

Supplemental information

Detailed case reports

Patient 1 was a Caucasian 72-year-old woman without any permanent medication, presenting eleven days after vaccination to the emergency department with petechiae and hematomas that later extended to the whole-body surface. She had no preexisting conditions apart from a radioiodine treated autoimmune thyroiditis. Complete blood count (CBC) revealed severe thrombocytopenia ($< 5 \times 10^9/L$) and slightly elevated D-dimers (Table 1). The IgG-specific PF4/heparin ELISA test (Asserachrom[®] HPIA-IgG, Stago) was negative. The patient was treated with prednisolone 100 mg per day and intravenous immunoglobulin (Octagam[®] 0,4 g per kilogram per day) as depicted in Figure 1. As a result, platelet count almost normalized with $142 \times 10^9/L$ within four days. Five days after admission, the patient was discharged for outpatient follow-up with a prednisolone dosage reduction plan. Five days later, follow-up blood tests showed a normalized thrombocyte count ($253 \times 10^9/L$).

Patient 2 was a Caucasian 71-year-old woman who presented with epistaxis and petechiae to the emergency department (Figure 2), eleven days after vaccination with ChAdOx1 nCoV-19. She had no preexisting conditions apart from a latent autoimmune hypothyroidism.

In addition, she reported mild headaches. A neurological exam did not reveal any further pathological findings. At her presentation, her platelet count was $< 5 \times 10^9/L$ (Table 1), whereas D-dimers were slightly elevated. The IgG-specific PF4/heparin ELISA test (Asserachrom[®] HPIA-IgG, Stago) was negative. As headaches occurred, an MRI scan ruled out intracranial bleeding and cerebral vein or sinus thrombosis. Prednisolone (initial bolus of 250 mg followed by 100 mg per day) and intravenous immunoglobulin (Privigen[®] 1 g per kilogram per day) were administered (Figure 1). Nevertheless, platelet count remained low.

As the patient did not respond to immunoglobulines and steroids, we performed a peripheral blood smear and bone marrow biopsy to rule out other causes for thrombocytopenia. The blood smear showed severe thrombocytopenia and platelet anisometry and the bone marrow appeared in line with the picture of ITP with an increased megakaryocyte count.

Dexamethasone (40 mg per day) was given for seven more days and another dose of intravenous immunoglobulin (Octagam[®] 0,8 g per kilogram) was administered. These interventions let the platelet count increase to $46 \times 10^9/L$ and the patient was discharged for outpatient monitoring. At the first outpatient visit after seven days, the patient presented

35 with platelets $< 5 \times 10^9/L$ again and was re-admitted. After admission, the patient developed
36 epistaxis grade II which terminated with nasal packing. Intravenous immunoglobulin
37 (Privigen® 1 g per kilogram) and steroids were started again and treatment with
38 Thrombopoietin Receptor Agonist (TPO) Eltrombopag was implemented. During the following
39 six days thrombocyte count increased to $58 \times 10^9/L$ and the patient was discharged for
40 outpatient follow-up with a steroid dosage reduction plan. Five days later platelet count
41 reached $71 \times 10^9/L$.

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43 **Patient 3** was a Caucasian 66-year-old man presenting to the emergency department with
44 hyposphagma and petechiae two days after vaccination with ChAdOx1 nCoV-19. He reported
45 a past medical history of minor untreated thrombocytopenia around $60 \times 10^9/L$. On admission,
46 the platelet count was $< 5 \times 10^9/L$ (Table 1), whereas normal D-dimer was revealed. The IgG-
47 specific PF4/heparin ELISA test (Asserachrom® HPIA-IgG, Stago) was negative. Treatment with
48 prednisolone (100 mg per day) was commenced for 4 days (Figure 1). On day 5, platelet count
49 had increased to $23 \times 10^9/L$ and the patient was discharged for outpatient follow-up three
50 days later, where thrombocyte count increased to $89 \times 10^9/L$.

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52 **Patient 4** was a Caucasian 64-year-old woman who presented to the emergency department
53 with petechiae and newly detected thrombocytopenia ($6 \times 10^9/L$, Table 1) 15 days after
54 vaccination with ChAdOx1 nCov-19. Preexisting conditions included chronic obstructive
55 pulmonary disease and arterial hypertension. The IgG-specific PF4/heparin ELISA test
56 (Asserachrom® HPIA-IgG, Stago) and testing for D-Dimers were negative. The patient was
57 admitted for further observation and treatment with prednisolone 100 mg per day was
58 initiated as depicted in Fig. 1. Despite treatment, she developed spontaneous hematoma of
59 the left ankle without further therapeutic consequences. After six days of prednisolone
60 treatment platelet counts reached $98 \times 10^9/L$ and the patient was discharged with a
61 prednisolone dosage reduction plan.

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