Dear Editor,

Reports of cutaneous side effects due to a COVID-19 vaccine have increased with the expansion of vaccinations. Cutaneous side effects are more common in women, and the most frequent skin manifestations are delayed large local reactions, local injection site reactions, urticaria, and herpes zoster. There are few reports of a lichenoid reaction. We report a case of linear lichen planus triggered by the Pfizer-BioNTech COVID-19 vaccine.

A 57-year-old Japanese woman suffered from linear whitish-brown papules along Blaschko’s lines on her left upper extremity (Figure 1a). She had no personal or family history of inflammatory skin conditions. Apart from COVID-19 vaccination, she had not been exposed to any other medications, herbal therapy, or other vaccinations in the weeks or months prior to eruption developing. She noted that (i) she had received the third dose of the Pfizer-BioNTech COVID-19 vaccination at her left upper extremity 2 weeks earlier, and (ii) she had no skin symptoms after the first and second Pfizer-BioNTech COVID-19 vaccinations. The routine blood test results were unremarkable, including negative serology for hepatitis C. A skin biopsy revealed hyperkeratosis, basal liquefaction, Civatte bodies, and interface dermatitis with a perivascular infiltrate.

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**SUPPORTING INFORMATION**

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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**FIGURE 1** (a) Linear erythematous-brown papules along Blaschko’s lines on the patient’s left upper extremity. (b, c) Haematoxylin and eosin (H&E) staining show hyperkeratosis, basal liquefaction, and a band-like infiltrate of lymphocytes in the upper dermis and dermoeidermal junction with apoptotic keratinocytes. Scale bar: 100 μm.
lymphocytic infiltration, confirming the histopathological diagnosis of lichenoid reaction (Figure 1b,c).

Although lichen striatus was considered as a differential diagnosis based on the clinical findings, the lack of lymphocytic infiltration around the eccrine glands, which is common in lichen striatus, led to the diagnosis of linear lichen planus (LLP).

Approximately 6 weeks after the start of treatment with topical corticosteroids, the skin lesions improved with leaving mild pigmentation.

To the best of our knowledge, LLP after COVID-19 vaccination has not been reported. Although there have been no reports of LLP, there are reports of nine patients with lichen planus (LP) after COVID-19 vaccination.2–9 Because LLP is a variant of LP, we reviewed 10 patients including our patient (Table 1). Nine of the 10 patients were female (90%). The median age was 56.0 years (range 29–64 years). The vaccine in five of the eight patients for whom vaccine-type details were available (62.5%) was Pfizer BioNTech’s COVID-19 vaccine. Four of the seven patients (57.1%) for whom details of the vaccination administration were available developed the eruption after the first dose; two patients after the second dose (28.6%), and only our patient after the third dose.

Of the nine patients described in detail, LP lesions developed within 6 days from vaccination (4 patients; 44.4%), one-week (2 patients; 22.2%) or two-week post-vaccination (3 patients; 33.3%). These results suggest that the appearance of LP and LLP might develop later than other cutaneous reactions such as itching and urticaria. In addition, in some individuals, the LP and LLP skin reaction may occur after a second- or third-dose vaccination without appearing after earlier COVID-19 vaccinations.

Lichenoid reactions are not unique to the COVID-19 vaccinations because LP-like eruptions have been reported with other vaccinations such as hepatitis B and influenza.10 However, dermatologists need to be aware of the possibility of lichen reaction after COVID-19 vaccinations, and careful interviewing of the patient is important.

CONFLICT OF INTEREST
The authors declare no conflicts of interest.

INFORMED CONSENT
Consent is obtained from our patients for the use of the images and for the reporting.

Table 1: Lichen planus after COVID-19 vaccination

| Authors [ref.] | Gender, age | Type of vaccine | Onset of LP reaction |
|----------------|-------------|-----------------|---------------------|
| Troeltzsch et al. [2] | M, 49 | Johnson & Johnson | 6 days after |
| Merhi et al. [3] | F, 56 | Pfizer-BioNTech | 1 wk after 1st dose |
| Hiltun et al. [4] | F, 56 | Pfizer-BioNTech | 2 days after 2nd dose |
| Kulkarni et al. [5] | F, 65 | NR | NR |
| Sharda et al. [6] | F, 35 | NR | 2 wks after |
| Piccolo et al. [7] | F, 64 | Pfizer-BioNTech | 5 days after 1st dose |
| Bularca et al. [8] | F, 29 | Pfizer-BioNTech | 1 wk after 1st dose |
| Diab et al. [9] | F, 60 | AstraZeneca | 2 wks after 2nd dose |
| | F, 55 | Sinopharm | 5 days after 1st dose |
| Our patient | F, 57 | Pfizer-BioNTech | 2 wks after 3rd dose |

Abbreviations: LP, lichen planus; NR, not reported.

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An impressive neglected basal cell carcinoma in an elderly patient: How to treat these patients

Dear Editor,

Neglected skin carcinomas occur in developed and developing countries. They represent a therapeutic challenge for dermatologists and medical and surgical oncologists.1,2

A 72-year-old man came to our dermatology department in 2021. He had no comorbidities and no treatment. His son mentioned that he was diagnosed with a nodular infiltrated basal cell carcinoma four years before. The patient refused surgical treatment (Figure 1a,b).

The tumour expanded over his eyes and caused vision loss. He again sought assistance. On physical examination, an impressive tumoral lesion of the face with necrotic tissue, extension towards both eyes, loss of nose cartilages, and frontal and maxillary bone destruction accompanied by a fetid purulent secretion (Figure 1c,d) were seen. He had no adenomegalies, and the rest of the examination revealed a cachectic fragile-neglected old man.

A secretion sample was obtained for gram and culture, and a systemic antibiotic was started. Laboratory results showed hypochromic microcytic anaemia with hypoalbuminemia and hyponatremia. An MRI of the head and neck (Figure 1c,d) were seen. He had no adenomegalies, and the rest of the examination revealed a cachectic fragile-neglected old man.

A secretion sample was obtained for gram and culture, and a systemic antibiotic was started. Laboratory results showed hypochromic microcytic anaemia with hypoalbuminemia and hyponatremia. An MRI of the head and neck was requested. The imaging study revealed an infiltrating tumour extending to the maxillary, zygomatic, and frontal bones with no lung or brain metastasis. He was discharged a day later with palliative care and antibiotic therapy. Unfortunately, he died at home 1 week later.

Giant basal cell carcinomas usually occur in the elderly. They grow slowly and have low metastatic potential.2 Patients do not recognize the severity of the clinical scenario or accept the condition as it slowly progresses. A delay in seeking medical attention may be due to denial, fear, old age and a slowly growing, nonpainful tumour.3 Common reasons for postponing care are poor hygiene, poverty, a lack of information about skin tumours, their social environment and a lack of family support.1

Treatment requires a multidisciplinary approach with complete tumour excision if possible. Radiotherapy or a hedgehog pathway inhibitor for advanced, unresectable BCCs can be used.4,5 We describe potential treatments and cure rates for these patients in Table 1.

It is important to consider that despite the best possible treatment, a rather unfavourable prognosis and a high recurrence rate should be anticipated; therefore, palliative care must be offered to these fragile patients.2 We need to balance the risks and benefits of disease management with comorbidities and life expectancy in elderly patients.

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