

COVID CONCEPT

Maskne: A Potential Misnomer?

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ABSTRACT

The COVID-19 pandemic has led to the global adoption of mask wearing to contain the rampant spread of the virus. Certain occupational groups, particularly health care providers, must wear masks for prolonged periods. Alongside this pandemic emerged the use of the all-encompassing term “maskne”, used to describe mask-related dermatologic pathologies. Although there is an increase in acne and acneiform lesions associated with prolonged facial mask use, “maskne” may be a misnomer, causing non-dermatologic providers to misdiagnose patients with acne when they, in fact, have an alternate cutaneous pathology.

The SARS-COV-2 (COVID-19) pandemic has led to the global adoption of mask wearing among laypersons and health care professionals alike. In order to contain the spread of COVID-19, facial masks must be tightly adhered to the skin, thus allowing for protection from airborne droplet transmission. Certain occupational groups must wear masks for prolonged periods, particularly, health care providers. Given the global increase in facial mask use, there has been a number of mask-related dermatologic pathologies that have been described in the recent literature¹⁻⁵. The all-encompassing term “maskne (Mask-related acne)” is gaining popularity among both healthcare providers and the general public. Although there is certainly an increase in acne and acneiform lesions associated with prolonged facial mask use^{2,3,5}, “maskne” may be a misnomer, causing non-dermatologic providers to misdiagnose patients with acne vulgaris, disregarding several other differential diagnoses such as perioral dermatitis, rosacea, seborrheic dermatitis, folliculitis,

irritant or allergic contact dermatitis, and acne mechanica.

There are several reasons why facial mask use leads to skin pathology. These include, for example, changes in the skin microbiota, increased temperature and humidity, prolonged pressure, and shearing forces associated with the tight seal of a facial mask. Each of these can induce skin injury and subsequent pathology². There are reports of acne vulgaris, contact dermatitis, acne mechanica, facial ulcers, itching, and generalized rashes associated with prolonged mask use^{1-3,5,6}. Although these pathologies are certainly evident and seem to be exacerbated by prolonged mask use, the dermatologic literature lacks reports on the increasing incidence of various other cutaneous pathologies associated with wearing facial masks. In our recent experience, we are seeing more patients with cutaneous features consistent with perioral dermatitis, including monomorphic red papules in the perioral region, often sparing the skin adjacent to the vermilion border.

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These findings are not limited to health care workers using N95 masks (Figure 1A); but, they are also evident among laypersons using cloth or paper-based facial masks (Figure 1B).

Perioral dermatitis does not have a clear etiology and is thought to be caused by excessive topical steroid use or withdrawal, inhaled corticosteroids, infection, fluorinated toothpaste, cosmetic products, and hormonal imbalances⁷. It is proposed that environmental factors lead to perifollicular and perivascular inflammation that subsequently causes erythematous-grouped papules around the mouth, eyes, and nose. When considering diagnosing patients presenting with “maskne”, it is important to consider the broad differential diagnoses of “maskne” (Table 1). We have found that a significant number of patients who were referred to our clinic complaining of “maskne” often lack the classic comedones of acne and instead have clinical findings associated with perioral dermatitis or a broad array of differential diagnoses. Pruritus and skin sensitivity are common associated findings. These patients lack the scaling plaques distributed in the nasolabial folds as seen in seborrheic dermatitis. Further, they lack the background erythema and centropacial distribution of papulopustules associated with rosacea. Although there is certainly an increase of numerous mask-related pathologies, it is unclear why there appears to be an increase in patients with clinical features more consistent with perioral dermatitis than other mask-related skin problems; thus, necessitating the need for further investigation.

First-line treatments of perioral dermatitis include topical antibiotics, topical calcineurin inhibitors, and topical sulfur preparations. Other treatments include oral tetracyclines in adults and erythromycin in children and

pregnant or nursing females. Given that multiple “maskne”- associated conditions currently described such as acne vulgaris, rosacea, and folliculitis often share similar treatments, patients generally show improvement of their symptoms with topical or oral antibiotics. Treatment regimens for other mask-related cutaneous pathologies are discussed in Table 1. We see marked improvement in our patient’s symptoms with short courses of oral doxycycline. Importantly, oral and topical antibiotics would not be expected to improve the symptoms of other “maskne”-associated conditions such as irritant/allergic contact dermatitis, acne mechanica, and seborrheic dermatitis. Further, unlike in acne vulgaris, topical retinoids are not considered to be a mainstay in treating periorificial dermatitis⁸. We have seen evidence of retinoid-induced exacerbations of POD, particularly at the onset of treatment. This could be unfavorable for patients presenting with “maskne” who are then prescribed topical retinoids, only worsening their condition. The use of the term “maskne” is seemingly problematic as it is misleading for both patients and non-dermatologic health care providers. Additionally, there is an increased psychological burden on patients being told they are treated for “maskne”, especially those with no prior history of acne. The COVID-19 pandemic and the associated personal protective equipment are to be a part of our daily lives for the foreseeable future. The incidence of mask-related dermatologic conditions will surely increase so it is imperative that the nomenclature be appropriately adjusted as to not mislead health-care providers and the community at large. The differential of mask-induced dermatitis can include perioral dermatitis, acne vulgaris, acne mechanica, rosacea, allergic contact dermatitis, seborrheic dermatitis, irritant dermatitis, and folliculitis. It is imperative that health care providers are

able to confidently diagnose and treat the associated condition optimally.

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