

CASE REPORT

A case of Sweet's syndrome associated with uveitis in a young male with ulcerative colitis

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Abstract

Sweet's syndrome is rare acute febrile neutrophilic dermatosis whose onset is either idiopathic or associated with other underlying conditions, such as infections, autoimmune diseases, pregnancy, use of certain medications, or malignancy. We report the case of a young male with known history of ulcerative colitis and abrupt onset of high fever, malaise, blurred vision and eruption of painful erythematous nodules and papules, localized on the head, neck, trunk and upper limbs. Ophthalmological examination established the diagnosis of anterior uveitis. Inflammatory markers were positive. Histological examination of skin lesions revealed a dense neutrophilic infiltrate of the dermis. Clinical, laboratory and histological findings were suggestive for the diagnosis of Sweet's syndrome and uveitis on a background of ulcerative colitis. Systemic and ophthalmic administration of corticotherapy leads to a prompt resolution of symptoms and inflammatory syndrome. The particularity of this case is the occurrence of two simultaneous extraintestinal manifestations in a young male with inflammatory bowel disease and colonic involvement. Although a relatively rare condition, Sweet's syndrome should be considered as a differential diagnosis in patients with acute onset of high fever and skin rash, as it may have notable internal involvement and can be easily treated.

Keywords: Sweet's syndrome, ulcerative colitis, uveitis.

Introduction

Acute febrile neutrophilic dermatosis, also known as Sweet's syndrome, was described by Robert Douglas Sweet in 1964 [1]. It can occur as Sweet's disease mostly in young women with mild respiratory diseases or may be associated with malignancy, inflammatory diseases, use of certain drugs, or pregnancy. It is a reactive process with sudden onset, consisting of fever, neutrophilia and eruption of red to brown nodules and papules that tend to form plaques, localized mostly on face, neck and upper limbs. This syndrome responds quickly to corticosteroids or immunosuppressive treatment. The dermatosis heals without leaving scars and is not associated with vasculitis [2–5].

Although a relatively rare condition, Sweet's syndrome is important to be recognized timely, as it may have notable internal involvement and can be easily treated [6].

This report exemplifies the clinical presentation, diagnostic work-up, and management of Sweet's syndrome.

Case presentation

A young 33-year-old Caucasian male presented with a five-day history of acute painful skin eruptions, fever, 5–8 daily episodes of diarrhea with hematochezia. The symptoms were accompanied by increasing fatigue, malaise, eye pain and blurred vision. On admission, he had a visibly altered general state, with elevated temperature of over 39.5°C.

Physical examination revealed multiple tender, edematous and erythematous papules and nodules with a tendency of forming plaques. The eruption was

asymmetrical, and covered the hairy skin of the head, the face, neck, trunk and upper limbs (Figure 1, A and B). Intense hyperemia of the right eye was evident. Ophthalmological examination established the diagnosis of anterior uveitis.

Laboratory examination showed leukocytosis (16 500/mm³) with neutrophilia (84%) and mild anemia: hemoglobin 11 g/dL, hematocrit 35%. An intense inflammatory response was suggested by the high ESR (erythrocyte sedimentation rate) of 86 mm/h and a positive test for C-reactive protein. Liver and renal tests were normal. Blood cultures, as well as bacteriological prelevates from the skin lesions, were negative.

The patient had been diagnosed with mild ulcerative colitis 18 months earlier. The disease was well controlled with Mesalazine, 3 g/day at the onset and 2 g daily after remission. The patient had missed the scheduled visits for the six months prior to presentation.

Colonoscopy was performed and severe lesions of ulcerative colitis with pseudo-polyps were observed. The lesions extended towards the liver flexure of the colon. Mucosal biopsy revealed active ulcerative colitis (Figure 2A), with typical inflammatory changes of the mucosa and submucosa, with dense lymphocytic infiltrate of the lamina propria and loss of the goblet cells within the epithelium. In addition, a minor manifestation of crypt abscesses was observed.

Biopsies of skin lesions showed edema of the dermal papillae and papillary dermis, a dense inflammatory diffuse infiltrate consisting predominantly of mature neutrophils with leukocytoclasia, typically located in the upper dermis. The infiltrate was associated with

mild extravasation of red blood cells. Few neutrophils were present in the epidermis. Minor intraepidermal pustules were visible. No signs of microscopic vasculitis were observed (Figure 2B).

The clinical presentation, with the abrupt onset of fever and painful skin eruption, together with the pathological findings, are suggestive for the development of Sweet's syndrome in the presence of underlying inflammatory bowel disease.

Systemic treatment with Methylprednisolone 125 mg/day, Mesalazine 3 g/day and Pantoprazole 40 mg/day was promptly established. Anterior uveitis was addressed with local corticotherapy. A dramatic improvement of the

symptoms occurred rapidly: the temperature returned to normal within 24 hours, the skin lesions started to regress and became indolent after three days (Figure 1C), whereas the smaller ones started to vanish. The eye manifestations quickly improved. Diarrhea and hematochezia disappeared after seven days. The biological syndrome also resolved rapidly, the leukocyte count and neutrophilia returning to normal after five days of treatment (leukocytes: $9000/\text{mm}^3$, neutrophils: 65%).

The patient was released on treatment with Budesonide 9 mg/day and Mesalazine 3 g/day. Within the next year of follow-up, he had no flares of ulcerative colitis or recurrence of Sweet's syndrome or uveitis.



Figure 1 – Skin lesions characteristic to Sweet's syndrome: (A and B) Erythematous papules and nodules on the upper body of the patient; (C) Regression of skin manifestations after the onset of the appropriate therapy with corticoids.

