







drug and others drug-induced EN or both. In patients without previous LE/SS and no clinical sign of LE, especially those with a trigger drug, the pathophysiology of the LE autoantibodies remains unknown (possibly epitope spreading). In our series, histology revealed mucin in seven patients, five with previous LE or clinical signs of LE, and only one with a positive lupus band test.

Published series describing EN in LE are rare. The largest ( $n = 17$ ) separated patients with TEN-like LE and those with a history of LE with drug-induced EN. Histologically, mucin and junctional vacuolar alteration evoked LE associated with EN.<sup>2</sup> Diagnosis of TEN-like lupus is challenging, because LE may not be previously known, skin detachment may be over 30% and mucous membrane may be involved, but lesions are often photodistributed. Treatment relies on systemic steroids with or without immunosuppressant agents. Prognosis is usually favourable.<sup>7</sup>

Our series is limited by a small number of patients but the disease is very rare. Our study illustrates the difficulty of interpreting the link between lupus and EN. The major concern is the decision relating to systemic steroids, which depends on the history, presence of a trigger drug or not, and clinical and histological features.

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## Occupational dermatoses during the second wave of the COVID-19 pandemic: a UK prospective study of 805 healthcare workers

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DEAR EDITOR, The use of personal protective equipment (PPE) and frequent hand washing practice during the COVID-19 pandemic has led to an emergence of related occupational dermatoses.<sup>1</sup> During the first wave of the COVID-19 pandemic high rates of hand irritant contact dermatitis (ICD), facial pressure damage from FFP3 masks, facial dermatitis and acne were seen in healthcare workers (HCWs).<sup>2,3</sup> Building on the published experience of dermatology units,<sup>3</sup> we rapidly devised and set up a package of dermatology care to educate, support and treat our HCWs.

Between 18 January and 31 March 2021, 805 HCWs were seen and treated in 'pop-up' occupational dermatosis clinics. Of those, 401 were seen in the first 3 weeks. The clinics were announced via weekly email bulletins, which were sent to all trust staff. The clinics were also advertised on the trust intranet and on posters across the trust. At the peak of the second wave in January 2021, Barts Health NHS Trust employed 12 975 HCWs doing COVID-19 work with 835 COVID-

**Table 1** Staff demographics and diagnoses presenting to occupational dermatology clinics during the second wave of the COVID-19 pandemic at Barts Health NHS Trust. Data were obtained by questionnaire and diagnosis was made by a dermatologist at the time of consultation

Staff demographics	N = 805 <sup>a</sup>
Female, n (%)	677 (84.1)
Male, n (%)	127 (15.8)
Age (years), mean (SD)	35.3 (11.1)
Hours in PPE per shift, mean (SD)	9.3 (2.9)
Staff occupation, n (%)	
Nurse	258 (32.0)
Doctor	126 (15.7)
Healthcare assistant	67 (8.3)
Pharmacist	54 (6.7)
Radiographer	47 (5.8)
Physiotherapist	27 (3.4)
Administrative	22 (2.7)
Diagnosis, n (%)	
Irritant contact dermatitis of the hands	391 (48.6)
Requiring potent topical steroids <sup>b</sup>	62 (15.9)
Acne	363 (45.1)
Requiring oral antibiotics <sup>b</sup>	22 (6.1)
Facial eczema	112 (13.9)
Facial pressure injury	50 (6.2)
Dry skin	33 (4.1)
Hyperpigmentation	23 (2.9)
Psoriasis	19 (2.4)
Seborrheic dermatitis	7 (0.9)
Urticaria	4 (0.5)
Allergic contact dermatitis	3 (0.4)
More than one diagnosis	392 (48.7)

PPE, personal protective equipment. <sup>a</sup>Sex not documented in 1 healthcare worker. <sup>b</sup>Percentage of those with irritant contact dermatitis or acne.

positive inpatients. This means 6.2% of all HCWs used our services. Questionnaires were completed for each consultation (summarized in Table 1). In total, 805 HCWs were assessed: 677 female and 127 male (one with sex not documented), mean (SD) age 35.3 (11.1) years. This reflects the workforce demographic, as 72% of the workforce are female. The most frequently seen occupation was nurses, followed by doctors. On average, staff spent a mean (SD) 9.3 (2.9) h in PPE per shift. We offered fee-free prescriptions and emollient samples and produced educational material.

The most common diagnosis made in the 805 HCWs seen in the clinics was ICD of the hands (48.6%), followed by acne (45.1%). Facial eczema (13.9%) and facial pressure injury (6.2%) were less common. Diagnoses were made after history taking and examination by the dermatologists running the clinic. In particular, ICD of the hands was diagnosed when the pattern of the disease was consistent, namely inflammation involving web spaces and predilection for the dorsum of hands. ICD was distinguished from dry skin by the presence of erythema and inflammation. Overall, 392 HCWs had more than one skin problem. Three HCWs had suspected allergic

contact dermatitis clinically to rubber accelerators, but due to COVID restrictions patch testing was unavailable during this time. Fourteen HCWs required formal referral to dermatology. Twelve HCWs required time off work, with a total of 114 lost working days. Of these 12, none had prior dermatology input and all experienced improvement after their consultation. The educational material created, including leaflets and videos, was available on the trust intranet and was accessed 6352 times.


Our data are consistent with existing literature, with the most common diagnosis in the current study being ICD (48.6% – almost half of our cohort). There was significantly increased incidence of acne (45.1%) compared with the first wave, where the reported incidence was 17% in a multicentre study.<sup>2</sup> In contrast to other groups, we found acne was the most common facial skin problem – more than facial eczema and facial pressure injury from PPE.<sup>3</sup> Hyperpigmentation was an issue in at least 2.9% of our cohort and this may be under-recognized. Postinflammatory dyspigmentation is a major concern in people with more pigmented skin, who often are unable to tolerate benzoyl peroxide and topical retinoids due to irritation. This is important as 56% of our trust workforce are from black, Asian or minority ethnic backgrounds.

