e-ISSN 3050-8460
Journal of Dermatology Research

ATHENAEUM SCIENTIFIC PUBLISHERS

Case Report

Acne: Even With Current Medications, There Can Be Complications

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Citation: Kondo EC, et al. Acne: Even with current medications, there can be complications. J Dermatol Res. 2025;6(2):1-4.

https://doi.org/10.46889/JDR.2025.6209

Received Date: 21-06-2025

Accepted Date: 07-07-2025

Published Date: 14-07-2025

Abstract

With the introduction of isotretinoin in 1982, acne became a well-controlled dermatosis. However, patients are not free from the risk of complications during treatment. We report a case in which the same patient with acne developed rare complications during treatment.

Keywords: Acne; Isotretinoin; Jaundice; Treatment

Introduction

Acne is one of the most prevalent skin diseases in the world, with an estimated 9.4% of the global population affected. It can leave scars and cause low self-esteem, as it affects adolescents [1]. With the Introduction of Isotretinoin (ISO) in 1982, severe acne became better controlled, but even so, in less common cases, it can develop complications during treatment [2-5]. We report a case of acne, with the aim of raising awareness of the complications that can occur during treatment.

Case Report

Male patient, 15 years old, with comedones, papules and pustules on the face, chest and back, findings compatible with acne. He had previously used azithromycin antibiotic without improvement (Fig. 1).

Figure 1: A: Trunk injuries; B: Worsening of injuries after ISO.

Oral ISO was introduced due to therapeutic failure. The patient developed worsening of the acne (Fig. 1), called flare-up, which is characterized by an increase in the number and inflammation of previous lesions, due to the introduction of ISO [3].

ISO was temporarily suspended, with the introduction of Diaminodiphenyl Sulfone (DDS), but the patient developed jaundice and anemia (Fig. 2). The Glucose-6-Phosphate Dehydrogenase (G6PD) dosage was shown to be deficient, evidencing hemolysis due to methemoglobinemia induced by DDS. Main laboratory findings during the hemolytic episode are shown in Table 1. The antidote, methylene blue, was administered (Fig. 2).

Laboratory Findings	Values Found	Reference Ranges
Hemoglobin levels	10.4 g/dL	13 - 16 g/dL
Reticulocyte counts	77,500 /mm^3	25,000 - 75,000 /mm^3
Lactate dehydrogenase (LDH)	288 U/L	196 - 312 U/L
Indirect bilirubin	1.46 mg/dL	< 0.8mg/dL
G6PD enzyme activity	4.86 U/gHb	> 6.97 U/gHb
C-reactive protein	6 mg/dl	<1.0 mg/L

Table 1: Main laboratory findings during the hemolytic episode.

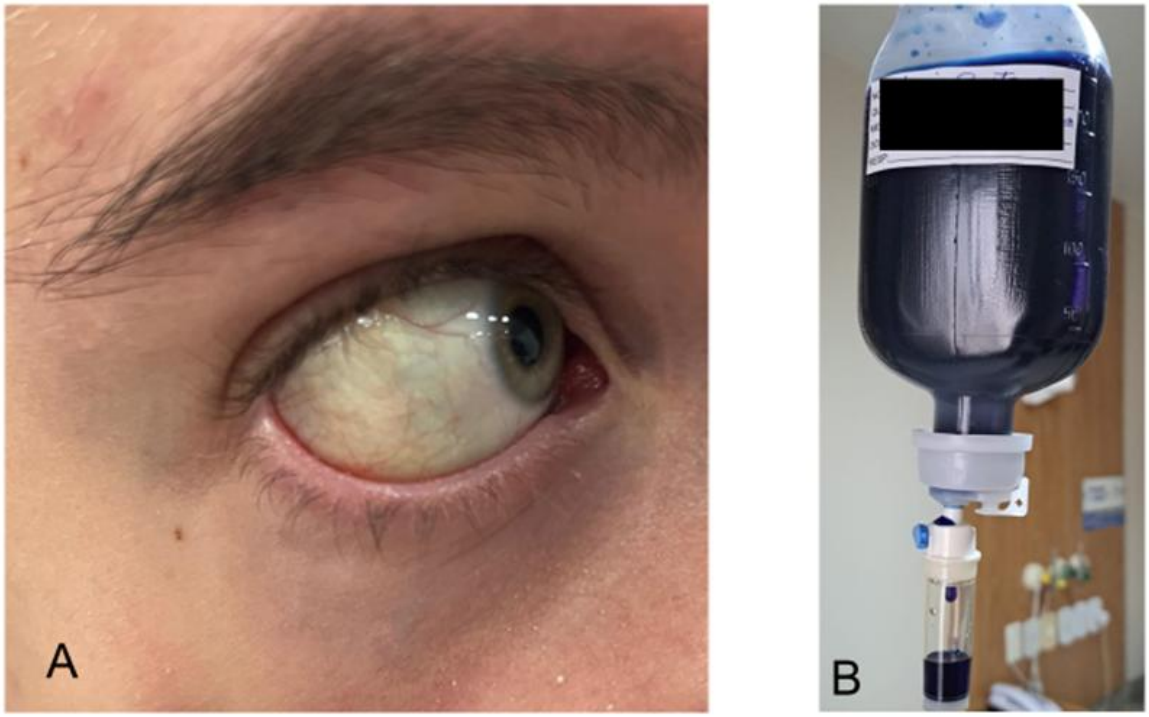

Figure 2: A: Yellow sclera (jaundice); B: Methylene blue.

