widely used immunosuppressive drug in multiple sclerosis (MS) treatment. Recently, the incidence of secondary myelodysplastic syndromes (sMDS) associated with a poor prognosis was found to be elevated in patients treated with Aza for non-malign disorders. Three hundred and seventeen MS patients were retrospectively analysed and complete blood counts were examined for those exposed to Aza. We identified one case of sMDS (cumulative dose 627 g) in a young patient and two further malignancies (cumulative doses 27 g and 54 g) in the Aza group (n = 81; 3.7%). In the non-Aza (n = 236) group, five malignancies (2.1%, P = 0.419) were identified. Including our patient, four cases of sMDS after long-term Aza therapy in MS have been reported so far. Cases suggest a time- and dose-dependent risk of sMDS in long-term therapy of MS with Aza. Long-term Aza therapy needs careful monitoring.