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immunosuppression. Nevertheless, as with other vaccinations, the benefit of immune protection, most probably, outweighs the risk of relapse.

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Nora Schwotzer<sup>1</sup>, Sébastien Kissling<sup>1</sup> and Fadi Fakhouri<sup>1</sup>

<sup>1</sup>Service of Nephrology and Hypertension, Department of Medicine, Lausanne University Hospital, Lausanne, Switzerland

**Correspondence:** Nora Schwotzer, Service of Nephrology and Hypertension, Department of Medicine, Lausanne University Hospital, Lausanne, Switzerland. E-mail: [nora.schwotzer@chuv.ch](mailto:nora.schwotzer@chuv.ch)

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## Relapse of minimal change disease following the AstraZeneca COVID-19 vaccine



**To the editor:** Anecdotal reports linking minimal change disease (MCD) to vaccinations possibly due to immune dysregulation,<sup>1</sup> including influenza vaccine,<sup>2</sup> pneumococcal,<sup>3</sup> meningococcal C vaccines,<sup>4</sup> and BNT162b2 coronavirus disease 2019 (COVID-19) vaccine (Pfizer-BioNTech)<sup>5,6</sup> have been published. We report 2 cases of biopsy-proven MCD relapsing within 2 days of receiving an AstraZeneca COVID-19 vaccine.

A 30-year-old man had received 1 g of rituximab in August 2020, having experienced annual relapses on tacrolimus. His prednisolone had been weaned to 1 mg/day by January and discontinued altogether by February 2021. Two days after his COVID-19 vaccine, he developed a headache and frothy urine. Urine protein-to-creatinine ratio 1 week later was 213 mg/mmol; albumin was preserved at 47 g/l; creatinine was stable at 82 μmol/l. At that time, lymphocyte subsets showed complete B-cell depletion; CD19 was 0.00. He did not seek medical attention until 2 months after receiving the vaccine when his urine protein-to-creatinine ratio was 142 mg/mmol. Repeat lymphocyte subsets then revealed B-cell return; CD19 was 0.06. Complete remission was achieved with 10 days of starting prednisolone 20 mg daily.

A 40-year-old woman was maintained on prednisolone 5 mg daily and tacrolimus (Adoport); trough level was 4.6 μg/l before vaccination. One day after receiving her first COVID-19 vaccine, she developed a headache, frothy urine, and ankle swelling. After 1 week, her general practitioner recorded 3+ dipstick proteinuria. Unfortunately, no laboratory samples were sent. Prednisolone was increased to 30 mg daily, and

complete remission was achieved within 2 weeks. Creatinine was unchanged at 105 μmol/l.

The association with various vaccines has been described, occurring between 4 days to several weeks later.<sup>1,5,6,7</sup> The timing of COVID-19 vaccination and the very early development of relapse of MCD in our cases raises questions as to the mechanisms involved. At 2 days after vaccination, one would assume the vaccine triggered a more generalized cytokine-mediated response.<sup>7</sup> Others have postulated that symptoms after 4 days represent a rapid T cell-mediated response to viral mRNA.<sup>2,5,6</sup>

We administered the second dose of a different COVID vaccine, and neither patient suffered an adverse effect. However, both patients were taking 15 mg prednisolone daily at the time. This may prove a useful strategy in similar cases.

We await further reports to evaluate the true incidence.

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Clare Morlidge<sup>1</sup>, Sally El-Kateb<sup>2</sup>, Praveen Jeevaratnam<sup>2</sup> and Barbara Thompson<sup>2</sup>

<sup>1</sup>Pharmacy Department, Lister Hospital, Stevenage, Hertfordshire, UK; and <sup>2</sup>Renal Department, Lister Hospital, Stevenage, Hertfordshire, UK

**Correspondence:** Clare Morlidge, Pharmacy Department, East and North Hertfordshire NHS Trust, Coreys Mill Lane, Stevenage, Hertfordshire, SG1 4AB, UK. E-mail: [claremorlidge@nhs.net](mailto:claremorlidge@nhs.net)

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## Post-vaccinal minimal change disease



**To the editor:** Previous reports have described the onset of minimal change disease after the administration of certain vaccines.<sup>1</sup>

Recently a 61-year-old woman was admitted to our hospital 8 days after her first coronavirus disease 2019 (COVID-19) vaccination (BioNTech/Pfizer SARS-CoV-2 COM-IRNATY) because of edema and weight gain (6 kg). Medical