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A case of acne fulminans

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Abstract: *Background and aim: Acne fulminans is a rare and severe form of acne which usually appears in young men with a personal history of mild to moderate acne. It is characterized by a sudden onset with nodules and ulcerative lesions mostly located on the thorax and extracutaneous manifestations (fever, weight loss, osteoarticular damage). The pathophysiologic mechanism is represented by a type III or IV hypersensitivity reaction to Propionibacterium acnes.*
Patient: We present the case of a 16-year old patient with acne fulminans. The lesions were accompanied by an impaired general condition with fever and weight loss. Paraclinically an inflammatory syndrome was revealed without osteoarticular changes. It was treated with prednisone 40 mg/day, erythromycin 2g/day and local antiseptic solutions. A gradual tapering of the prednisone dose (5 mg/week) and a dermatological revaluation after 3 weeks to introduce systemic treatment with retinoids were recommended at discharge.
Conclusions: Acne fulminans is a severe form of acne with systemic manifestations and corticotherapy is the first line treatment.

Keywords: *acne fulminans, corticotherapy*.

INTRODUCTION

Acne fulminans is a rare and severe form of acne which usually appears in young men with a personal history of mild to moderate acne. It is characterized by a sudden onset with nodules and ulcerative lesions mostly located on the thorax and extracutaneous manifestations (impaired general condition, fever, bone pain, anorexia, splenohepatomegaly) [1-3]. Osteoarticular impairment is common, it being reported in about half of the cases [4,5]. The pathophysiologic mechanism is represented by a type III or IV hypersensitivity reaction to Propionibacterium acnes [6]. The involvement of drugs such as anabolic steroids and retinoids are also quoted [7,8]. The treatment of choice are corticosteroids with initial dosing of 1 mg/kg/day followed by a gradual tapering and retinoids introduction from the 4th week [9].

MATERIALS AND METHODS. CASE PRESENTATION

We present the case of a 16 years old patient who required a dermatological consult for a cutaneous eruption located on the face and the anterior and posterior thorax.

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The skin examination showed comedones, papules, pustules and ulcerative nodules with necrotic crust. The patient reported a personal history of untreated acne vulgaris.

He described the onset of the rash 14 days prior to admission. Lesions were accompanied by anorexia, mild fever (unchecked at home). He has lost 4 kg from the appearance of the eruption.

Laboratory results have revealed an increased ESR (64 mm/h), leukocytosis (16,340/mm^3).

The bacteriological examination of the lesions was negative. The radiography of the large joints (elbows, knees, lumbosacral) has revealed no pathological changes.

The patient was treated with prednisone (40 mg/day), antibiotics (cefuroxime, erythromycin), antiseptics and benzoyl peroxide with clindamycin.

The evolution was favourable after 7 days of treatment with a decrease in the skin lesions and the inflammatory markers.

Figure 1

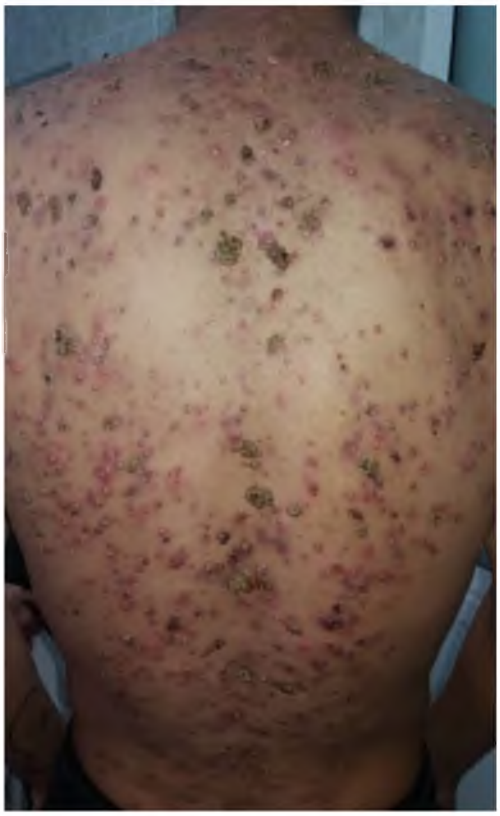


Figure 2

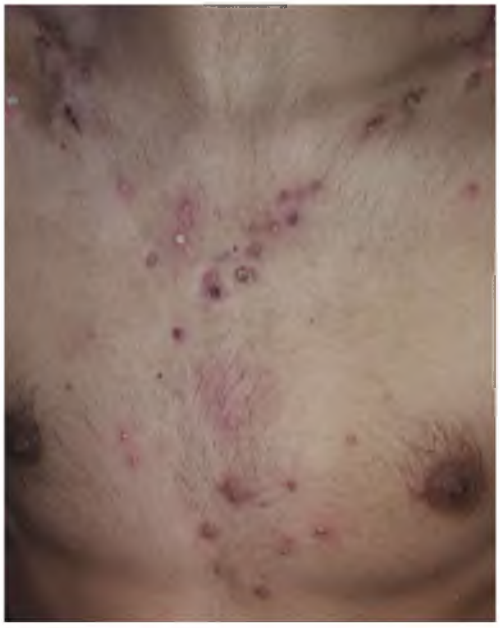
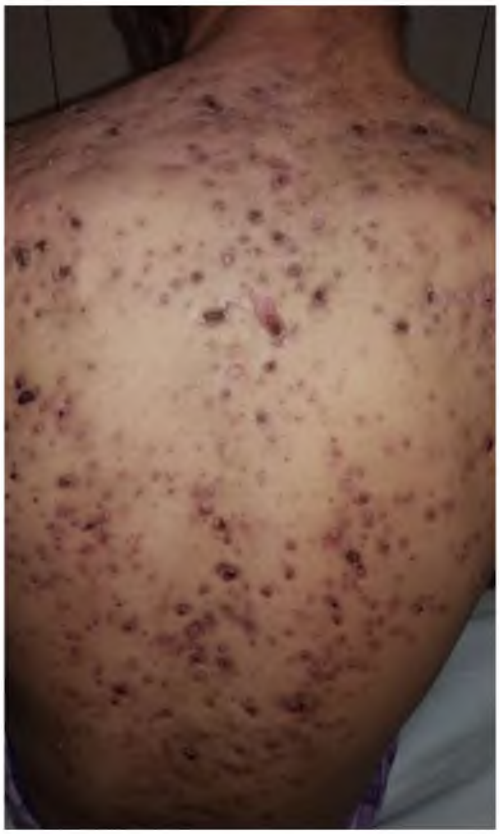