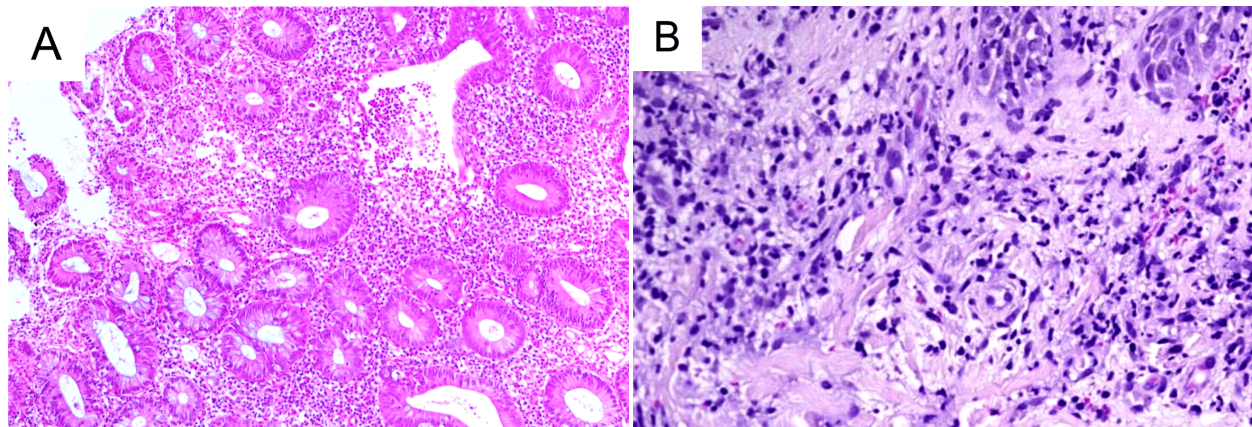


Figure 2 – Pathological changes associated with ulcerative colitis and Sweet's syndrome in our patient: (A) Inflammatory changes of the colon mucosa and submucosa, with lymphocytic infiltrate and loss of goblet cells (Hematoxylin–Eosin staining, $\times 100$); (B) Microscopic features of skin biopsy, showing edema of papillary dermis and inflammatory infiltrate with neutrophils, characteristic to Sweet's syndrome (Periodic Acid–Schiff staining, $\times 200$).

Discussion

Sweet's syndrome is a rare manifestation of inflammatory bowel disease and especially of ulcerative colitis, with few cases reported in the literature.

The particularity of our case is the occurrence of two simultaneous extraintestinal manifestations in a male patient with ulcerative colitis. Although iritis and uveitis are the most common extraintestinal disease associated with ulcerative colitis, they are more likely to occur in patients aged over 40 years [7]. On the other hand, cutaneous involvement is the most rare secondary condition related to ulcerative colitis, and less than 0.3% of patients with inflammatory bowel disease have more than one extraintestinal manifestation [7, 8]. Moreover, ocular involvement is rare in Sweet's syndrome. For example, in two different cohorts of patients with Sweet's syndrome, comprising 44 and 63 individuals, associated eye disorders were reported in only one and two patients respectively,

in the form of episcleritis [9, 10]. The occurrence of Sweet's syndrome in a young male is also unusual, since more than 80% of the affected individuals are females [3].

Sweet's syndrome may sometimes precede the diagnosis of inflammatory bowel disease (IBD), but in the majority of cases, it is diagnosed after the onset of IBD [3]. In our case, both Sweet's syndrome and uveitis occurred with the reactivation of ulcerative colitis, in a patient who was neither on corticosteroids or on immunosuppressive therapy.

The therapeutic gold standard in acute febrile neutrophilic dermatosis consists of systemic corticotherapy [11]. Cyclosporine, Dapsone, Colchicine or Indomethacin can be used as second line therapeutic agents [12–14]. In our patient, the introduction of Methylprednisolone dramatically improved all clinical manifestations. Recurrence of the dermatosis is noted in approximately one-third of individuals [4, 5]. Our patient did not experience any recurrence of symptoms during the next year of follow-up.

The etiology and pathogenesis of Sweet's syndrome are still to be elucidated. Classical Sweet's syndrome may be associated with infection (upper respiratory tract or gastrointestinal tract), inflammatory bowel disease, or pregnancy [1–3].

The drug-induced variant of this dermatosis is most frequently observed in patients following administration of granulocyte-colony stimulating factor. Among other drugs that can induce Sweet's syndrome, antibiotics (Nitrofurantoin, Norfloxacin, Ofloxacin, Trimethoprim/Sulfamethoxazole) [15–17], antiepileptics (Carbamazepine, Diazepam) [18, 19], antihypertensives (Hydralazine) [20, 21], antineoplastics, antipsychotics, contraceptives [22], diuretics (Furosemide) [23], and non-steroidal anti-inflammatories (Diclofenac, Celecoxib) have been cited. The symptoms diminish/disappear after the cessation of the inducing drugs.

Although not a frequent disorder, Sweet's syndrome should be considered as a differential diagnosis in patients with acute onset of high fever and skin rash. Withholding treatment in Sweet's syndrome is sometimes fatal [2]. In addition, occurrence of Sweet's syndrome in a patient without a prior cancer may be the manifestation of a previously undiagnosed malignancy [24].

Early diagnosis would allow the physician to adopt appropriate management of both the dermatosis and the underlying disease [25].

✉ Conclusions

This is a rare case of Sweet's syndrome associated with both ulcerative colitis and uveitis in a young male. Both extraintestinal manifestations were quickly relieved after systemic corticosteroids. Maintenance of corticosteroids in long-term therapy stopped the relapse of the extraintestinal manifestations and no flares of ulcerative colitis occurred in one-year follow-up. Possible complications and association of Sweet's syndrome with an undiagnosed malignancy warrant the need for clinical practitioners to be aware of this condition.

Conflict of interests

The authors declare that they have no conflict of interests.

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