

COVID-19 Quarantine Stamp Contact Dermatitis: A Report of Four Cases

Dear Editor,

Election ink or voter's ink, also called indelible ink, is an important part of the election or voting process in our country and in most parts of the world. It was first used in the 1962 Indian general elections, in the state of Mysuru, now the modern-day state of Karnataka. It stains the cuticle of the nail when exposed to ultraviolet light, which lasts for 3–4 days. It contains silver nitrate in concentrations of 7–25%, along with some secret chemicals and alcohol.

Previous experimental studies have claimed that the indelible election ink can be applied safely on the skin and does not have any adverse reactions.^[1] The ink has been aptly used to verify vaccine coverage in the Pulse Polio Immunization program. During this COVID-19 pandemic period, the government took permission from the Election Commission (EC) of India for using this as a marker or stamp of quarantine people.^[2] Different states were using different sites like the dorsum of the hand, ventral of forearm distally or proximally, or at midpart.

We have reported an incident occurrence of varied degrees of irritant reaction secondary to stamping with indelible ink in four individuals [Table 1]. During this pandemic, clinical diagnosis and consultations were conducted through medical college telemedicine via WhatsApp video and image.

All the patients were stamped round "HOME QUARANTINE" seal of size around 3.5 cm × 3.5 cm² with purple ink on the ventral aspect of the right forearm by the municipality officers and airport staff. They were using one bottle to stamp 5–6 people. The patients complained of a burning sensation, peeling of skin, and blister formation over the stamp area after 12–48 hours. On examination, we noted fluid-filled vesicles with various degrees of erosion, blister formation, and hyperpigmented scales of older lesions [Figures 1-3]. There was no history of prior contact with any substance, acids, perfumes etc., There was no history of fluid-filled lesions in the past. There was a history of atopy in one patient who had developed severe blistering after 12 hours of application. They have been treated with oral prednisolone 40 mg, topical mometasone and oral levocetirizine 5 mg.

Irritant contact dermatitis is due to the activation of innate immunity by direct and indirect cytotoxicity of physical and chemical agents.^[3] The severity of dermatitis depends on the type of exposure, vehicle, and individual propensity. Generally, indelible ink does not cause any irritant effect on the skin in its normal concentration as used by EC. However, silver nitrate in 25% concentration is a known



Figure 1: A well to an ill-defined plaque showing bullae and vesicles ranging from 3 × 4 cm² to 0.5 × 0.2 mm², covering almost two-thirds area of the plaque

corrosive agent and is used as a cauterizing agent in surgeries. Soni and Someshwar^[4] published a similar case of irritant contact dermatitis of quarantine stamp in 2021 from the Northern part of India. In this report, the stamp shape was rectangular, but they did not write about the site, size and time period of appearance of lesions. But Akshay *et al.*^[5] published a case series of 97 students from the Southern part of India; they were having similar symptoms after 4–6 hours of application. Mishra *et al.*,^[6] published that repeated smearing of voter's ink leads to partial thickness burn of fingertips.^[5]

During the pandemic period, they might have used higher concentrations or storage of the products for a longer period, leading to the crystallization of silver nitrate after evaporation of alcohol, which might be the reason.^[5] For ages, indelible ink has been used for marking nails, but this time, they have used it over the skin directly. This may be another cause of this reaction.

Conclusion

Very few studies have been published on the irritant reaction of the ink. Our study is although small, but we are reporting from the Eastern part of India. This shows that the irritant effect is not restricted to any area due to any local cause. More number of studies are required to evaluate the concentration, amount and site of application of the ink on the skin, as this is a unique ink that is very economical and lasts longer, unlike postal stamp ink and other markers. Laser-induced markers are more harmful

Table 1: Four case presentations of COVID-19 quarantine stamp contact dermatitis

Case number/ Age/Sex	Clinical presentation	Examination finding	Course	History of atopy	Occupational exposure
1/29/male	Wrinkled peeled up skin with charred look since 7 days.	A well to an ill-defined darkly pigmented plaque of size 6×5 cm ² with erosion with fluid underneath the plaque at places and surface showing wrinkling.	Lesions healed with mild hyperpigmentation after 4 weeks.	Not present	Not present
2/43/male [Figure 1]	Burning sensation with fluid-filled, darkly pigmented lesions since 1 day.	A well to an ill-defined pigmented plaque showing bulla and vesicles of various sizes ranging 3×4 cm ² to 0.5×0.2 mm ² , covering almost two-thirds area of the plaque.	Lesions healed with hyperpigmentation and hypopigmentation after 4 weeks.	Present	Not present
3/25/male [Figure 2]	Burning with fluid-filled lesion with peeling over the stamp area since 5 days.	Well-defined bluish plaque of size 6×5 cm ² taking the shape of a quarantine stamp with vesicles and bulla over almost 4/5 th of lesion and erosions over the rest area were present.	Lost follow up	Not present	Not present
4/32/male [Figure 3]	Pigmentation with itching over stamp area since 15 days.	A dry, charred-like plaque of size 6×5 cm ² present over the stamp area, at a few places with peeling of skin, was seen.	Lost follow up	Not present	Not present



Figure 2: Well-defined bluish plaque of size 6 × 5 cm² taking the shape of quarantine stamp with vesicles and bulla

and permanent type. So, a prior skin test may be a better option before using indelible ink.

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Conflicts of interest

There are no conflicts of interest.

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Figure 3: Dry charred-like plaque of size 6 × 5 cm² present over the stamp area, with peeling in a few places

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References

1. Rao MR. The study report, toxicology division, Hyderabad India. Available from: <http://www.Rayuduchemlabs.com>. [Last accessed on 2014 Apr 30].
2. Election Commission allows use of indelible ink to stamp home quarantine people. Available from: <https://www.jagranjosh.com/current-affairs/election-commission-allows-use-of-indelible-ink-to-stamp-home-quarantine-people-1585193939-1>.
3. Keegel T, Moyle M, Dharmage S, Frowen K, Nixon R. The epidemiology of occupational contact dermatitis (1990-2007): A systematic review. *Int J Dermatol* 2009;48:571-8.

4. Soni R, Someshwar S. Irritant contact dermatitis to quarantine stamps. *MGM J Med Sci* 2021;8:90.
5. Akshay LM, Kamoji S, Dastikop SV, Sanagoudar V, Pise GA. Indelible ink dermatitis during COVID: A series of 97 cases. *IP Indian J Clin Exp Dermatol* 2021;7:169-71.
6. Mishra SK, Agrawal K, Kumar S, Sharma U. Indelible voters' ink causing partial thickness burn over the fingers. *Indian J Plast Surg* 2014;47:472-3.

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