
Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

**Table II.** Viral reactivation at the time of DRESS diagnosis

| Viral etiology | n (%) |
|---|---|
| CMV PCR | |
| Yes | 2 (10) |
| No | 19 (90) |
| EBV PCR | |
| Yes | 1 (4) |
| No | 22 (96) |
| HHV-6 PCR | |
| Yes | 0 (0) |
| No | 24 (100) |
| HHV-7 IgM or convalescent IgG | |
| Yes | 0 (0) |
| No | 19 (100) |

*CMV*, Cytomegalovirus; *EBV*, Epstein-Barr virus; *HHV*, human herpesvirus; *PCR*, polymerase chain reaction.

that 2 of our patients later became viremic. The exact pathophysiology and timing of this reactivation needs to be further elucidated. Currently, it is unclear that this reactivation has specificity for DRESS syndrome compared to other immunologic events. One study showed that systemic steroids can result in increased risk of viral reactivation[4]; however, it should be emphasized that systemic steroids are essential for improved outcomes in DRESS.

One limitation of this study was that serum was the only body fluid tested for viral reactivation, and urine and saliva were not evaluated.

Detecting viral infection or reactivation during the early hospitalization of a patient with DRESS in the United States is a rare event. Use of viral tests to corroborate a questionable diagnosis of DRESS or risk stratification in this setting is unlikely to be of clinical value.

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## Back to the basics: Diluted bleach for COVID-19

*To the Editor:* Since December 2019, COVID-19. a highly pathogenic novel human coronavirus severe acute respiratory syndrome coronavirus (SARS-Cov-2), has emerged from China harboring high human-to-human transmission rates and persistence on inanimate surfaces.[1] An analysis of 22 studies revealed that human coronaviruses similar to COVID-19, including SARS coronavirus, Middle East respiratory syndrome (MERS) coronavirus, and endemic human coronaviruses (HCoV), can persist on inanimate surfaces, such as metal, glass, or plastic, for up to 9 days, but are efficiently inactivated by 62% to 71% ethanol, 0.5% hydrogen peroxide, or 0.1% sodium hypochlorite within 1 minute.[1] A study by van Doremalen et al[2] evaluating the stability of COVID-19 and SARS-CoV-1 suggests that COVID-19 may remain viable for hours to days on surfaces made from a variety of materials.

To help identify commercial disinfectants against COVID-19, the United States Environmental Protection Agency (EPA) has created a list of adequate products by their EPA registration number.[3] Unfortunately, with exponentially rising COVID-19 cases in the United States, commercial disinfect supplies are in high demand and will unquestionably be limited in the near future. We will have to get creative with available resources, all the while taking safe precautions to ensure our efforts improve and not worsen the ongoing situation.

Various dilutions of sodium hypochlorite, effectively Dakin's solution, have been tried and true in dermatology and wound care for many years. To achieve the formulation noted by Kampf et al,[1]

~0.1% sodium hypochlorite can be made by a roughly 1:50 dilution of household bleach (~5.25% to 6% sodium hypochlorite) in tap water. Although the Kampf et al analysis is a combination of non–COVID-19 studies, we expect the proposed formulation to similarly also disinfect surfaces of the novel coronavirus. The Centers for Disease Control and Prevention (CDC) also recommends an approximately 1:50 dilution to disinfect COVID-19, explicitly noting 5 tablespoons (one-third cup) bleach per gallon of water or 4 teaspoons bleach per quart of water.[4]

Different dilutions of sodium hypochlorite can vary in their in vivo fibroblast and keratinocyte cytotoxicity; however, dilutions of ~0.1% sodium hypochlorite are clinically effective with minimal irritation or sensitization.[5] One should be mindful that corrosive injury on mucous membrane/skin contact is possible with excess volumes or mishandling, so appropriate caution and moderation is necessary.[6] This solution should ideally be used within 1 month of preparation and stored in a closed, opaque container at room temperature.[7]

While the exact viral load on inanimate surfaces is unknown during an outbreak, it is critical to disinfect frequently touched surfaces.[1] With rapidly diminishing availability of commercial cleaning supplies, simple diluted bleach, which is readily available, can effectively disinfect our clinics, homes, and environment to prevent sustained transmission from inanimate objects. As with many disinfectants, minimizing long-term skin contact and ensuring good ventilation can minimize clinical toxicity. In Henry Dakin's spirit, we should strive to share with our colleagues the cost-effective, accessible, and relatively safe power of diluted bleach.

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## Varicella-like exanthem as a specific COVID-19–associated skin manifestation: Multicenter case series of 22 patients

*To the Editor:* COVID-19, an infection due to the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) that may cause interstitial pneumonia and respiratory failure, has currently taken on pandemic proportions.[1] The COVID-19 outbreak emerged in Wuhan, China, and rapidly spread to Europe, particularly to Italy,[2] where, as of April 27, 2020, a total of 199,414 people have tested positive.[3]

Two recent publications have brought attention to COVID-19–associated cutaneous manifestations.[4,5] Joob and Wiwanitkit[4] reported on a dengue-like petechial rash in a patient with COVID-19 from Thailand. Recalcati[5] described 18 out of 88 patients with COVID-19 hospitalized in Lecco Hospital (Lombardy region, Italy) who developed erythematous rash (n = 14), widespread urticaria (n = 3), or varicella-like vesicles (n = 1).