ACNE FULMINANS ASSOCIATED WITH REACTIVE POLYARThRITIS: REPORT OF A CASE AND REVIEW OF THE LITERATURE

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ABSTRACT

We describe a 16 year old boy with acne fulminans associated with axial and peripheral polyarthritis. The patient's clinical course and therapy with isotretinoin, prednisolone and oxytetracycline are described. A possible association between the presence of HLA-B27 antigen and reactive arthritis with acne fulminans in this case is evaluated. A review of the literature is included.

Keywords: Acne fulminans, reactive arthritis, HLA-B27 antigen

INTRODUCTION

Acne fulminans is an uncommon acute type of acne, associated with fever, weight loss and papulopustular lesions that are highly inflamed, tender and eventually ulcerative. These lesions occur on the face, chest, back and upper extremities. This devastating type of acne is one of the most scarring dermatologic disorders and occurs almost exclusively in boys. In 1975, Plowing and Kligman clearly separated this disease from acne conglobata and coined the term acne fulminans. Musculoskeletal abnormalities including arthralgias and arthritis may occur in association with acne fulminans. In Stathan et al's study symptoms of joint pain occurred in twenty-three out of thirty-two cases reviewed. Nevertheless, reports of associated arthritis were very rare. Destructive arthritis is reported by Hunter et al. as a case report. Hault et al. reported a case with acne fulminans and systemic manifestations and musculoskeletal pain associated with osteolytic lesions. Piazza and Giuntare reported a case with lytic bone lesions and polyarthritis associated with acne fulminans. Leukocytosis, anemia and an elevated erythrocyte sedimentation rate (ESR) are typical laboratory findings in acne fulminans. To our knowledge so far 55 cases have been reported. Herein we report a 16 year old boy with acne fulminans and with reactive polyarthritis involving the right knee, left sacroiliac and left metatarsophalangeal (MTP) joints associated with severe tenderness of the left costochondral junctions. The patient was treated with diclofenac and promptly recovered. Acne fulminans was effectively treated with isotretinoin, prednisolone and oxytetracycline.

CASE REPORT

A 16 year old white male presented with mild facial acne. 11 months later these lesions flared and new ones appeared on his face, neck, shoulder, chest and back. One month afterwards he developed recurrent chills, fever and axial skeletal pain with diffuse arthralgias, most marked in the right knee. Upon admission his physical examination revealed the following: Temperature 38.9°C, pulse rate 90 beats per minute, respiration rate 20 per minute, blood pressure 130/70 mmHg, markedly inflamed, tender pustules and ulcers were present on the face, neck, shoulders, chest and back (Fig. 1). The nodulocystic and ulcerative lesions were deep and most were extremely tender (Fig. 2). Tenderness was so severe at the left costochondral junctions that full respiratory movements were limited. The right knee joint was swollen and tender and showed slight flexion contracture and effusion. There was tenderness on the left sacroiliac joint. The left metatarsophalangeal (MTP) joints were tender and swollen. There was tenderness on the right ischial tuberosity. Except for minor cervical adenopathy.
Acne fulminans is an acute febrile illness with extensive ulcerating and inflammatory lesions affecting the back, chest and face. The healed lesions show considerable granulation tissue. Weight loss is a prominent feature of this disease. Laboratory abnormalities include anemia, leukocytosis and high ESR. ANA and rheumatoid factor are negative. The incidence of HLA-B27 antigen does not seem to be significantly increased. Males are much more frequently affected than females. Piazza et al. mentioned that all patients are young males with an average age of 15. The pathogenesis of this disorder is unknown. Skin and blood cultures are inconclusive. Hypersensitivity is speculated, as decreased delayed hypersensitivity responses have been reported. Some authors postulate an immune complex mechanism and decreased serum complement levels. Others have been unable to confirm these observations. Acne fulminans can be complicated by a systemic inflammatory arthropathy. In the reported cases by Davis et al, the majority had arthralgia of large joints i.e., hips, knees and shoulders. Objective arthritis was demonstrated in the sacroiliac joints, hips, knees and ankles. In our patient, examination disclosed active synovitis involving the right knee joint, left metatarsophalangeal (MTP) joints and tenderness of the left sacroiliac and left costochondral junctions. The arthropathy associated with acne fulminans is believed to be slight and characterized by normal radiological findings. In Ellis et al's study in five out of six patients histocompatibility antigen HLA-B27 was absent. In Davis et al's study radiological evidence of sacroiliitis was found in one patient who did not possess HLA-B27. In our case with signs of...
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Fig. 3. Appearance of skin 12 months after treatment. Residual keloids remain on the upper part of the back.

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To summarize, several reports describe an association of acne fulminans and joint disease. Our experience with our patient reinforces this concept. The arthropathy may range from a reactive phenomenon to a chronic, supplicative cutaneous disease, analogous to that of Reiter's disease or inflammatory bowel disease. The presence of HLA-B27 antigen in some cases including ours is of considerable interest. A role for immune complex disease has been suggested in the arthropathy associated with acne fulminans. Further research may indicate how this arthrocuteanous disorder should properly be categorized with respect to the reactive arthropathies. The arthropathy associated with acne fulminans is believed to be silent and characterized by normal radiological findings.

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The typing skills of Miss F. Faramarzi are gratefully appreciated.

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