

## CASE REPORTS

### ACNE FULMINANS TREATED WITH ORAL RETINOIDS

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A 22-year-old male patient suffering for 4 years from severe nodulo-cystic acne and scarring accompanied by systemic signs like fever, malaise, polyarthralgia, loss of weight and leucocytosis was diagnosed as a case of acne fulminans. When there was no response to routine treatment and even systemic corticosteroids, he was treated with a low dose of oral retinoid, isotretinoin. He improved dramatically within 2 weeks and there was no relapse after 18 weeks follow-up.

**Key words :** Acne fulminans, Retinoids.

Acne is one of the most common non-infectious dermatoses which affects 30 to 66% of the adolescents.<sup>1</sup> A variant of acne with systemic manifestations is fortunately very rare. Goldschmidt et al<sup>2</sup> in 1977 found only 13 cases in the world literature. This rare disorder, namely acne fulminans, affects teenage males and is characterised by sudden appearance of highly inflammatory, tender, ulcerative and crusted lesions on the back and chest. The face is often not involved.<sup>3</sup> It is one of the most scarring acute dermatologic disorders of young patients.<sup>2</sup> The condition may be mistaken for acne conglobata at the first glance, but the important distinguishing feature is the presence of systemic signs notably arthralgia, fever and leucocytosis.<sup>4</sup>

Drugs used orally or systemically in acne vulgaris have little effect on this condition. Six to eight weeks of high doses of antibiotics and corticosteroids control the disease but relapses are frequent.<sup>2</sup> With the introduction of retinoids the picture has dramatically changed. We are reporting clinical features and use of isotretinoin (13-cis retinoic acid) in a case of acne fulminans.

#### Case Report

A 22-year-old male patient had nodulo-cystic acne over the whole of the back, face, neck and upper chest for the last 4 years. He also had fever, arthralgia, malaise, loss of appetite and had lost weight gradually over these years. He had already been treated with tetracycline and erythromycin; benzoyl peroxide and sulphur preparation and some ayurvedic medicines. His investigations showed haemoglobin 10 gm%, total WBC 21400/cmm, differential counts of 75 neutrophils, 2 eosinophils, 19 lymphocytes and 4 basophils. His platelet count was 2.5 lakhs/cmm. Other investigations were within normal limits. He was successively treated with local applications of precipitated sulphur, resorcinol, erythromycin, benzoyl peroxide and was given orally amoxycillin, cotrimoxazole, cloxacillin, tetracycline, doxycycline, and also zinc sulphate and DDS. None of these gave any relief. After culture of the pus, *Staphylococcus aureus* susceptible to gentamicin were isolated and a course of gentamicin injections 80 mg thrice a day intramuscularly was tried. It too, did not help. His haemoglobin by this time had dropped down to 8.5 gm%. A combination of tetracycline 1gm per day and betamethasone 2 mg per day was given which led to a very transient remission. We then gave him isotretinoin 0.1

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mg per kg body weight. He showed a very dramatic response to this treatment within 2 weeks. The systemic signs disappeared and the lesions healed completely. Isotretinoin was further tapered off after 8 weeks of treatment. At the end of 18 weeks of follow-up there was no relapse.

### Comments

Our case had clinical features similar to those of 21 patients reported by Goldschmidt.<sup>2</sup> These include fever, arthralgia, loss of weight, malaise and leucocytosis. Pathogenesis of this devastating disease is a mystery. Schwartzman phenomenon is considered a possibility but there is little evidence for the same. Even though scarring is a common feature to the three severe forms of acne namely acne conglobata, tropical acne and acne fulminans, acne fulminans differs from these two other conditions by its sudden onset and presence of fever, leucocytosis, anemia, weight loss, malaise and polyarthralgia.<sup>2</sup>

The recommended dose of isotretinoin is between 0.5 to 1 mg per kg body weight for a duration of 8 to 12 weeks. Satisfactory results may be obtained with lower doses but then the chances of relapse are more.<sup>5-6</sup> We opted for a lower dose because of the high cost of isotretinoin. Out of the two currently available oral retinoids, isotretinoin is far more effective as compared to etretinate in acne cases.<sup>4</sup> Retinoids have varied pharmacological actions. These include alterations in cellular differentiation, proliferation and cell products; effect on specific binding proteins; stabilization of membranes; effects on immune system and effects on collagenase and prostaglandins.<sup>7</sup> The most important action of isotretinoin which brings about a lasting effect in acne vulgaris is the reduced rate of sebum production which continues even after stopping the drug.<sup>5-8</sup> The other contributory factors are alteration in the follicular epithelium and change to a more infantile lipid profile in the sebum secretion containing a

higher percentage of cholesterol and reduced amounts of squalene and wax esters.<sup>5</sup> Patients with severe recalcitrant cystic acne have sebaceous glands that show excessive cellular differentiation and proliferation. In a study done by Zelickson et al, electron microscopy demonstrated that the sebostatic action of isotretinoin resulted in marked diminution of these processes during the treatment and for as long as 5 months post-treatment.<sup>9</sup>

**Generic and commercial names of the drug**  
Isotretinoin (13-cis retinoic acid) : Accutane.

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