

## Background

- Increased face mask use has been associated with the onset and exacerbation of dermatoses of the head and neck
- Prolonged mechanical pressure and friction has been linked to the development of skin conditions from the Koebner phenomenon, like psoriasis and vitiligo<sup>1</sup>
- Pathergy describes an exaggerated skin injury occurring after minor skin trauma and is characteristic of pyoderma gangrenosum, Behcet disease, and Sweet syndrome<sup>2</sup>

## Initial Presentation

- 75-year-old male
- 1 year history of painful ulcers without known trigger or systemic symptoms.
- Numerous well-circumscribed, irregularly shape, undermined ulcers with violaceous inflammatory borders were noted on the posterior scalp (Figure 1), upper back, left lower abdomen, and left lower leg.
- Punch biopsy of upper back demonstrated a dilated follicle and an exuberant mixed inflammatory infiltrate in the dermis composed of neutrophils, histiocytes, and multinucleated giant cells. Negative tissue culture.
- Patient treated for pyoderma gangrenosum with a combination of dapson, prednisone, and intralesional steroid injections.
- Remission achieved (Figure 2), however patient developed steroid myopathy and symptomatic anemia.
- Prednisone and dapson were discontinued, and his remission was maintained with topical betamethasone 0.05% ointment and topical tacrolimus 0.1% ointment.

## Face mask induced pathergy

- After 6 months, patient developed a new, linear ulceration framed by indurated, pink papules involving the right temporal scalp adjacent to the ear loop of his face mask (Figure 3).
- The isolated lesion was treated with 1 cc of intralesional triamcinolone 20 mg/cc and showed improvement at 2-month follow-up (Figure 4).



Figure 1: Initial Presentation



Figure 2: Remission of scalp PG achieved with prednisone, dapson, and intralesional steroid injections

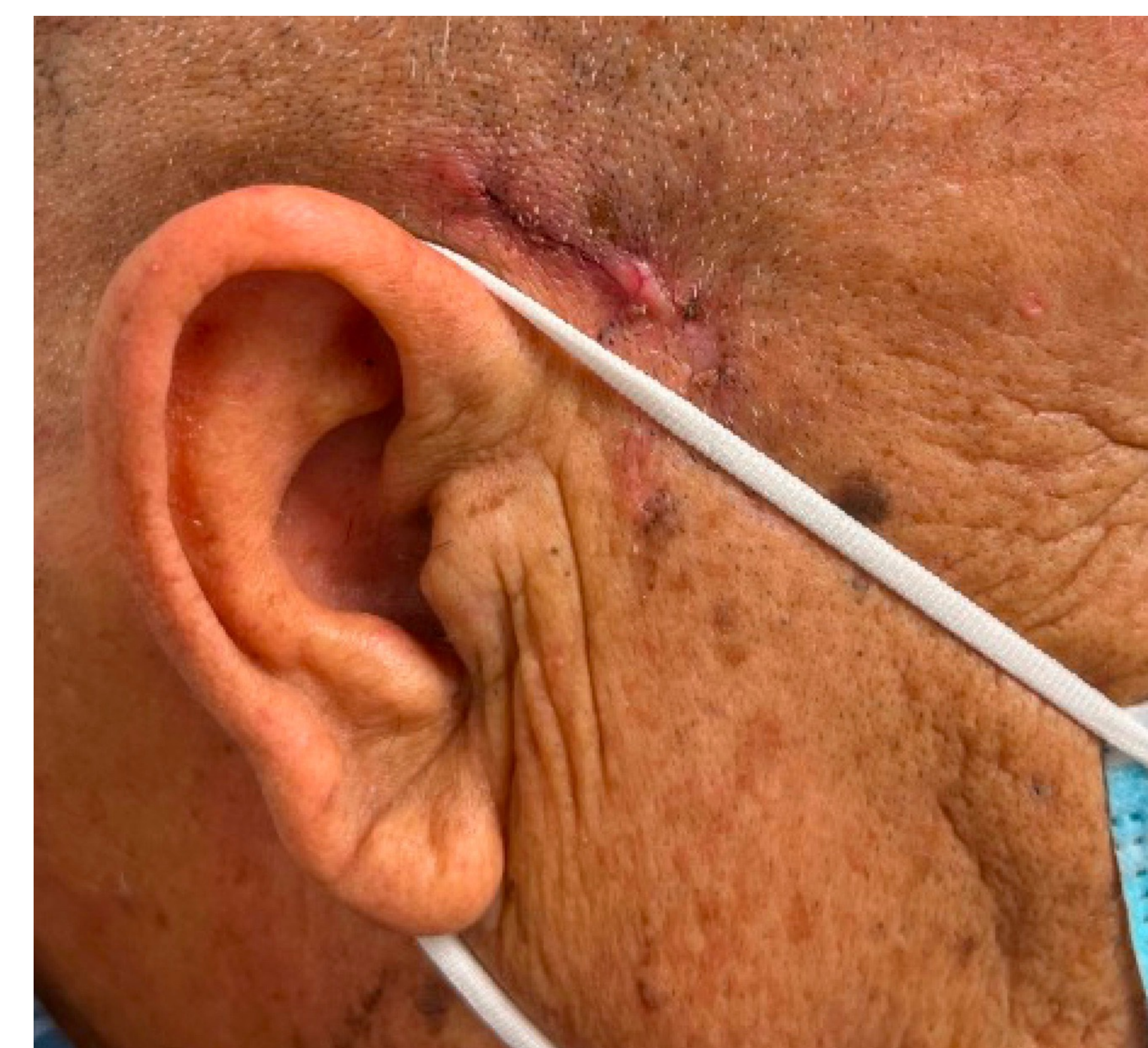
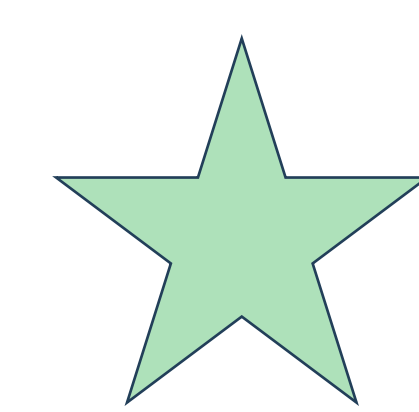


