

A Case of Dermatomyositis and Breast Cancer

Received: 26 October 2022, **Revised:** 27 November 2022, **Accepted:** 31 December 2022

Dr. A. Sankar¹, Dr. R. Umashankar^{2*}, Dr. K. Padmalatha³

¹Associate Professor, Division of General Medicine, Sree Balaji Medical College and Hospital, Chennai, India.

^{2*}Assistant Professor, Division of General Medicine, Sree Balaji Medical College and Hospital, Chennai, India.

³Junior Resident, Division of General Medicine, Sree Balaji Medical College and Hospital, Chennai, India.

Corresponding Authors

Smart.Uma89@Gmail.Com

Keywords

Dermatomyositis, Breast Cancer, Malignancy, Rash

Abstract

Dermatomyositis is considered to be an unknown myopathy causing symmetrical, increases weakness of muscles gradually with skin manifestations. The diagnosis of dermatomyositis depends on the types of skin rashes, type of weakness of muscle, an unusual electromyogram, serum muscle enzymes (elevated), as well as a muscle biopsy. It is a rare condition. In the following study, we will discuss on a case of dermatomyositis; two weeks later, she was diagnosed with breast cancer. Timely diagnosis, administration of steroids, and management of breast cancer led to a progressive prognosis for the patient.

1. Introduction

Dermatomyositis (DM) is a disorder of connective tissue of unknown inflammatory myopathy, characterized by skin and systemic manifestations and progression into malignancy. Proximal muscle weakness, papules present on extensor muscles of the hands, knees, and elbows (Gottron's sign), and photosensitive rash are all symptoms.¹⁻² It has a typical skin lesion like erythema on the face area, to the neck, and upper trunk known as the "neck-V-shaped line." Other common skin symptoms are photosensitivity and pruritis. Other symptoms include mild to severe muscle weakness, fatigue, and frequent cramps. Dysphagia, dyspnea, and weight loss are indicators of the disease progression or address to the underlying malignancy.³ Here we present a 43-year-old female patient with dermatomyositis. In patients with no muscle weakness and normal serum enzyme values, it's difficult to make the diagnosis, as the skin lesion is highly variable in dermatomyositis, and the diagnosis can be challenging. Muscle magnetic resonance imaging (MRI) and

electromyography, as well as confirmation from a muscle biopsy, can aid in the diagnosis.

2. Case Report

Since 2 weeks, a 43-year-old woman had complained of generalised myalgia and multiple joint pains, as well as progressive weakness of her proximal limbs (UL and LL), difficulty standing from a sitting or squatting position, and difficulty combing her hair. A rash over the front of the chest (V-shaped over the neckline) and upper back was also present. A history of weight loss was present. She is not known to have diabetes or hypertension. On examination, proximal muscle power began to decrease to 4+/5 and distal muscle power was preserved at 5/5, and severe muscle tenderness was present with normal cranial nerve examination, sensory nerve examination, and deep reflexion of tendon. Two weeks later, on examination, the patient had firm 4 cm masses (two) seen in the left breast area with left axillary palpable lymph nodes. She was later examined by the rheumatologist and

Journal of Coastal Life Medicine

Dermatologist And Related That The Symptoms Were Suggestive Of Dm.

3. Investigations and Management

The Patient Was Treated With Oral Prednisolone For 3 Days, 50 Mg/Day, For Rash And Proximal Muscle Weakness. Later On Examination, There Was A Palpable Mass Of 4 Cm In Size On The Left Breast And Palpable Axillary Lymph Nodes; An Mri Showed 3 Masses Invading The Areola And Skin Region. Ct Showed Metastatic Lesions Throughout The Axial Skeleton. She Was Diagnosed With A Tumour Stage Of T3m1, Or Stage 4. Dermatomyositis Was Confirmed By A Skin Biopsy, And Serum Ck Levels Were Elevated. Chemotherapy (Docetaxel) And Monoclonal Antibodies Against The Her 2/3 Oncogene (Pertuzumab, Trastuzumab) Were Used To Treat The Patient.⁴ Four Cycles Of Chemotherapy Were Done, After Which The Breast Tumours Are Non-Palpable Clinically, And There Was A Significant Decrease In The Main Tumour And Metastasis Of The Disease Found More Than 50%, Which Was Then Noticed On Mammography And Ct Imaging.

Further, The Patient Underwent Lumpectomy Under Usg Guidance Of The Left Breast And Resection Of The Sentinel Node After 7 Cycles Of Chemotherapy. The Mass Has Shrunk (From 4.4 Cm To 1.9 Cm), And Histopathological Examination Of The Sample Revealed An Invasive Ductal Carcinoma With Negative Margins.

At 18 Months After Her Diagnosis, The Patient Is On Maintenance Treatment With Tamoxifen, And Pamidronate And with Trastuzumab And Pertuzumab,.

