SHORT COMMUNICATION

Development of Multiple Cherry Angiomas in a Child after COVID-19 Vaccination

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The recent COVID-19 coronavirus pandemic has focused attention on the disease, treatment and vaccines. In addition to the well-known symptoms of SARS-CoV-2, which include pulmonary symptoms, fever and fatigue, various extrapulmonary symptoms, such as cutaneous manifestations, have been reported to be associated with the virus (1). Vaccines against SARS-CoV-2 have been developed and are in use worldwide. Both the virus itself and the vaccines have been suspected to cause cutaneous manifestations. Several, and widespread, cutaneous adverse events have been reported thus far; ranging from mild injection site reactions to morbilliform exanthema and severe allergic reactions. Both *de novo* reactions and flare-up of pre-existing dermatoses have been described (2, 3). We report here a case of a child developing multiple cherry angiomas shortly after COVID-19 vaccination.

CASE REPORT

A 12-year-old boy was referred to our outpatient clinic due to rapid development of multiple cherry angiomas. Less than 1 week after receiving his first vaccination against COVID-19 (Pfizer BioNTech) he had rapidly developed several cherry angiomas, progressing over a period of weeks. The vaccine was the first generation of COVID-19 vaccines. Date of vaccination: July 24th 2021. Neither he nor his parents had noticed any malaise, fever or infections in relation to the debut, and he had no family history of cherry angiomas.

Clinical examination revealed multiple cherry angiomas on the trunk, face and limbs, 1–5 mm in diameter (**Fig. 1**). Examination did not reveal any lymphadenopathy or organ enlargement. A broad spectrum of blood tests including coagulation parameters, immunoglobulins, interleukins, HIV, human herpes virus type 8 (HHV-8), Epstein Barr virus and vascular endothelial growth factor were all within normal values. A skin punch biopsy confirmed the diagnosis of cherry angiomas. Ultrasound of the abdomen and neck, as well as chest X-ray, did not reveal any pathological findings. The patient was referred to further paediatric and genetic assessment to rule out syndromes or lymphoproliferative disorders. Paediatric assessment did not find any signs of lymphoproliferative disorders; and genetic evaluation did not find any risk of genetic variants that could explain the early debut of cherry angiomas. Genetic assessment included screening of 16 genes related to vascular malformations (blueprint vascular malformation panel) and testing for the *GLA* gene. During the period of investigation the patient developed several additional cherry angiomas. The patient was enrolled in the dermatology clinic for laser treatments combining both Nd-YAG 1064 nm laser for the large angiomas and pulse dye laser 595 nm for the smaller angiomas. In total, 80 angiomas were treated successfully. At follow-up 6 months after the debut of symptoms, no new angiomas had developed, and this was also the case at 12 months follow-up. In addition, the results of laser treatments were satisfying and without scarring.

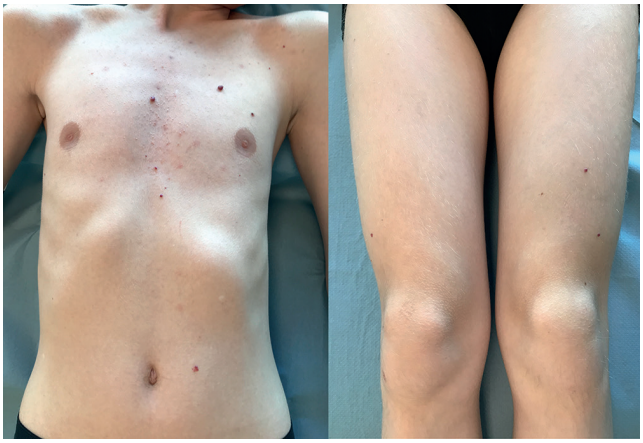

Fig. 1. Cherry angiomas on the trunk and legs in a 12-year-old boy.

DISCUSSION

Cherry angiomas are common, benign vascular lesions with unclear aetiology. Normally, they develop in older individuals and their eruptive form has been linked to HHV-8 (4). Furthermore, they have been linked to immunosuppression and lymphoproliferative disease (5).

We believe that, in this case, the development of multiple cherry angiomas was associated with the COVID-19 vaccination. The patient had no other expositions that would explain the development, and none of the tests revealed signs of underlying disease or genetic variants. Furthermore, progression of angiomas had resolved by 6 months after the vaccination, and had not progressed further by 12 months follow-up; indicating that the underlying cause had disappeared.

A literature survey found only 2 other cases of eruptive cherry angiomas linked to the COVID-19 vaccine. Shanshal reported a case of a 55-year-old woman previously known to have psoriasis (6), and Zengarini et al. (7) reported a case of a 64-year-old woman. Unlike these cases, the current case is of a previously healthy child, in whom cherry angiomas are less common. To our knowledge, this is the first case of a child developing eruptive angiomas linked to the COVID-19 vaccine. In addition to the previously mentioned cases, a survey of the literature only revealed reports of eruptive cherry angiomas due to the COVID-19 virus itself (8) and development of pseudoangiomatosis due to both the virus and the vaccine

(9, 10). It is important to distinguish between the virus and the vaccine as triggering factor in order to establish the correct safety profile of the vaccines.

Although cherry angiomas are benign and there have been only a few case reports of cherry angiomas following the COVID-19 vaccine, it is relevant to report all cutaneous adverse events, in order to accumulate knowledge about mechanisms and safety profiles. However, these rare adverse events should not overshadow the importance of vaccination.

The authors have no conflicts of interests to declare.

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