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INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI:10.21474/IJAR01/18026
DOI URL: http://dx.doi.org/10.21474/IJAR01/18026

RESEARCH ARTICLE

"DERMATOMYOSITIS UNMASKING HIDDEN BREAST CARCINOMA: A CASE REPORT"

Dr. Heera G.R[1], Dr. Uday Kiran Raja[2], Dr. Pooja Rathi[3] and Dr. A. Vijaya Mohan Rao[4]

1. Final Year Postgraduate, Department of DVL, Narayana Medical College, Nellore 524003.
2. Assistant Professor, Department of DVL, Narayana Medical College, Nellore 524003.
3. Final Year Postgraduate, Department of DVL, Narayana Medical College, Nellore 524003.
4. Professor and Head of Department, Department of DVL, Narayana Medical College, Nellore 524003.

Manuscript Info

Manuscript History
Received: 20 October 2023
Final Accepted: 24 November 2023
Published: December 2023

Key words:-
Dermatomyositis, Paraneoplastic Syndrome, Breast Cancer, Muscle Weakness, Purplish Skin Lesions, Photosensitivity

Abstract

Dermatomyositis is a rare autoimmune disorder characterized by muscle weakness and skin abnormalities. It is associated with malignancy in 15 to 30% of cases. We present the case of a 73-year-old female patient who initially presented with itchy purplish skin lesions, photosensitivity and oral ulcers. The patient also complained of difficulty in standing, joint pain of the shoulders, knees and ankles, but no joint swelling or morning stiffness. Relevant investigations revealed a surprising discovery of underlying left breast carcinoma, which was asymptomatic. This case highlights the importance of recognizing dermatomyositis as a paraneoplastic syndrome and its potential to unmask hidden malignancies. Dermatomyositis has long been recognized as a paraneoplastic syndrome, meaning that it can precede the clinical manifestation of an underlying malignancy. In this case, the patient's initial presentation with dermatomyositis-related skin and muscle symptoms served as a sentinel sign, alerting clinicians to investigate further. The patient responded positively to treatment with intravenous methylprednisolone and was subsequently referred for further management of the breast carcinoma.

Introduction:-

Dermatomyositis is an idiopathic inflammatory myopathy characterised by proximal muscle weakness, rash and other systemic manifestations. It is known to have associations with malignancies, making its diagnosis and management a clinical challenge. Here, we report a unique case of dermatomyositis that led to the discovery of an underlying breast carcinoma, which had not manifested with typical symptoms.

Case Report:

A 73-year-old female resident of Nellore presented with sudden onset of itchy purplish skin lesions over her forehead, cheeks, periorbital area, upper chest, upper back and hands with photosensitivity and oral ulcers. Additionally, she experienced difficulty in standing from sitting position and joint pain of the shoulders, knees and ankles without joint swelling or morning stiffness. There was no history of drug usage.

The patient's general examination revealed mild pallor and erythematous papules and plaques on her forehead, around the eyes, cheeks, neck, upper chest and back, and dorsal aspects of fingers. Periungual erythema and

Corresponding Author:- Dr. Heera G.R
Address:- Final Year Postgraduate, Department of DVL,Narayana Medical College, Nellore 524003.

abnormal nail fold capillaries were noted. Decreased proximal muscle strength(power 4/5) noted for proximal muscles of upper and lower limbs. Notably, the examination of her left breast revealed enlargement, diffuse erythema, and on palpation, a solitary, firm, tender 4x3 cm^2 lump was felt in the upper outer quadrant. No axillary lymph nodes were palpable. Systemic examination was unremarkable.

Investigations:
Laboratory investigations showed low levels of haemoglobin (10.4 g/dL), reduced RBC count (3.2 million/mm^3) and decreased PCV (29.1%). Liver function tests revealed low protein (5.1 g/dL) and albumin (2.9g/dL) levels. The creatine phosphokinase levels(443 U/L) were elevated. Lactate dehydrogenase was normal. Other parameters including blood sugar, serum electrolytes and peripheral smear were within normal ranges. ESR(44 mm/hr) and CRP(12mg/L) were elevated. Myositis profile was positive for Ro-52 antibodies. Chest XRay and ultrasound abdomen were normal.

A CECT chest scan detected a well-defined intensely enhancing lesion (3x2.5 cm^2) in the central and outer quadrant of the left breast with spiculated margins. Few tiny axillary lymph nodes were observed on the left side. These imaging findings were suggestive of a BIRADS IV lesion.

A skin biopsy showed basket wave hyperkeratosis, epidermal atrophy , vacuolar changes of basal keratinocytes, apoptosis, vascular dilatation with perivascular lymphocytic infiltrate, mucin deposition and melanophages, consistent with dermatomyositis. Further, USG guided FNAC of the lump in the left breast revealed highly cellular smear with pleomorphic tumor cells, indicative of ductal carcinoma.

