

practical sharing of their views and experience with other dermatologists across the globe.

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Observations about sexual and other routes of SARS-CoV-2 (COVID-19) transmission and its prevention

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Sexual contact has been proposed as a route of transmission for the SARS-CoV-2 virus, which raises the question of alternate routes of transmission.¹ Angiotensin-converting enzyme (ACE)2 receptors (ACE2-R) may be present in epidermal basal cells, including those at the base of hair follicles, sebaceous and eccrine glands, smooth muscle cells, vascular endothelial cells, renal epithelial cells, and potentially even the testis.² Recent research shows that although the testicles do carry ACE2-R and that some patients might present with symptoms of viral orchitis, viral DNA is not found within seminal fluid after infection. Furthermore, it is postulated that the viral load is likely to be too low to cross the blood–testis barrier, and that ACE2-R concentration in the testis may be insufficient to permit viral entry.³ However, other types of sexual contact, such as

oral–anal contact, may also be implicated in transmission, given that rectal swab testing is positive even with negative nasopharyngeal swabs.^{1,4} It therefore seems relevant to ask whether all tissues that express ACE2-R are receptive to viral entry, and if they can also be a source of viral shedding. Although some authors have suggested that there is no evidence of sexual transmission for SARS-CoV-2, it is still an interesting hypothesis to bear in mind, as it could place some sexual minorities at disproportionately higher risk.

At this time, we think nasopharyngeal swabs probably remain the standard of diagnosis. The faecal–oral route, whether through sexual contact or not, is quickly becoming a recognized route of viral transmission.⁴ The wildlife markets at the epicentre of the outbreak are notoriously overcrowded and unhygienic. In such places, faecal contamination of food could be an overlooked source of human–human transmission, similar to that seen in diseases such as cholera and dysentery. If this is true, then the potential for SARS-CoV-2 to spread in refugee camps or the slums of cities in poorer nations is very real. This certainly needs to be addressed urgently as part of various strategies so that public health authorities, who are already enforcing social isolation, do not lock people down in situations where they can spread the virus easily because of lack of access to clean water. Keeping all this in mind, we recommend that hygiene rules be very strictly adhered to: nails cut as short as possible, hair tied back (it too can be contaminated with the virus) and avoidance of eyelash extensions. It would also be good to shave beards, taking into account the sebum secretion in beard hair; however, this could be a problem for those who need to maintain beards for religious purposes. Absolutely any tool used for personal hygiene (tweezers, scissors, comb, etc.) should be disinfected as often as appropriate, and of course, under no circumstances be lent to other people.

We propose that further study should be directed towards the theoretically possible skin–skin transmission, either directly or through vectors such as pets, flies, mosquitoes (by portage) or *Demodex folliculorum*, which can be proliferated either as spinulosis that roughens the skin of the cheeks and thorax, or in patients with rosacea.⁵

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Safety and efficacy of dupilumab in a patient with severe atopic dermatitis and HIV infection, with 15 months of follow-up

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Atopic dermatitis (AD) is a chronic, itchy and inflammatory skin disease that mostly affects children, but it can also occur in adults, in whom it can assume different clinical patterns, representing a diagnostic challenge for clinicians.¹ Treatment of AD is based on emollients, topical and/or systemic corticosteroids and immunosuppressants (e.g. ciclosporin). Recently dupilumab, a fully human monoclonal antibody targeting the interleukin (IL)-4 α receptor has been approved for the treatment of moderate-to-severe AD, and has shown excellent results. We reported a case of a female patient in her 50s with severe AD and HIV infection who was treated with dupilumab with excellent efficacy and safety.

A 52-year-old woman presented in October 2018 with a history of severe late-onset AD, asthma and allergic rhinitis. She also had a 30-year history of HIV infection and was under treatment with a triple antiretroviral therapy (dolutegravir/abacavir/lamivudine). For her AD she had been treated in another centre with topical and systemic corticosteroids plus narrowband ultraviolet B phototherapy and ciclosporin, without benefit.

At presentation, the patient was seen to have generalized AD with a prurigo nodularis (PN) pattern showing numerous highly pruriginous papules and nodules. We recorded some validated scores to assess the severity of the disease: Eczema Area and Severity Index (EASI) was

24, Dermatology Life Quality Index (DLQI) was 9/30 and Numerical Rating Scale of itch intensity (NRSi) was 9/10. Laboratory testing revealed total IgE of 3736 IU/mL (normal range < 120 IU/mL), viral load undetectable, absolute CD4 count 688 cells/mL (normal range 500–1500/ μ L) and CD4/CD8 ratio 2.8 (normal 2.1).

We decided to start dupilumab treatment with an induction dose of 600 mg followed by a 300 mg injection every 2 weeks. At 1 month from the beginning of the therapy, the patient experienced an overall improvement of her AD, with consequent reduction in scores: EASI 7, DLQI 5/30 and NRSi 3/10. Total IgE was 2687 IU/mL and viral load was undetectable. At her most recent follow-up, 15 months after the first dupilumab administration the patient reported substantial clinical benefit, and her scores had also reduced further: EASI 5, DLQI 2/28 and NRSi 4/10. Total IgE was 1460 IU/mL, viral load was undetectable, absolute CD4 count was 738/ μ L and CD4/CD8 ratio was 2.2. No adverse effects were reported.

During Phase III trials with dupilumab, HIV infection was considered as an exclusion criteria. To date, we have little information about the safety and beneficial effects of dupilumab in patients with AD who also have HIV infection; in fact, at time of writing, only two papers had been published on this topic.^{2,3} It is known that AD and PN are more common in people with HIV infection,⁴ and a recent paper on the efficacy of dupilumab in the PN-like phenotype in AD showed good results.⁵

In conclusion, we report successful treatment of AD with dupilumab in a patient with HIV infection. After 15 months of therapy with dupilumab our patient had a marked improvement in her AD and her quality of life, without any adverse effect on her HIV. Further studies are needed to completely elucidate the real safety of dupilumab in patients with HIV; however, we believe that this subset of patients could benefit from dupilumab treatment for their AD.

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