Figure 3



A gradual tapering of the prednisone dose (5 mg/week) and a dermatological revaluation after 3 weeks to introduce systemic treatment with retinoids

were recommended at discharge.

DISCUSSION

In the literature acne fulminans is presented either as a stand-alone entity or as a manifestation within SAPHO syndrome (Synovitis, Acne, Pustulosis, Hyperostosis, Osteitis). Also cited are the association of acne fulminans with inflammatory bowel disease, ankylosing spondylitis, the appearance of it after an intake of anabolic steroids and paradoxically after isotretinoin administration.

Rajaee et al presented the case of a 16 years old boy with acne fulminans with positive antinuclear antibodies and positive HLA-B27 antigen. The radiological examinations of the sacroiliac joints and chest revealed no changes and that of the right knee revealed effusion and soft tissue swelling [10].

Also interesting is the association of acne fulminans with Crohn's disease and ulcerative colitis. Pecova et al. describe the case of a 30 years old patient with known Crohn's disease and papulopustular acne from the age of 17. He had the first episode of acne fulminans at the age of 21 after discontinuation of methylprednisolone therapy utilized for primary disease. Five years later the same patient developed a new flare of acne fulminans due to the introduction of biological therapy (infliximab) [11]. Another case is that of a 19 years old man treated for ulcerative colitis for 2 years, who developed acne fulminans and was successfully treated with prednisone and diaminodiphenyl sulfone orally [12]. Regarding the association of acne fulminans with the administration of testosterone, an interesting case is that of the twins suffering from Kallman syndrome who from the age of 17 received testosterone substitution treatment for delayed puberty. Nine months after the substitution therapy started the patients developed acne fulminans [13].

A case of acne fulminans was reported in a young bodybuilder who used anabolic steroids (testosterone enanthate, trenbolone acetate, drostanolone propionate and methandrostenolone) for muscle growth. Shortly after the cessation of the anabolic steroids use he developed acne fulminans with debilitating arthralgias [14]. Mayerhausen and Riebel presented in a 1,989 article the case of a 23 years old man, javelin thrower, who developed acne fulminans after taking anabolic steroids and vitamin B preparations. [15]

SAPHO syndrome (synovitis, acne, pustulosis, hyperostosis, osteitis) is a rare inflammatory disorder that associates osteoarticular lesions with pustular disorders such as pustular psoriasis, palmoplantar pustulosis, acne fulminans and hidradenitis suppurativa. The axial skeleton, the sternoclavicular and sternocostal joints are more commonly affected than the peripheral joints [16]. Lakshmi Divya et al presented the case of an 18 years old man with a 9 months old painful nodulocystic acne. The patient had also severe pain in the wrists and lower back, chills and stiffness for 30 days. An MRI scan of the right hand joint revealed osteolytic lesions. A scintigraphy with technetium 99m indicated increased capture in the bilateral distal radial metaphyses, sacroiliac joints, vertebral plateaus and the 7th costovertebral joint. The patient was treated orally with cefpodoxime, doxycycline and colchicine 1 mg/day. 4 weeks later systemic therapy with isotretinoin 20 mg/day was started with remission of the lesions at 12 weeks [17].

Acne fulminans can be paradoxically induced by isotretinoin. Some authors consider that its appearance is dose dependent. Pereira et al. presented a case of acne fulminans induced by low-dose isotretinoin (20 mg/day). The patient was treated with oxacillin, prednisone and oral isotretinoin in the same dose with a favorable evolution [18]. MacKenzie describes another case of isotretinoin induced (20 mg/day) acne fulminans one month after the initiation of therapy. Following treatment with prednisone (60 mg/day) and erythromycin (2 g/day) the lesions diminished after a month. Isotretinoin treatment was then reintroduced with gradually increased dosages from 10 mg/day to 70 mg/day with full remission of the lesions after 11 months [19]. Zanelato et al presented the case of a 14 years old boy that was initiated on isotretinoin 0.5 mg/kg/day and prednisone 0.1 mg/kg/day. 12 days later ulcero-necrotic lesions started developing on the face and trunk. The patient had also musculoskeletal

involvement (bilateral sacroileitis, scapulohumeral, chondrocostal, jaw, ankles and lumbar intervertebral joints). Isotretinoin was stopped and the patient was started on prednisone with a favorable evolution. 30 days from the interruption, isotretinoin was reintroduced in doses of 0.2 mg/kg/day with subsequent dose increase after 2 months to 0.5 mg/kg/day while corticosteroid therapy was tapered. [20].

CONCLUSION

Acne fulminans represents a severe form of acne with systemic manifestations. The mechanism of the disorder is not yet elucidated and corticotherapy is the first line treatment.

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