Management and Outcome:
Rheumatology consultation was sought. She received intravenous methylprednisolone 500mg for three days, resulting in significant clinical improvement. The patient was then promptly referred to a general surgeon for evaluation and management of the breast carcinoma. She then underwent modified radical mastectomy of left breast. Histopathology of surgical specimen demonstrated a invasive ductal carcinoma (T2N1M0).She underwent 6 cycles of chemotherapy. She was maintained on oral prednisolone therapy. Her erythematous rash cleared and musculoskeletal symptoms like weakness reduced dramatically following the treatment of her breast cancer.

Discussion:-
This case underscores the importance of recognizing dermatomyositis as a paraneoplastic syndrome. The patient's initial dermatomyositis symptoms led to the discovery of a previously asymptomatic breast carcinoma. Early detection and prompt intervention were crucial for her clinical improvement.

Conclusion:-
Dermatomyositis can be a harbinger of underlying malignancies. This case serves as a poignant reminder of the complex interplay between dermatomyositis and malignancies, particularly breast carcinoma. Dermatomyositis can indeed function as a sentinel sign, unveiling latent malignancies. In clinical practice, it is imperative to maintain a high index of suspicion when confronted with dermatomyositis associated symptoms, as early diagnosis and timely management can significantly influence patient outcomes. Ongoing research into the mechanistic links between dermatomyositis and malignancies will further enhance our understanding of this intriguing association.