With the suspension of ISO, the patient developed leukocytosis, general malaise, fever, adenomegaly and ulceration of some of the lesions (Fig. 3). Based on the clinical picture, acne fulminans was diagnosed [4]. The patient was hospitalized with Intravenous (IV) antibiotics and IV corticosteroids.

Figure 3: A: Some lesions forming ulcers; B: Cervical adenomegaly.

After improvement of acne fulminans (Fig. 4), oral ISO was reintroduced.

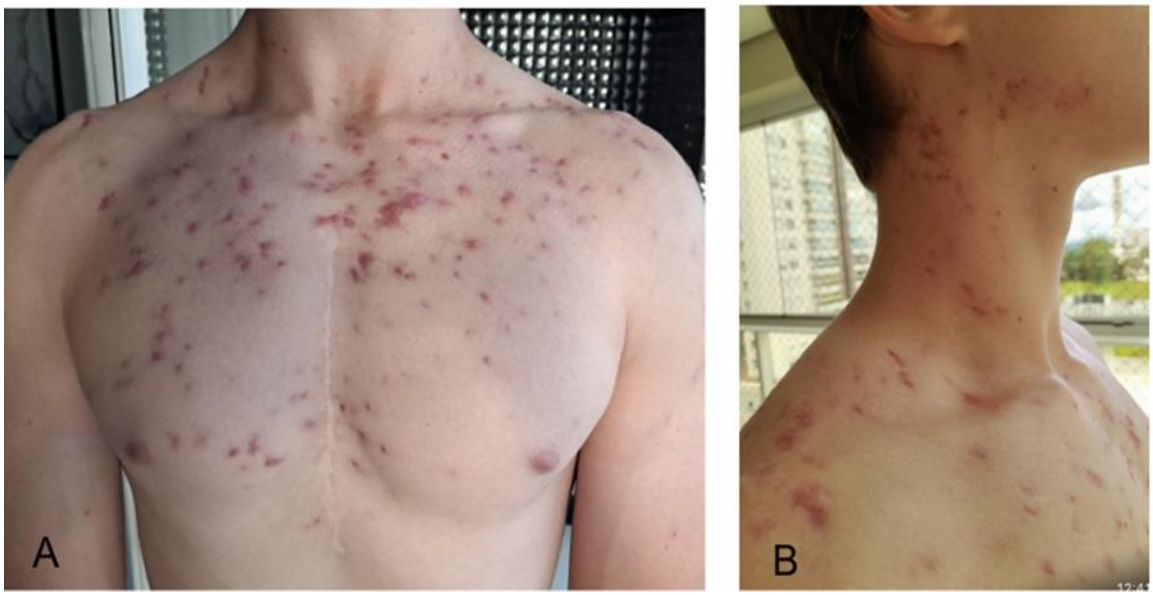

Figure 4: A: Improvement of chest ulcer; B: Improvement of cervical adenomegaly.

Discussion

Flare-up (worsening of acne lesions) after oral ISO is introduced is not common and can occur in 15% to 18% of cases [2]. One of the adjuvant treatments for this is the use of DDS, which can induce methemoglobinemia after 4 weeks in those with G6PD deficiency [5]. However, the patient in this case presented jaundice in the first few weeks (Fig. 2), with indirect bilirubin of 1.46 mg/dL, which was above the normal below threshold (< 0.8 mg/dL) and the G6PD enzyme activity was 4.86 U/gHb, which was below the normal threshold (>6.97 U/gHb). Hemolysis was treated with methylene blue (Fig. 2).

The conventional dose of ISO has been defined as 0.5-1.0 mg/kg/day and the cumulative dose as 120-150 mg/kg [4]. A 66-kg patient may receive initial treatment with 33 to 66 mg, but the patient in the present case was started on 40 mg/day, an intermediate dose. Lower doses, such as 20 mg/day, can prevent flare-ups, while higher doses, above 40 mg/day, can induce worsening or even, in rare situations, as in the case in question, cause acne fulminans [2,4].

Acne fulminans is a severe and rare form of acne. Fever, leukocytosis, general malaise, adenomegaly and ulceration of lesions are found, as in the present case [4]. Leukocytosis reached 23,000 leukocytes (normal between 5,000 and 10,000).

Other alternative treatments for flare-ups and acne fulminans besides DDS would be tetracycline-derived antibiotics (oxytetracycline, doxycycline, lymecycline), erythromycin, sulfamethoxazole combined with trimethoprim and azithromycin. The use of systemic corticosteroids such as prednisolone helps with the inflammatory process of acne fulminans. Immunomodulators such as thalidomide can also help with the inflammatory response resulting from worsening acne [4]. The patient used prednisolone and oxytetracilline, which improved the lesions.

Laboratory monitoring during the use of DDS is performed, such as complete blood count and liver function tests. Suspected cases of hemolysis can be confirmed by indirect bilirubin measurement. The Coombs test is used in cases of suspected autoimmune hemolysis and was therefore not requested in this case [5].

Our patient presented uncommon complications. Mild to moderate acne is usually well controlled with oral antibiotics. When oral ISO is required, the vast majority (more than 80%) do not present flare-ups. When DDS is required, the vast majority do not have G6PD deficiency. This patient had already taken sulfa-based antibiotics, without jaundice. Acne fulminans is also a rare occurrence.

Conclusion

This case was presented to publicize the various complications that can occur in patients undergoing acne treatment.

Conflicts of Interest

The authors declare no conflict of interest in this paper.

Funding

There was no funding for this work.

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