Sweet's syndrome in association with Crohn's disease

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Abstract
A case of Sweet's syndrome in association with Crohn's disease in a young woman is reported. Sweet's syndrome is a rare extraintestinal manifestation of Crohn's disease and ulcerative colitis.
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A 32 year old white women presented with a rash and fever of eight days' duration. The rash began over the back, neck, and facial areas and spread over the next two days to involve both arms, buttocks, and the right foot. The skin lesions were painful and non-pruritic. One day after the onset of the skin lesions, the patient developed right elbow pain associated with erythema, warmth, and swelling. She experienced low grade fevers and malaise over this period. She denied any previous arthralgias or arthritis. There was no history of upper respiratory infection symptoms, active diarrhoea, vaginal discharge, or urinary symptoms in the recent past. She had not recently started any new medications. The patient's medical history was remarkable for Crohn's disease, diagnosed in 1990, which was treated with asacol and surgical repair of a rectal fissure. She reported an allergy to sulfa medications. She denied any history of sexually transmitted diseases.

On initial examination, the patient was febrile with an oral temperature of 39°C. Examination of the oral cavity revealed a 4 mm ulcer in the right upper gingiva and another 2 mm ulcer over the tip of the tongue. The ulcers were shallow and painless. Skin examination revealed several 3–4 cm juicy, erythematous, pseudovesiculated plaques scattered over the face, forehead, neck, back, upper thorax, and extremities. The lesions were exquisitely tender to palpation. The palms, soles, and genitalia were spared. No lymphadenopathy was found. Examination of the right elbow revealed a warm and mildly swollen joint with marked erythema over the extensor aspect of the joint. There was mild tenderness to palpation of the joint space and pain with active and passive movements. Significant pain and tenderness were also noted with resisted extension and there was marked tenderness over the distal triceps tendon suggestive of tendonitis. The other joints were unremarkable with normal and painless range of motion.

Laboratory examination revealed a white cell count of 13.9×10^9/l with 81% neutrophils. Erythrocyte sedimentation rate was 53 mm/hour. Liver function tests were normal and an antinuclear antibody screen was negative. Right elbow aspiration yielded no synovial fluid. A skin biopsy specimen of a plaque on the right upper back region revealed focal basal vacuolisation in the epidermis. Extensive upper dermal neutrophilic infiltrate with degeneration of collagen, as well as dermal oedema and predominantly perivascular mononuclear cell infiltrates with focal atypia of the lymphoid cells, were noted (fig 1A and B). Special stains (Gram, PAS and D, methenamine silver and

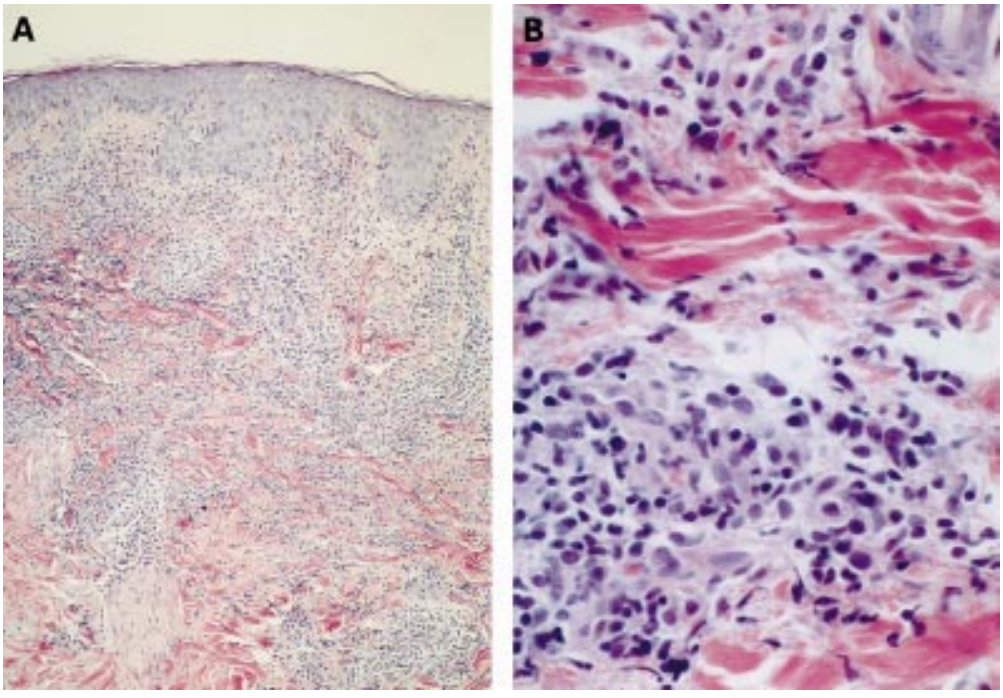

Figure 1 Skin punch biopsy from an upper back lesion showing extensive dermal neutrophilic infiltrate consistent with diagnosis of Sweet's syndrome. Slides were stained with haematoxylin and eosin and viewed under (A) low power: magnification × 10 and (B) a high power: magnification × 40.

