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## SWEET SYNDROME PRESENTS WITH SEVERE SIRS

MAJED K, ZAUCHE KH, MAGHRAOUI H, BACCOUCHE R, HAMOUDA CH, FALFOUL N. Sweet syndrome presents with severe SIRS. *Med Emergency, MJEM* 2018; 26:19-21.

**Key words:** SIRS, skin disorder, sweet syndrome

### ABSTRACT

**Introduction:** Skin disorders are common in emergency department especially when associated with fever. Twenty five to forty percent are related to a decompensation of a preexisting skin disease [1]. In 1964, Sweet describes a “strange eruption” which is immunologically mediated and since that date the dermatitis bears his name [2]. In the emergency department, the diagnosis of this pathology may be difficult especially when the presentation is severe or associated with fever since it face the physician to a therapeutic dilemma: giving antibiotics or steroids.

**Case presentation:** A 43 years old man with no past medical history was transported to the emergency department by the mobile emergency service with a chief complaint of weakness and fever associated with a disseminated skin eruption. He was conscious but very weak and he has fever about 38.5°C. Systolic blood pressure/diastolic blood pressure was about 90/60 mmHg and heart rate about 96 per minute. Initially he was managed as severe septic syndrome since we found nitrites in urine sample associated with systemic inflammatory response syndrome (SIRS). A PCT was performed and the amount was less than 0.5 ng.mL<sup>-1</sup> so we performed a skin biopsy which showed a neutrophilic infiltration consistent with Sweet syndrom. The patient was given steroids and had rapid improvement of his complaints.

**Conclusion:** Sweet syndrome is a possible diagnostic in patient with skin eruption and non infectious SIRS in the emergency department

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## INTRODUCTION

Skin disorders are common in emergency department (ED) especially when associated with fever. Five to eight percent of ED visits are for a dermatologic disease which is related to a decompensation of a preexisting skin disorder in 25 to 40% of cases [1;3].

When associated with fever and systemic inflammatory response syndrome (SIRS) it confront emergency physician to a diagnostic problem and especially therapeutic dilemma of giving at the right time the antibiotic and the specific therapeutics for severe sepsis or giving other dermatologic therapeutics especially steroids.

Sweet syndrome as described by Sweet in 1964 is an immunologically mediated skin disorder which can be associated with fever and SIRS and therefore may be difficult to diagnostic in the ED since it had similar presentation with many septic disorders. On the other hand, managing severe sepsis is time dependant and require special investigation and specific therapeutic which is nearly related to prognostic [4].

A severe presentation of Sweet syndrome to the ED will be exposed in order to specify the usefulness of diagnostic tests to make a differential diagnostic.

## CASE REPORT

A 43 years old man without past-medical history was transported to the ED by a mobile emergency service. The chief complaint was fever, weakness and skin eruption. Those symptoms appeared three days before he arrived to our ED. The patient were conscious but complained about severe weakness, the temperature were about 38.5°C, SBP/DBP were about 90/60 mmHg with a heart rate about 96 per minute with warm extremities. He had multiple erythematous and purpuric plaques and bullae on his upper extremities, his neck, face and lower extremities (**Figures 1, 2 and 3**). Abdomen, Heart and lungs were normal and no other physical abnormalities were found. The patient white blood cells count was  $7.76 \times 10^3 \text{ mm}^{-3}$  with 92% of neutrophils. CRP was about 241.80 mg.L<sup>-1</sup>. The liver enzymes, the renal function were in normal ranges. The urinary dipstick test found only nitrites and urine culture found 170,000 leucocytes.mm<sup>-3</sup>. The diagnostic of severe sepsis was the most emergent diagnostic. The patient was given two liters of crystalloids during the first hour, blood samples was taken and a procalcitonine dosage was obtained, it was about 0.33 ng.mL<sup>-1</sup>. the immediate evolution was favorable and the

patient was monitored in our emergency room. Since PCT was negative, a skin biopsy was performed and showed an inflammatory dermatitis with perivascular neutrophil oedema consistent with Sweet syndrome. Steroids were introduced and the clinical complaints were improved rapidly.

Some dermatitis are classified as rapidly fatal [1], it includes infectious and non infectious diseases. On one hand, the common foundation in those two groups is the intensity of SIRS at presentation, on the other hand, SIRS is a non specific syndrome which is associated with poor outcome in critically ill patients [5].