We saw significant numbers of facial pressure injury (6.2%) and facial eczema (13.9%), which were higher than in previous UK studies.<sup>2,3</sup> Atopy was seen in 26.5% of HCWs, compared with an estimated prevalence in the UK adult population of 8.3%. This supports previous studies showing that atopic eczema is more likely to present with healthcare-related occupational dermatoses.<sup>4</sup>

Limitations of this study include it being a single-centre study and descriptive. Diagnoses were made clinically without tests, and the absence of patch testing was a significant drawback. The clinics were staffed by 10 dermatologists and within this there may be interexaminer variability. The majority of HCWs presenting to the clinic were not formally followed up.

Our data confirm there was a large unmet need in HCWs with skin problems during the second wave of the COVID-19 pandemic. We highlight the sheer scale of the issue with 805 HCWs presenting for dermatological assessment in only 10 weeks in one trust, making this the largest cohort reported in the world. We describe the success of an outreach occupational dermatology clinic, which was convenient for HCWs. Compared with experience during the first wave, acne exacerbated or precipitated by masks is increasingly common.

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## Eruptive keratoacanthomas associated with dupilumab therapy

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DEAR EDITOR, We would like to present the case of eruptive keratoacanthomas associated with dupilumab therapy, which occurred in an 85-year-old woman receiving biologic therapy for the treatment of atopic dermatitis. With the increasing prevalence of dupilumab usage, this is an important potential complication of which clinicians should be aware.

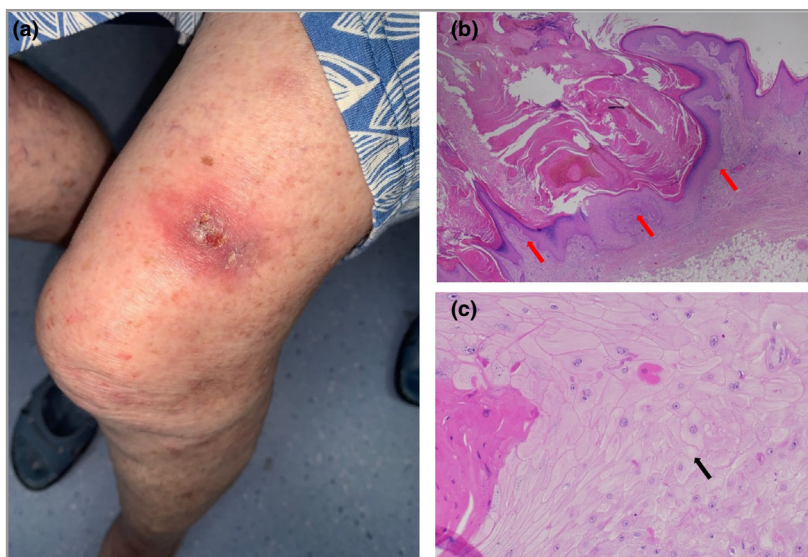
An 85-year-old woman was referred to secondary care for the management of severe atopic dermatitis. At the age of 51 years, having never previously experienced skin issues, she developed dry, itchy skin and was diagnosed with atopic dermatitis. She underwent multiple separate cycles of psoralen plus ultraviolet A (PUVA) and TL-01 therapy in her 50s and 60s, and more recently had been trialled on methotrexate and

cyclosporin, to limited effect. Her medical history was significant for two well-differentiated cutaneous squamous cell carcinomas (cSCCs) that developed on her right lower leg in 2008 and 2010, which had been surgically removed.

On assessment, her Eczema Area and Severity Index and Dermatology Life Quality Index scores were measured as over 20, and she was commenced on dupilumab, with an initial subcutaneous injection of 600 mg followed by 300 mg on alternate weeks. One month after starting therapy, she reported developing roughly 10 smooth nodules over her arms and legs. Over the following weeks, several large nodules developed, which raised the clinical concern of possible cSCCs. As a result, two lesions on the patient's legs were surgically removed. On detailed review of the histology, a diagnosis of keratoacanthoma was made for both lesions. The hallmark features of keratoacanthoma were present, namely crateriform architecture, minimal atypia, large glassy keratinization patterns within the cell cytoplasm, and a dense inflammatory infiltrate (Figure 1). Gene mutation analysis revealed no evidence of mutations associated with Lynch syndrome.

The unexcised nodules spontaneously regressed over the following 6 months. The patient's atopic dermatitis is currently well controlled and, following a discussion with the patient regarding the risks and benefits, the dupilumab therapy has been continued. Three-monthly skin checks continue to be undertaken during her usual biologic therapy reviews. This adverse event has been reported to the manufacturer Sanofi.

Keratoacanthomas are rapidly growing, benign skin tumours. They follow a typical time course of rapid growth, stabilization and spontaneous regression. Numerous risk factors are documented, including ultraviolet radiation exposure, immunosuppression, trauma and carcinogens. There are well-documented cases of drug-induced keratoacanthomas in the literature. Typical causative agents include BRAF inhibitors such as sorafenib, and checkpoint inhibitors such as nivolumab.<sup>1–3</sup>



**Figure 1** (a) Macroscopic appearance of the clinically worrying eruptive lesion on the patient's leg that underwent excision. (b) Characteristic crateriform architecture (highlighted by red arrows). (c) Large, glassy keratinization patterns within the cell cytoplasm (highlighted by the black arrow) on haematoxylin and eosin histological staining.