Box 1: Occurrence of Sweet's syndrome in 176 patients reported previously
- Classic/idiopathic (71%)
- Parainflammatory (16%): autoimmune diseases; infections
- Paraneoplastic (11%): leukaemias and lymphomas; solid tumours
- Pregnancy (2%)

acid fast) were negative for infectious organisms. The pathological findings were those of a neutrophilic dermatoses and was consistent with Sweet's syndrome.

Discussion

Sweet's syndrome, or acute febrile neutrophilic dermatoses, was first described in 1964 by Robert Douglas Sweet.[1] The neutrophilic dermatoses are a group of non-infectious dermatoses with pathognomonic presence of an angiocentric, vessel based neutrophilic infiltrate seen on histological examination.[2]

Sweet's syndrome is an uncommon disorder consisting of rapidly evolving tender, red cutaneous plaques, fever, and leucocytosis. It usually occurs in 30 to 60 year old women with a 5:1 preponderance compared with males. The cutaneous findings of Sweet's syndrome are distinctive. There is sudden onset of multiple bright to dusky red, sharply marginated, exquisitely tender, erythematous plaques. They are often mamillated (studded with closely set pseudovesicular papules) and are commonly located on the dorsal aspect of the upper extremities, neck, and face regions.[3] The lesions usually heal in five to 12 weeks without scarring, but may recur in about a third of patients. Oral ulcers may sometimes be present.[4] Lymphadenopathy is characteristically absent. Ninety per cent of patients have mild to moderate fever and 75% present with some form of prodromal illness, most commonly an upper respiratory infection. Twenty five per cent have arthralgias or an acute non-destructive pauciarticular arthritis. Conjunctivitis or episcleritis occurs with variable frequency. The most common laboratory abnormalities are a raised erythrocyte sedimentation rate and leucocytosis with neutrophilia.[5]

Sweet's syndrome may represent a hypersensitivity or immunological phenomenon. There is increasing evidence that the disease is a T cell cytokine mediated disease.[6] On pathological examination of a plaque one finds a characteristic patchy, perivascular, or band-like infiltrate of mature neutrophils in the middle and upper dermis (fig 1A and B). While the exact aetiopathogenesis of the condition is unclear at the present time, Sweet's syndrome is known to occur in conjunction with many paraneoplastic and parainflammatory conditions (box 1). It is associated with myeloproliferative disorders in approximately 10% of cases. Myelomonocytic leukaemia is the most common association, but other haematopoietic malignancies such as myeloma, B or T cell lymphoma, hairy cell leukaemia, myelodysplastic syndrome, and agnogenic myeloid metaplasia as well as solid tumours including testicular, prostatic, ovarian and breast, vaginal squamous cell, rectal, and colonic adenocarcinoma have also been described with the syndrome.[7] In a recent review of 87 patients with histologically proved Sweet's syndrome, 2% had a history of previous malignancy, 16% developed malignancy within a year of the clinical presentation, and an additional 5% had premalignant conditions. The majority of the malignancies in this study were haematological.[8]

Learning points
- Sweet's syndrome is also known as acute febrile neutrophilic dermatosis
- It is an uncommon disorder characterised by rapidly evolving, tender, red, cutaneous plaques, fever, and leucocytosis
- It is associated with many conditions including many malignancies, autoimmune diseases, and infections
- There is a rapid response with high dose steroids

The disease is also associated with ulcerative colitis, and less commonly with Crohn's disease, monoclonal gammopathy, rheumatoid arthritis, systemic lupus erythematosus, Sjogren's syndrome, and Behçet's disease. Sweet's syndrome, when associated with Crohn's disease or ulcerative colitis shows a stronger predilection for women than men. There is also a higher incidence of colonic involvement and extraintestinal features in these patients.[9] The rash is associated with active disease in most patients, but may sometimes precede the onset of intestinal symptoms.

The natural history of untreated Sweet's syndrome is resolution of the skin lesions within six to eight weeks.[10] The cutaneous and extracutaneous manifestations characteristically respond completely and immediately to systemically administered corticosteroids. Relapses are common if steroids are tapered too quickly. An initial dose of 40–60 mg of prednisone is recommended with tapering over four to six weeks. Our patient was started on prednisone, 60 mg/day, with complete resolution of joint symptoms within 48 hours. The skin lesions resolved over the next few weeks. However, initial tapering of steroids over four weeks resulted in recurrence of both skin and joint symptoms. She required reinstitution of prednisone and a very gradual tapering of her medication over the next few months to maintain quiescence of symptoms.

Antibiotics do not seem to play a part in the management of this disease. Other agents that have been reported to be effective include indomethacin, dapsone, potassium iodide, colchicine, clofazimine, and isotretinoin.[4]

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