In the emergency department, SWEET syndrome is a challenging diagnosis especially when it is associated with important SIRS because of the fear of an associated severe septic syndrome. Our patient had a low blood pressure at presentation with few skin pustules so he has been managed like a septic syndrome.

SWEET syndrome is characterized by fever, neutrophilia, cutaneous eruptions consisting of erythematous papules, pustules and plaques, and a dermal non-vasculitic neutrophilic infiltration on skin biopsy [6;7].

The intensity of SIRS and the non specific foundation on skin examination found in our patient was the reason to perform a procalcitonin dosage which was less the 0.5 ng.mL<sup>-1</sup> anyway, procalcitonin is a helpful biomarker in the emergency department since it can differentiate between infectious and non infectious SIRS [8].

The confirmation of Sweet's syndrome is histological; the classic finding on skin biopsy is a dense diffuse dermal infiltrate of mature neutrophils without vasculitis. The epidermis is usually normal or displays mild reactive changes. Histiocytes and lymphocytes accompanied by leukocytoclasia may predominate the infiltrate [9]. The inflammatory cells form a band-like infiltrates in the papillary dermis with dermal edema may be seen in neutropenic states [10]. In our patient, typical neutrophilic infiltration was found.

Sweet's syndrome may be malignancy associated, drug induced, associated with upper respiratory or gastrointestinal infection or inflammatory bowel disease [6;7]. The management of Sweets syndrome is based on giving systemic corticosteroids, the clinical response is usually favorable and skin eruption disappear rapidly as in our case report. Alternative therapeutics are reserved in cases of failure of steroids; it includes potassium iodide, colchicines, cyclosporine and dapsone [11].



**Figure 1:** photo for the right arm showing bullae ©MKamel



**Figure 2:** photo of the forehead showing pustula ©MKamel



**Figure 3:** photo of the neck showing erythematous plaques ©MKamel

## CONCLUSION

Sweet's syndrome can imitate severe septic syndrome in the emergency room when SIRS is important at the early presentation. Procalcitonin and skin biopsy are the key of the right diagnosis and should be performed any time there is a clinical probability of Sweet's syndrome in order to give patient corticosteroids in time.

## CONSENT

Written informed consent was obtained from the patient for publication of this case report and any accompanying images.

## REFERENCES

1. Tintinalli JE, Krome RL, Ruiz E. Emergency medicine, a comprehensive study guide. New York, NY, McGraw-Hill 1992,869.
2. Sweet RD. An acute febrile neutrophilic dermatosis. Br J Dermatol 1964; 76:349-56.
3. Jack AR, Spence AA, Nichols BJ, Chong S, Williams DT, Swadron SP, et al. Cutaneous conditions leading to dermatology consultations in the emergency department. West J Emerg Med 2011; 12:551-5.
4. Dellinger RP, Levy MM, Rhodes A, Annane D, Gerlach H, Opal SM, et al. Surviving sepsis campaign: international guidelines for management of severe sepsis and septic shock, 2012. Intensive Care Med 2013; 39:165-228.
5. Qiu H, Du B, Liu D. Clinical study of systemic inflammatory response syndrome and multiple organ dysfunction syndrome in critically patients. Zhonghua Wai Ke Za Zhi 1997; 35:402-5.
6. Kemmett D, Hunter JA. Sweet's syndrome: a clinicopathologic review of twenty nine cases. J Am dermatol 1990; 23:503-7.
7. Von den Driesch P. Sweet's syndrome (acute febrile neutrophilic dermatosis). J Am Acad Dermatol 1994; 31:535-60.
8. Liu HL, Liu GH, Ma QB. value of procalcitonin in the early diagnosis of sepsis in department of emergency. Zhongguo Wei Zhong Bing Ji Jiu Yi Xue 2012; 24:298-301.
9. Cohen PR, Kurzrock R. Sweets syndrom revisited: a review of disease concepts. Int J Dermatol 2003; 42:761-8.
10. Limdiwala PG, Parikh SJ, Shah JS. Sweet's syndrome. Indian J Dent Res 2014; 25:401-5.
11. Culp L, Crowder S, Hatch S. A rare association of sweet's syndrome with cervical cancer. Gynecol Oncol 2004; 95:396-9.