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Morphea (Localized Scleroderma) in a COVID-19 patient: A Case Report

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Received Date: 09-02-2021; **Accepted Date:** 10-03-2021; **Published Date:** 18-03-2021

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Abstract

Since the COVID-19 pandemic raised all over the world a year ago, many dermatological manifestations have been reported in COVID-19 patients including alopecia areata, erythematous rash, widespread urticaria and chickenpox-like vesicles and Chilblain-Like Acral Skin Lesions. This is the first case reported of morphea in a 62 years old Caucasian woman diagnosed during recovery from Sars-Cov-2 pneumonia in January 2021. She presented to our clinic in Saint' Andrea hospital in Rome with multiple white sclerotic skin lesions with erythematous halo (lilac ring) all over the trunk. After blood tests, HRCT, serological tests and skin biopsy the only clinical reference was COVID-19 infection. Therefore, knowing that COVID-19 is related to immunological mechanisms we assume that both conditions are related. The pathways of connection between morphea and COVID-19 are still unknown that's why further studies are needed.

Alessandro C | Volume 2; Issue 1 (2021) | JCIM-2(10)-019 | Case Report

Citation: Severino P, et al. Morphea (Localized Scleroderma) in a COVID-19 patient: A Case Report. J Clin Immunol Microbiol. 2021;2(1):1-4.

DOI: <http://dx.doi.org/10.46889/JCIM.2021.2106>

Keywords

Skin Lesions; COVID-19; Morphea; Autoimmune Diseases

Introduction

Localized scleroderma or also known as morphea, is a disease that involves the skin causing it to harden with loss of elasticity (scleroderma literally means “hard skin”). It can be subdivided into plaque morphea and its subtypes, as well as generalized morphea, linear scleroderma and deep morphea. Plaque morphea is the most common form of LSc. It is characterized by the onset of one or more circumscribed plaques of skin hardening with variable dyschromia [1-3]. The plaques are initially erythematous and edematous, then become indurated, but not bound to underlying structures. These plaques are more common on the trunk than the extremities. The annual incidence of a localized scleroderma is estimated at 20 per million [4]. The ratio of females to males was 2.6:1, almost three times more it affects women than men [3]. The onset is usually in the third or fourth decade. Although morphea is usually a localized disease, it may be associated with serological abnormalities and other systemic immune diseases, including systemic scleroderma, lupus erythematosus, biliary cirrhosis, eosinophilia myalgia, and myositis [5,6]. Since the COVID-19 pandemic arised all over the world a year ago, many dermatological manifestations have been reported in COVID-19 patients including alopecia areata, erythematous rash, widespread urticaria and chickenpox-like vesicles and Chilblain-Like Acral Skin Lesions [5,7]. This is the first case reported of morphea in a post COVID-19 patient.

Case Report

In this case report we present a 62 years old Caucasian woman diagnosed with morphea during recovery from Sars-Cov-2 pneumonia in January 2021. She presented to our clinic in Saint' Andrea hospital in Rome with multiple white sclerotic skin lesions with erythematous halo (lilac ring) all over the trunk. HRCT scan showed some hyperdensity areas in the right lung compatible with COVID-19 interstitial pneumonia. Blood tests were normal. Serologic tests for Anti-Ro52, AntiRo60, Anti La, Anti Sm, Anti Jo1, AntiSc170, Anti RNP ANA antibodies were negative. Complement component C3 and C4 were within normal limits. Skin biopsy of the lesions found sclerosis associated with lymphoplasmacytic infiltrate associated to atrophic eccrine glands and replacement of the adipocyte cells with collagen confirming the diagnosis of Localized Scleroderma or Morphea. There were no signs of melanocyte lack on the biopsy. Earlier studies related morphea to other concomitant autoimmune diseases like lupus erythematosus, vitiligo, alopecia areata, rheumatoid arthritis and autoimmune thyroiditis [5,1]. Ten years ago our patient had manifestations of vitiligo without new manifestations over the years [8].

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The scleroderma lesions were treated with topical corticosteroids, respectively Clobezol for three weeks and there has been a major improvement of the lesions, noted as reduced erythema (Fig. 1 and 2) and reduced induration on palpation.

Figure 1: White sclerotic lesions with erythematous halo (lilac ring) before Clobezol treatment.

Figure 2: After three weeks of Clobezol treatment.

Discussion

Earlier studies describe viral infections as a risk factors for Morphea, respectively CMV, Borrelia [9]. Although the origin of LSc is unknown, it is postulated that the disease process is related to immune activation and vascular damage that leads to connective tissue dysregulation [4]. In the early stages of the disease because of the vascular damage there is a high release of cytokines, adhesion molecules and T-cell infiltration and activation [2]. SARS-CoV-2 could act as a trigger by creating an inflammatory environment which allows the nonspecific activation of the immune system or by a cross-reaction between its antigens and host antigens [5].

Conclusion

We're reporting the first case of morphea in a COVID-19 patient in recovery and we're a step ahead on having a clear idea on COVID-19 virus immunological mechanisms but further studies are needed to confirm the relation between autoimmune diseases in general and in specific morphea and COVID-19.

References

1. Kim J, Chung KB, Lee YI, Kim J, Lee JH. Clinical characteristics and histopathological changes of morphea: A single-center, retrospective study of 137 patients. *J Am Academy Dermatol*. 2020.
2. Hawk A, English J. Localized and systemic scleroderma. *Semin Cutan Med Surg*. 2001;20(1):27-37.
3. Peterson LS, Nelson AM, Su WP, Mason T, O'Fallon WM, Gabriel SE. The epidemiology of morphea (localized scleroderma) in Olmsted County 1960-1993. *The Journal of rheumatology*. 1997;24(1):73-80.
4. Tuffanelli DL. Localized scleroderma. *Seminars in Cutaneous Medicine and Surg*. 1998;17(1):27-33.
5. Capalbo A, Giordano D, Gagliostro N, Balampanos CG, Persechino F, Orrù F, Persechino S. Alopecia areata in a COVID-19 patient: A case report. *Dermatologic Therapy*. 2020.
6. Penmetza GK, Sapra A. Morphea. *StatPearls*. 2020.
7. Recalcatti S. Cutaneous manifestations in COVID-19: a first perspective. *Journal of the European Academy of Dermatology and Venereology*. 2020;34(5):e212-3.
8. Speeckaert R, Lambert J, Bulat V, Belpaire A, Speeckaert M, van Geel N. Autoimmunity in segmental vitiligo. *Frontiers in Immunol*. 2020;11:2819.
9. Sandru F, Popa A, Petca A, Miulescu RG, Constantin MM, Petca RC, et al. Etiologic role of *Borrelia burgdorferi* in morphea: A case report. *Experimental and Therapeutic Med*. 2020;20(3):2373-6.