

Case Report

Atypical sweet syndrome in the hands of small cell lung cancer patient associated with granulocyte colony-stimulating factor administration

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ABSTRACT

Introduction: Sweet syndrome (SS) characterized by papules, plaques or nodules. SS was divided into three subcategories as classical SS, malignancy associated SS, and drug-induced SS.

Case presentation: We present a case of G-CSF-associated Sweet Syndrome (SS) in a 50-year-old man with the diagnosis of extensive stage small cell lung cancer. We started preemptive methylprednisolone with a diagnosis of the sweet syndrome.

Conclusion: SS is the insidious complication of G-CSF. Clinical suspicion is the key to the early diagnosis. © 2018 Production and hosting by Elsevier B.V. on behalf of Turkish Society of Medical Oncology. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

1. Introduction

Sweet syndrome (SS) characterized by the sudden onset of palpable edematous and erythematous papules, plaques or nodules. These skin lesions frequently accompanied by systemic inflammatory signs and symptoms such as fever and leukocytosis. The distribution of the lesions is asymmetrical and involvement of upper and lower extremities, head and neck is common. Systemic involvement of visceral organs reported but very rare. Mucosal involvement is typically absent during course of the disease. Differential diagnosis should include bacterial infection, drug eruption, vasculitis and infiltration of the skin by the tumor.

2. Case presentation

A 50 years old white male with the diagnosis of extensive stage small cell lung cancer and his medical history were negative for the systemic disease. We started Cisplatin-based chemotherapy. Since, his first cycle of chemotherapy complicated by febrile neutropenia, the patient was assigned to secondary prophylaxis with granulocyte colony-stimulating factor (G-CSF) at subsequent cycles [(G-

CSF) (filgrastim, 300 µg subcutaneously)].¹ In the second day after planned five doses of G-CSF was stopped, the patient was presented with an abrupt onset of symmetrical painful palpable erythematous papules and plaques at the upper extremities associated with a fever over 38.5 °C and leukocytosis in his laboratory tests (Fig. 1). There were no involvements in the trunk, oral cavity and other parts of the body including lower extremities (Fig. 2) The lesions



Fig. 1. The figure shows symmetrical, palpable, erythematous papules and plaques located on the Palms.

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Fig. 2. There is no lesion on the lower extremities.



Fig. 3. The figure shows symmetrical, palpable, erythematous papules and plaques located on the Palms.

were perfectly symmetrical and located on the palms of the hands, interestingly other parts of the hands were spared (Fig. 3). His medical history was negative for another drug during this period. Because, he refused lesion biopsy that is the gold standard for the diagnosis of the sweet syndrome, we started preemptive methyl-prednisolone with a diagnosis of the sweet syndrome. The pain and fever resolved on the first day of treatment, and the lesions completely dissolved in five days. (Fig. 4).

3. Discussion

Dr. Robert Douglas first described SS by the occurrence of an abrupt inflammatory skin eruption with fever and leukocytosis in eight women after respiratory or gastrointestinal infection.² In literature, SS was divided into three subcategories as classical SS, malignancy associated SS, and drug-induced SS. The most accused agent for drug-induced SS is a G-CSF.³ The Classical clinical course



Fig. 4. Complete resolution of lesions after steroid treatment.

is, during G-CSF treatment, at a time when leukocytes are rising upward, sudden onset of palpable and painful skin eruptions with fever and dramatic response to steroid treatment.⁴ Though biopsy is a valuable diagnostic tool when it is feasible when there is high clinical suspicion trial of corticosteroid and close follow-up of the patient may be a reasonable option. G-CSF induces mobilization of neutrophils from bone marrow to peripheral circulation, differentiation of neutrophils, and increase chemotaxis of neutrophils.^{5,6} Therefore, G-CSF can provoke aggressive neutrophil skin accumulation and seems to be dose-dependent.^{3,7} The distribution of the lesions is often symmetrical. Though upper extremities are the most common site, lesions additionally may involve the trunk, lower extremities, and neck region.⁸ What is remarkable in our case is that perfectly symmetrical involvement of the palms while sparing other parts of the body. To the best of our knowledge, there is no SS case in the literature which presented with the isolated symmetrical involvement of the palms. Our patient was well responded to the steroid treatment, and his lesions were completely resolved in five days. He received steroid treatment for two weeks.

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