

Tozinameran

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Aplastic anaemia: case report

A 56-year-old man developed aplastic anaemia (AA) following vaccination with tozinameran against coronavirus disease 2019 (COVID-19).

The man, who had received the second dose of tozinameran [Pfizer-BioNTech mRNA vaccine] (3 weeks after the first dose) 4 days previously [*route and dosage not stated*], presented due to bleeding in the oral cavity after dental therapy. Lab tests revealed decreased levels of WBC and platelet. He was hospitalised for progressive pancytopenia. Following multiple investigations and a bone marrow biopsy, which showed a hypocellular marrow, he was diagnosed with very severe AA.

Therefore, the man received unspecified granulocyte-colony stimulating factor, without any effect on the neutropenia. He was treated with ciclosporin [cyclosporine] and eltrombopag; however, the pancytopenia persisted. Then, he underwent an allogeneic haematopoietic stem cell transplantation (HSCT) after conditioning with cyclophosphamide, fludarabine, antithymocyte globulin and total body irradiation. He started receiving tacrolimus and methotrexate for prophylaxis against graft-versus-host disease (GVHD). Neutrophil engraftment was noted 21 days after the HSCT. On day 29 after the HSCT, a complete chimerism in the peripheral blood was confirmed. He developed grade I acute GVHD of the skin [*aetiology unknown*], which was improved with unspecified corticosteroid therapy. The titers of antibodies against SARS-CoV-2 prior to the conditioning regimen and 63 days following the HSCT were found to be 540 U/mL and 34.9 U/mL, respectively. These findings suggested that the AA had ameliorated with the allogeneic HSCT, while anti-SARS-CoV-2 spike protein antibodies were still detected after the HSCT. It was noted that tozinameran vaccine had contributed to the pathogenesis of AA.

Tabata S, et al. Severe aplastic anemia after COVID-19 mRNA vaccination: Causality or coincidence?. *Journal of Autoimmunity* 126: 1-4, Jan 2022. Available from: URL: <http://doi.org/10.1016/j.jaut.2021.102782>

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