Abstract
Placement of decorative tattoo on the skin may lead to various immunological, infective, and coincidental complications. Inoculation of human papillomavirus leading to development of verruca is an uncommon complication of tattoos. The present report highlights the development of verruca vulgaris, developing after 2 years of tattooing in a young male.

Key Words: Human papillomavirus, tattoo, verruca

The English word “tattoo” owes its origin from the ancient Polynesian words “tatuismus,” “tatahou,” “tatau,” and “tahua” (ta = painting, toua = spirit). The word “tattow” in Tahiti is translated as painting of the skin.[1] While the etymology establishes tattoo as a mark of self-expression, its importance in cosmetic adornment as well as emphasizing cultural identity is well known. A wide range of figures, including different flowers, real and imaginary animals such as dragon, and different scripts and personalities such as revered revolutionist Ernesto “Che” Guevara, have been inscribed on the skin over last 4000 odd years. With the transition of the art of marking the skin evolving through crude plant extracts to permanent dyes and pigments, a wide array of dermatological complications have been observed as a consequence of introducing exogenous chemicals into the skin. Studies documenting serious complications, for example infections, allergic and granulomatous reactions, and malignancies due to tattooing, have depicted very few cases of viral infections.[2,3] Verruca vulgaris developing on a tattoo was first described by Fox in 1884,[4] and such infections are thought to occur from viral inoculation during tattooing or the presence of the human papillomavirus (HPV) in the tattoo dye itself.

An 18-year-old unmarried male presented with chief complaints of multiple, skin-colored raised lesions over the ventral aspect of left forearm for last 1 year. These lesions were neither itchy nor painful. These lesions developed over a tattoo of Che Guevara, etched on his forearm 2 years ago with black dye by a nonprofessional person [Figure 1]. There was no history of intravenous drug abuse or immunosuppressive drugs. On examination, there were multiple, skin- colored papules, limited to the tattoo area with few papules developing over the adjacent normal skin. The patient tested negative for HIV 1, 2 and hepatitis B and C. Systemic examination was unremarkable. A provisional diagnosis of verruca vulgaris was made with a differential of papular sarcoidosis. A punch biopsy specimen was sent for histopathological examination. The section revealed compact hyperkeratosis with focal parakeratosis, acanthosis, and elongation of rete ridges with lymphohistiocytic infiltration of the papillary dermis [Figures 2 and 3]. The presence of koilocytes could not be detected, probably due to heavy staining of the section. However, features in favor of verruca vulgaris were hyperkeratosis mainly at the valleys, parakeratosis at the peaks, acanthosis, and incurring of rete ridges. Further confirmation (specific stain or Polymerase chain reaction) was not possible due to

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Tattoo-induced reactions have mainly been divided into three groups – (A) allergic/granulomatous/lichenoid reaction, (B) infections/inoculations, and (C) coincidental lesions. Inoculation of HPV during inking of tattoo is an uncommon phenomenon. Apart from the dye, the virus can be inoculated through the instrument, saliva of the artist, and pseudo-koebnerization from an unnoticed verruca in the tattoo area. The available literature revealed a latency period ranging from 2 months to 10 years in case of warts developing over the tattoo area. Acute sunburn was indicated as the precipitating factor in one case where lesions developed over a 2.5-years-old tattoo mark. While most of the case reports/studies have been focused on European patients, none of them has deciphered the actual cause of this prolonged latency. In our patient, there was no history of sunburn. In a few reports, where verruca developed over multicolored tattoos, the researchers have demonstrated a preferential involvement of the presence of lesions over black-colored areas. Considering the long latency period, they had ruled out inoculation of HPV during tattoo placement, but considered oxidative damage imparted by the polycyclic aromatic hydrocarbons, present in the black dye, leading to an “immunocompromised district” for preferential growth of HPV after incidental contraction. In our case, the whole tattoo was etched with black dye, explaining the extensive involvement of the tattooed area. Like Western literature, the present report reiterates the importance of sterility of the materials used for tattooing as well as the skin surface to avoid inoculation. To the best of our knowledge, this is the first case of verruca vulgaris developing over black tattoo after a long latency period in the Indian literature.

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**Conflicts of interest**

There are no conflicts of interest.

**What is new?**

1. Prolonged latency period before the onset of verruca over tattoo is an uncommon entity, which may be seen in Indian patients
2. Carbon particles present in black dye impart an immunocompromised area for the growth of HPV.

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