4. Discussion

There Is A Significant Association Between Dermatomyositis (Dm) And Malignancy.. Callen Reviewed Malignancy In Adult Women With Dm In His Report. The Prevalence Of Uterine, Breast, Ovarian And Cervical Cancers With Dm Accounted For 36% Of All Adult Malignancies.

Patients With Breast Cancer Who Also Have Dm Have A Rare Condition.⁵ Dermatomyositis (Dm) Is

An Autoimmune Disorder That Affects The Skin And Muscles. It Is Characterized By Inflammation Of The Skin (Cutaneous) And Muscles (Myositis), Which Can Lead To A Variety Of Symptoms Such As A Purple Or Red Rash, Muscle Weakness, And Fatigue. Clinically, The Most Common Issue Is Gradual, Painless Symmetric Proximal Muscle Weakness That Develops Over The Course Of 3– 6 Months Prior To The First Visit To A Doctor.⁶

Dermatomyositis Is More Commonly Associated With Advanced Stage Breast Cancer (Invasive Ductal Carcinoma Of The Breast). Most Of The Patients Were Showing Response To Steroids; Later, The Steroid Dose Was Tapered, But Half Of Them Showed A New Flare Of Skin Manifestations On Follow-Up. Treating Only Cancer Is Not Sufficient To Control Skin And Myopathic Manifestations. Early Diagnosis And Treatment, Including An Approach with Multidiscipline (Collaboration With Dermatologists And Rheumatologists), Is Required For A Good Prognosis In The Treatment Of Cancer Patients Associated With Dm.⁷ The Skin Manifestations Of Dermatomyositis Can Also Be Difficult To Manage And Can Reactions Intense Pruritus, Causing Restlessness. Sunscreen Can Be Helpful As The Cutaneous Lesions Are Mostly Photosensitive.³

Glucocorticoids Are Used In The Treatment, At A Starting Dose Of 1.5 Mg Per Kg Per Day. In Severe Cases, Ivig Is Also Given At A Dose Of 1 G Per Kg Per Day, Given For 2 Consecutive Days Per Month. Few Patients Might Require Intravenous Glucocorticoids. Common Steroid-Sparing Agents Are Azathioprine And Methotrexate.⁵ In The Case Of An Active Skin Lesion, Oral Hydroxychloroquine And Topical Applications Are Used In Treatment.

5. Conclusion

The Most Frequent Form Of Cancer In Women, Breast Cancer Can Occasionally Manifest As Dermatomyositis (Dm), Which Causes Muscle Weakness And A Rash On The Skin. It's Crucial To Distinguish Between Breast Cancer's Skin Involvement And The Dm Rash. It Shouldn't Be Mistaken For Malignant Skin Involvement.

Journal of Coastal Life Medicine

Acknowledgments

The Authors Are Thankful To The Department Of General Medicine, Sree Balaji Medical College And Hospital, Chennai, Tamil Nadu For The Contribution.

Ethical Consent: Patient Included In The Study Provided Informed Consent.

Funding: No Funding Was Used To Conduct Current Study.

Conflict of Interest: The Authors Declare No Conflict of Interest.

Reference

- [1] OlazagastiJm, Baez Pj, Wetter Da, Ernste Fc. Cancer Risk In Dermatomyositis: A Meta-Analysis Of Cohort Studies. *American Journal Of Clinical Dermatology*. 2015 Apr;16(2):89-98.
- [2] Marvi U, Chung L, FiorentinoDf. Clinical Presentation And Evaluation Of Dermatomyositis. *Indian Journal Of Dermatology*. 2012 Sep 1;57(5):375.
- [3] Fujimoto M. Dermatomyositis: Myositis-Specific Autoantibodies And Skin Manifestations. *Clinical And Experimental Neuroimmunology*. 2012 May;3(2):74-84.
- [4] Haq R, Gulasingam P. Duration Of Trastuzumab In Patients With Her2-Positive Metastatic Breast Cancer In Prolonged Remission. *Current Oncology*. 2016 Apr;23(2):91-5.
- [5] Callen Jp. Dermatomyositis And Multiple Malignancies In A Patient Treated With Methotrexate. *Journal Of Surgical Oncology*. 1983 Oct;24(2):113-6.
- [6] OddisCv And Medsger Ta Jr: *Rheumatology*, 3rd Edn. London: Mosby, 2003.
- [7] Osako T, Ito Y, Morimatsu A, Jinnin M, Tada K, Sakurai N, Takahashi S, Akiyama F, Sakamoto G, Iwase T, Hatake K. Flare-Up Of Dermatomyositis Along With Recurrence Of Breast Cancer. *The Breast Journal*. 2007 Mar;13(2):200-2.