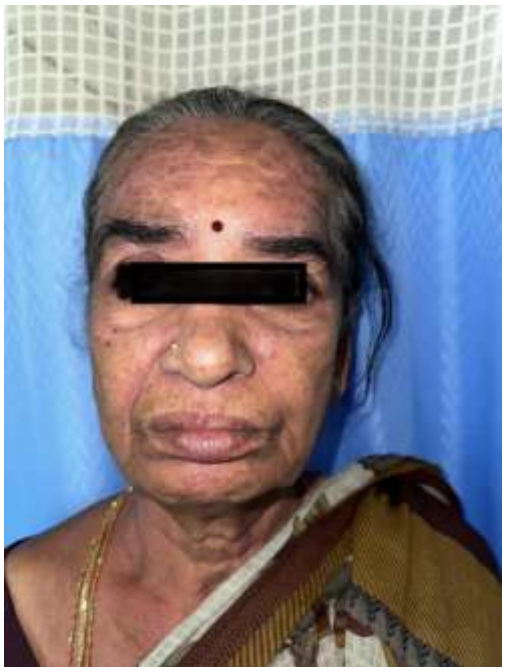

Fig. 1:-

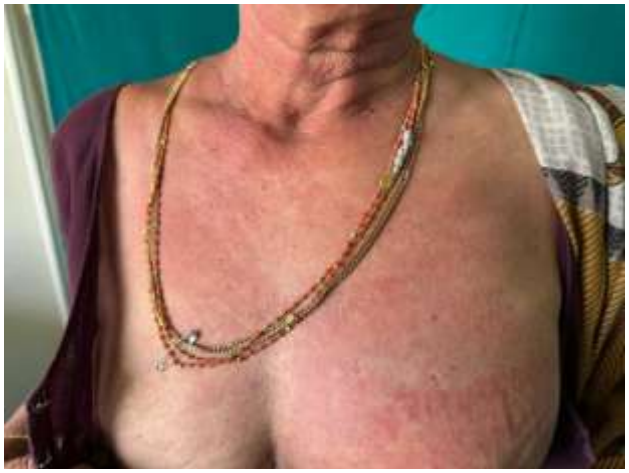

Fig.2:-

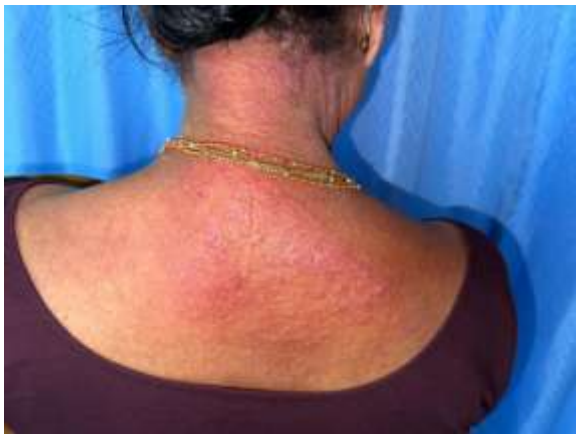

Fig. 3:-

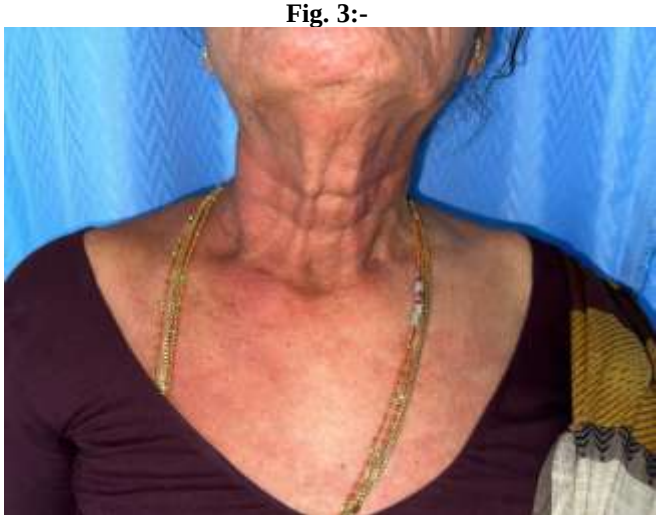

Fig.4:-

Fig.5:-

Erythematous papules and plaques noted on forehead, around the eyes, cheeks (Fig.1), upper chest(Fig.2), back(Fig.3), neck (Fig.4) and dorsal aspects of fingers and Periungual erythema and abnormal nail fold capillaries noted(Fig.5).

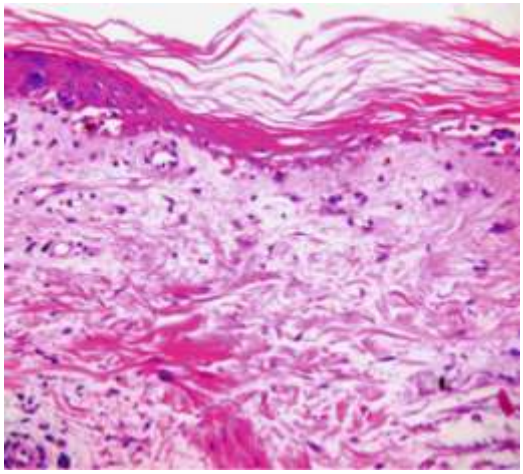

Fig.6:-

Histopathological image of biopsy taken from plaque on dorsum of hands showing basket wave hyperkeratosis, epidermal atrophy , vacuolar changes of basal keratinocytes, apoptosis, vascular dilatation with perivascular lymphocytic infiltrate, mucin deposition and melanophages. (Fig.6)

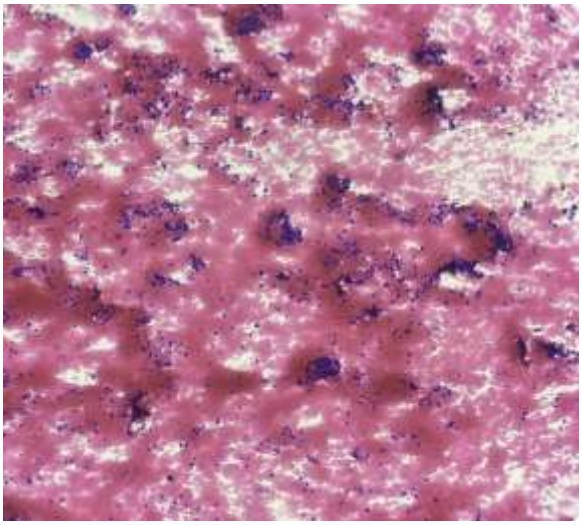

Fig.7:-

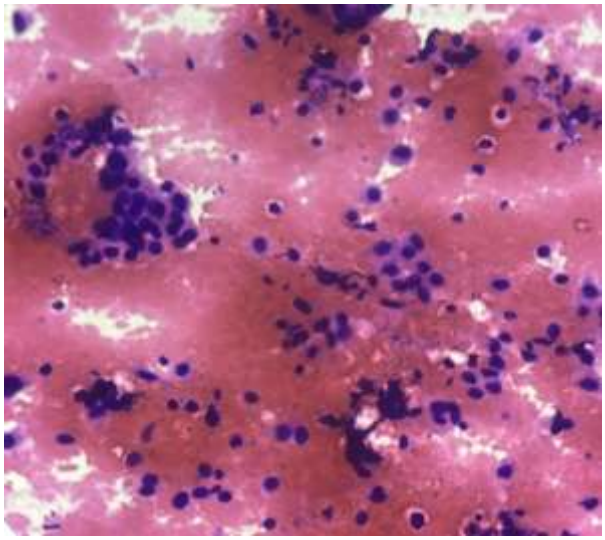

Fig.8:-

Histopathological image of FNAC of swelling from left breast shows tumour cells arranged in sheets and dispersed pattern. The cells are pleomorphic with hyper chromatic nuclei with increased nuclear to cytoplasmic ratio and scant amount of eosinophilic cytoplasm. Background shows inflammatory cells and RBCs.(Fig.7 & 8)

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