

Tisagenlecleucel

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Prolonged neutropenia and thrombocytopenia: case report

A 16-year-old boy developed prolonged neutropenia and thrombocytopenia following treatment with tisagenlecleucel for acute lymphoblastic leukaemia [ALL; *routes, dosages, durations of treatment to reactions onsets and outcomes not stated*].

The boy, who had history of epilepsy, high body mass index, obstructive sleep apnoea, recurrent folliculitis, parathyroid adenoma with mild hypercalcaemia, Down's syndrome and ALL, was enrolled in the clinical trial and received chimeric antigen receptor T-cell therapy (CART) with tisagenlecleucel. Additionally, he had developed non-insulin-dependent diabetes and neuromyopathy associated with vincristine and dexamethasone, which he had received for ALL. He was receiving metformin for diabetes. The diabetes and neuromyopathy were recovering prior to the initiation of tisagenlecleucel therapy. After initiation of tisagenlecleucel therapy, he developed prolonged neutropenia and thrombocytopenia associated with tisagenlecleucel. After 3 months from the initiation of tisagenlecleucel, immune globulin [immunoglobulin] was added to the therapy. After 7 months from the tisagenlecleucel therapy, he tested positive for COVID-19 pneumonitis. He was therefore hospitalised and received off-label IV dexamethasone for 10 days in addition to remdesivir. He had 2 more episodes over the following 3 months that also required brief admissions to the ICU, with superadded bacterial and *Aspergillus* infections associated with the third visit. On second admission, he continued receiving same therapy for COVID-19 pneumonitis; however, he additionally received off-label nitazoxanide 500mg twice daily in addition to tocilizumab for controlling inflammatory component. On third admission, he received remdesivir for COVID-19 pneumonitis, along with meropenem, amphotericin B and voriconazole for superadded infections. Thereafter, he tested negative for SARS-CoV-2 infection on PCR testing.

Hodder A, et al. SARS-CoV-2-specific T-cell responses to recurrent COVID-19 pneumonitis in a patient with post-CART B-cell aplasia. *Blood Advances* 6: 1577-1579, No. 5, 8 Mar 2022. Available from: URL: <http://doi.org/10.1182/bloodadvances.2021006626>

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