

A case series of Bacillus Calmette-Guérin reactivation after administration of both mRNA and viral vector COVID-19 vaccines

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Abstract

Reactivation of the scar resulting from intracutaneous injection of Bacillus Calmette-Guérin (BCG) is a common specific reaction in Kawasaki's Disease. It has also sporadically been associated with viral infections, Multisystem Inflammatory Syndrome in Children, influenza vaccination and mRNA COVID-19 vaccination. Since the start of the COVID-19 vaccination campaign in January 2021, the Netherlands Pharmacovigilance Centre Lareb has received 22 case reports of BCG reactivation after vaccination with a COVID-19 vaccine. In 20 case reports it concerned mRNA COVID-19 vaccines Moderna (14) and Pfizer (6). In 2 case reports the viral vector COVID-19 vaccine AstraZeneca was administered. Erythema and pain were the most frequently reported symptoms and the size of the inflammation was between 1.5 to 5 cm. BCG reactivation occurred with a median time to onset of 2 days after the second or booster COVID-19 vaccination, whereas the median time to onset was 7 days after the first COVID-19 vaccination. None of the BCG reactivations were treated. The exact mechanism of the occurrence of this specific reaction remains unknown, however involvement of heat shock protein 65 is suggested. BCG reactivation is a non-serious, self-limiting reaction that can occur after vaccination with both mRNA and viral vector COVID-19 vaccines.

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