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Case Report

Colonic adenocarcinoma an underlying malignancy of dermatomyositis: case report

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ABSTRACT

Idiopathic inflammatory myopathies (IIM) are a heterogeneous group of chronic, autoimmune connective tissue disorders that affect muscles primarily. A few cases have reported the correlation between IIM and paraneoplastic manifestations, primarily dermatomyositis (DM). We described the case of a 47-year-old woman with dermatomyositis and the finding of a colonic adenocarcinoma, who presented alternating diarrhoea and hematochezia. The immunoassay for myositis-specific antibodies showed anti-Mi-2a, anti-MDA5, and anti-Ro52 antibodies, while the colonoscopy showed a one-centimetre mass in the sigmoid. Literature reviews have contemplated an underlying malignancy in patients with dermatomyositis, particularly in those with anti-Mi-2 antibodies and atypical features or unexplained symptoms. A correlation between DM and colonic adenocarcinoma has-been documented in a few reports, particularly in patients with unexplained gastrointestinal symptoms or weight loss. The mechanisms of the association of dermatomyositis and malignancies, especially colonic malignancies, are still unknown and need more research for better strategies.

Keywords: Anti-MDA5 antibodies, Anti-Mi-2α antibodies, Colonic adenocarcinoma, Dermatomyositis, Idiopathic inflammatory myopathies

INTRODUCTION

IIM are a group of autoimmune rheumatologic diseases that are divided into multiple subgroups, of which DM and polymyositis are more frequent.[1] In a few cases, manifestations of paraneoplastic origin, primarily malignant gynecological tumors, accompany the disease.[2]

CASE REPORT

A 47-years-old-woman, resident of Guadalajara, Mexico, with a past medical history of pregnancies 3, cesarean deliveries 3, and SARS-CoV-2 infection 10 months ago, was brought in by emergency medical services after she had hematochezia, and anemic syndrome, with arthralgia and arthritis in knees and elbows, alopecia and weight loss of 48.5 pounds. Subsequently, she noticed diffuse facial erythema, purpuric periorbital lesions, erythema in the cleavage area, and erythematous maculopapular lesions on the metacarpophalangeal joints, elbows, and lateral thighs. Physical examination revealed disseminated symmetric dermatosis of the face, consisting of heliotrope erythema, anterior thorax with V-shaped erythema, lateral thigh with Holster's sign, and

Gottron's sign in the elbows and metacarpophalangeal joints (Figure 1 A-D).

Laboratory tests were performed on admission. The results are summarized in Table 1. Colonoscopy exhibited a 1 cm mass in the sigmoid colon, and histopathological features confirmed colonic adenocarcinoma.

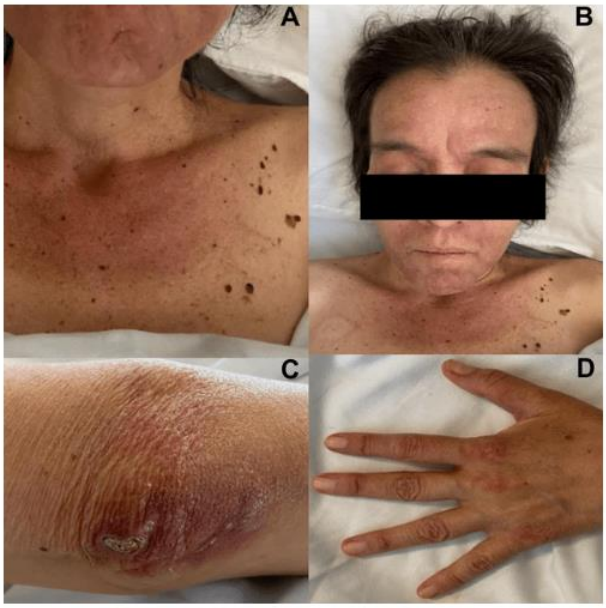

Figure 1: Skin manifestations in patient; (A) "V" sign: macular erythema on the upper anterior chest; (B) heliotrope rash: violaceous erythema on the upper eyelids; (C) Gottron's papules: erythematous papules over the metacarpophalangeal and interphalangeal joints; (D) Gottron's sign in elbow: ulcerated violaceous-rimmed papule.

Table 1: Laboratory findings.

Tests	Results	Normal range
AST (IU/l)	112	7-27
ALT (IU/l)	65	1-21
Hb (g/dl)	7	12-16
ESR (mm/h)	34	<20
CRP (mg/dl)	9.74	0-5
ANAs IIF pattern on HEp-2 cells	Nuclear fine speckled (AC-4) 1:640	Negative
Myositis-specific antibody	Anti-Mi-2a	Negative
Myositis-specific antibody	Anti-MDA5	Negative
Myositis-specific antibody	Anti-Ro52	Negative

Management and outcome

The patient was referred to the Oncology Department, where she received systemic chemotherapy and underwent surgical resection of the colonic adenocarcinoma. In addition to the dermatomyositis, the patient received high-dose corticosteroids and intravenous immunoglobulins, which improved her skin lesions and muscle weakness. After completion of chemotherapy, the patient remained under surveillance with periodic imaging studies and showed no evidence of tumor recurrence or dermatomyositis during the follow-up period.

DISCUSSION

Dermatomyositis is an autoimmune disease characterized by muscle inflammation and skin manifestations. Dermatomyositis is a paraneoplastic syndrome that is particularly associated with gynecologic and lung malignancies. However, only a few cases of dermatomyositis associated with colonic adenocarcinoma have been reported. In this case, the patient presented with classic skin findings of dermatomyositis and was diagnosed with colonic adenocarcinoma through colonoscopy. Clinicians should consider the association between dermatomyositis and colonic adenocarcinoma, particularly in patients with unexplained gastrointestinal symptoms or weight loss.[3,4]

The cancer incidence in patients with DM varies between 15% and 30% of total cases. Associated risk factors for malignancy include age >45 years and rapid progression of myositis. The high-risk interval before the appearance of a tumor after DM diagnosis is not well defined. Hills et al. reported different standardized incidence ratios (SIRs) depending on tumor type, reporting a higher incidence in the first year after diagnosis. Adenocarcinoma is the most frequently associated lineage, six times higher than that of squamous or lymphatic cancer. CRC and 8.6 SIR presents in the first year of life.[2] Anti- Mi-2 antibodies are commonly present in myopathy-associated neoplasms, whereas anti-MDA5 antibodies are associated with amyopathic variants.[5]

After cancer treatment, an improvement in DM and symptom exacerbation is observed with tumor progression or disease relapse. The corticosteroid dose administered to the patient was 1 mg/kg/day, with cutaneous lesion improvement.[6] DM presents a 2.5 SIR for colorectal cancer, ranking sixth in terms of the highest associated neoplasm risk. Among the variants, adenocarcinoma is more frequently associated with SIR 3.4, almost three times more frequently in women, particularly with ovarian cancer, and up to eight times more frequently than squamous or hematologic neoplasms.[2]

CONCLUSION

This case report highlights the importance of considering underlying malignancy in patients with dermatomyositis, particularly when atypical features or unexplained symptoms are present. These results suggest that further studies are required to investigate the presence of neoplasms, considering less frequent tumors such as those presented in this patient. In conclusion, dermatomyositis is a rare autoimmune disease associated with various malignancies, including colorectal adenocarcinoma. To develop more effective screening and treatment strategies for these patients, further studies on the mechanisms underlying the association between dermatomyositis and malignancy are required.

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