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# Immune thrombocytopenia following immunisation with Vaxzevria ChadOx1-S (AstraZeneca) vaccine, Victoria, Australia

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ABSTRACT

Emerging evidence suggest a possible association between immune thrombocytopenia (ITP) and some formulations of COVID-19 vaccine. We conducted a retrospective case series of ITP following vaccination with Vaxzevria ChadOx1-S (AstraZeneca) and mRNA Comirnaty BNT162b2 COVID-19 (Pfizer-BioNTech) vaccines and compare the incidence to expected background rates for Victoria during the first six months of the Australian COVID-19 vaccination roll-out in 2021. Cases were identified by reports to the Victorian state vaccine safety service, SAEFVIC, of individuals aged 18 years or older presenting with thrombocytopenia following COVID-19 vaccination without evidence of thrombosis. Twenty-one confirmed or probable cases of ITP were identified following receipt of AstraZeneca (n = 17) or Pfizer-BioNTech (n = 4) vaccines. This translates to an observed incidence of 8 per million doses for AstraZeneca vaccine, twice the expected background rate of 4.1 per million. The observed rate for Pfizer-BioNTech was consistent with the expected background rate. The median time to onset for the cases post AstraZeneca vaccination was 10 days (range 1–78) and median platelet nadir $5 \times 10^9$/L (range 0–67 $\times$ $10^9$/L). Hospital presentations or admissions for management of symptoms such as bleeding occurred in 18 (86%) of the cases. The majority of cases (n = 11) required intervention with at least 2 therapy modalities. In conclusion, we observed a substantially higher than expected rate of ITP following AstraZeneca vaccination. ITP is the second haematological adverse event, distinct from that of thrombosis with thrombocytopenia syndrome (TTS), observed following AstraZeneca vaccination.



## 1. Introduction

With the emergence of SARS-CoV-2 variants, such as the B.1.617.2 Delta variant, high vaccine uptake is an even more crucial component of the global pathway out of the Coronavirus disease (COVID-19) pandemic, including in Australia. The Vaxzevria ChadOx1-S (AstraZeneca) and mRNA Comirnaty BNT162b2 (Pfizer-BioNTech) COVID-19 vaccines are both integral parts of the current Australian vaccine strategy [1], and are generally well tolerated with mild, common, and expected adverse effects such as fever, fatigue, headache and myalgia [2]. However, recent studies identified Thrombosis with Thrombocytopenia Syndrome (TTS) as a rare but serious condition associated with AstraZeneca vaccine [3,4]. Early research suggests that TTS is likely an auto-immune phenomenon

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