Figure 3: Pathergic response to face mask presenting as new linear ulceration adjacent to ear loop

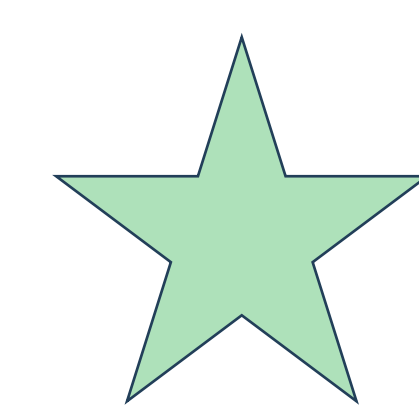


Figure 4: Improvement of pathergic linear ulceration achieved with intralesional triamcinolone

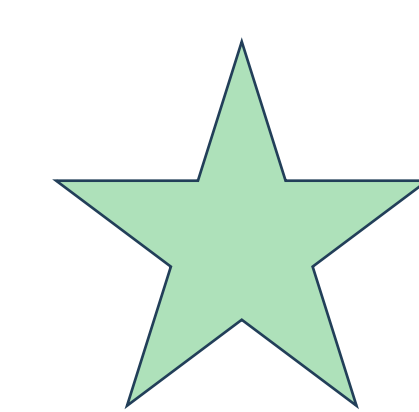
## Practice Points



Pathergy describes an exaggerated skin injury occurring after minor skin trauma and can be a sequelae of face mask use



Pyoderma gangrenosum may infrequently present on the scalp, and these patients have a predilection for pathergy and should avoid ill-fitting face masks



Pathergic lesions from face mask use may respond to treatment with intralesional triamcinolone

## Discussion

- Prolonged face mask use has been associated with an array of head and neck dermatoses due to increased friction, occlusion, temperature, moisture, and altered local microbiome.<sup>3</sup>
- Pyoderma gangrenosum (PG) is a rare, neutrophilic dermatosis that normally affects the lower extremities, but rarely involves the head and neck.<sup>4</sup>
- Cases of scalp PG are often misdiagnosed as soft tissue infections given the infrequent incidence and lack of concrete diagnostic criteria.<sup>4</sup>
- Previous reports of scalp PG have shown to exhibit pathergy in cases arising secondary to head trauma and worsening after surgical intervention.<sup>4,5</sup>
- We report the first case of pathergy as a mechanism by which face masks may initiate and/or aggravate disease.
- Face masks may induce ulceration of the scalp, especially in patients with a predilection for pathergy.
- Patients with a history of pyoderma gangrenosum, Behcet disease, and Sweet syndrome have a predilection for pathergy and should avoid ill-fitting face masks.
- While there is no gold-standard for the treatment of scalp PG, medical management with oral corticosteroids, methotrexate, cyclosporine, and dapson have been described with varying degrees of efficacy.<sup>4-6</sup>
- Surgical intervention is not recommended in the treatment of scalp PG due to the risk of pathergy.
- Our case demonstrates a pathergic lesion from face mask use that responded to intralesional triamcinolone.

## References

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