

A Practice Approach to Acne Fulminans in Adolescents

Nicolas G. Quan B.S.¹, Remie Chrabieh M.D.², Lucinda Kohn M.D.²

¹School of Medicine, University of Colorado - Anschutz Medical Campus, Aurora, Colorado

²Department of Dermatology, University of Colorado – Anschutz Medical Campus, Aurora, Colorado

Introduction:

- Acne fulminans (AF) is a severe form of inflammatory acne commonly associated with adolescents. It is characterized by an abrupt onset of painful nodules and plaques and can progress to form suppurative, ulcerative, and hemorrhagic lesions.
- Sometimes AF can be associated with systemic symptoms such as fever, arthralgia, and bone pain.
- The etiology of AF is unknown, but it has been linked to the use of certain medications and has been rarely found in autoinflammatory syndromes.
- The most common presentation of AF is seen in adolescents starting isotretinoin therapy.
- Diagnosis of AF is determined based on its clinical findings.
- Current evidence for treating AF is limited to case reports and case series.
- This research provides treatment plans specifically for the adolescent population and provides treatment options for AF scarring.

Clinical Manifestations

Constitutional symptoms:

- Fevers, anorexia, weight loss, and malaise have all been noted as constitutional symptoms in AF [1, 2].

Skin findings:

- Inflammatory and painful nodules and plaques develop, most commonly on the back, chest, and face. These lesions can then become ulcerative, suppurative, and can form crusting hemorrhagic lesions.
- As time progresses, the lesions can lead to severe scarring [1].
- Fevers, anorexia, weight loss, and malaise have all been noted as constitutional symptoms in AF [1, 2].

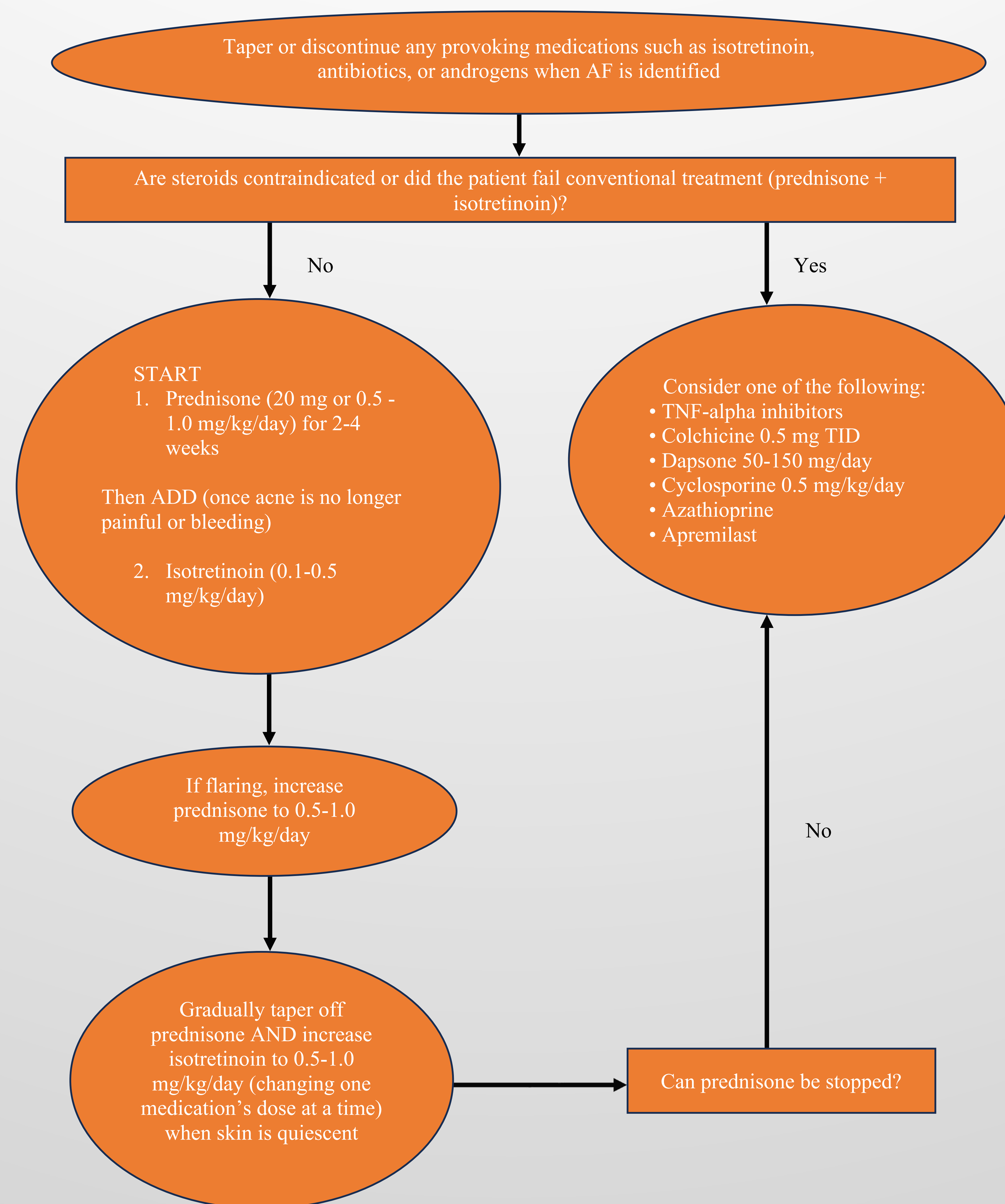
Lab abnormalities:

- May include neutrophilia, anemia, an elevated erythrocyte sedimentation rate, and an elevated C-reactive protein test [1, 2].

Other inflammatory findings:

- Arthralgia, which can be found in multiple areas in the body, not just in areas impacted by skin findings.
- Myalgia may also be present [1, 2].
- Both splenomegaly and hepatomegaly have been rarely noted to be present in AF [3].
- Additionally, multiple cases have reported erythema nodosum in AF [3, 4].
- Bony abnormalities may be commonly found in patients with AF. In a study by Laasonen, Karvonen, and Reunala on 21 adolescent patients with AF, lytic bone lesions were revealed in 10 patients (48%) and 14 patients (67%) had increased uptake on bone scans [5]. Common locations for lesions may include sternum and clavicles, but they have been found in other areas as well including the humerus, hips, and ankles [5].

Treatment of Acne Fulminans in Adolescents Flow Diagram



References:

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Management

Preventative therapy:

- Starting with isotretinoin ≤ 2 mg/kg/day has been reported to decrease acne flaring compared to 0.5 mg/kg/day [6].
- Combining isotretinoin therapy with an antihistamine has been reported to reduce the occurrence of isotretinoin-associated acne flares [7, 8].

Treatment options:

- Systemic corticosteroids and isotretinoin therapy remains the mainstay of acne fulminans treatment. The specific treatment pathway is shown in the flow diagram.
- If prednisone is not able to be removed from therapy and patients are on a high dose for more than 2-3 months, or steroids are contraindicated, steroid-sparing agents should be considered, as shown in the flow diagram.

PCP Prophylaxis:

- According to the 2023 European Journal of Pediatrics guidelines, PCP prophylaxis should be considered while on long-term high-dose corticosteroids, such as prednisone > 0.4 mg/kg/day or >30 mg/day for >4 weeks or >2 mg/kg or >15 mg/day for >8 weeks [9].
- In the adult population, the 2022 European Alliance of Associations for Rheumatology (EULAR) recommendations suggest that PCP prophylaxis is beneficial for patients with autoimmune inflammatory rheumatic diseases receiving daily doses $>15-30$ mg of prednisolone or equivalent for $>2-4$ weeks [10].

Conclusion:

- Acne fulminans is a rare and severe form of inflammatory acne primarily found in adolescents.
- The mainstay treatment for AF is corticosteroids and isotretinoin. In some cases, alternative treatments may need to be trialed.
- It is especially important to educate patients to reach out to their provider if their acne worsens on isotretinoin. Some patients may believe that acne should flare before it improves on isotretinoin, which may lead them to not seek care.
- AF can present with multiple systemic symptoms including fever and bone pain that may mimic other conditions such as infection [11].
- Adolescents are often motivated to treat chronic associated scarring and appropriate treatments should be offered including pulsed dye laser treatment, topical retinoids, glycolic acid, and benzoyl peroxide.
- Identifying AF early, stopping exacerbating factors, and proper treatment can lead to rapid improvement in symptoms and alleviate severe scarring.
- Further research into AF is needed to elucidate the pathogenesis, mechanisms, and optimal treatment for AF.