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Case report : The effect of steroid on atypical presentation of dermatomyositis

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Introduction

Symmetrical proximal weakness and characteristic dermatologic manifestations are important in the diagnosis of dermatomyositis. It is known that most of the dermatologic manifestations occur at the same time as the proximal weakness, but the period between the symptoms of weakness and skin lesions may be variable, especially in previous steroid user. We report a case of atypical presentation of dermatomyositis due to previous steroid use and also report steroid-induced myopathy which may occur from steroid administration during the course of treatment.

Case report

A 77-year-old man visited emergency room presenting progressive proximal muscle weakness. He had a history of taking prednisolone 10mg once a day for the treatment of dermatitis for 2 years and stopped medication 2 weeks ago. He has presented erythematous papule on face and anterior chest but no heliotrope rash and Gottron's papules were observed. Manual muscle test(MMT) revealed a muscle power of grade 4 in his proximal upper and lower extremity. The serum creatine kinase level was 2,281 units/liter and Antinuclear antibody was positive at a titer of 1:80 with a speckled pattern. On Lower extremity MRI, high signal intensities were detected at bilateral gracilis, sartorius, vastus intermedius in T2 weighted images. Electromyography (EMG) revealed typical myopathy pattern in proximal limb muscle(right rectus femoris and right biceps brachii). The muscle biopsy confirmed dermatomyositis. During the hospital stay, he was treated with oral prednisolone 30mg twice a day and it improved patient’s symptom. No evidence of accompanying malignancy was found on abdominal or chest CT. Two weeks after discharge, the symptoms of the proximal weakness got worse. MMT revealed a muscle power of grade 2 in his both hip flexor. Determination was necessary, whether the new weakness is secondary to an increase in disease activity or is attributed to steroid-induced myopathy, which may occur from steroid administration. EMG showed decreased amplitude of muscle action potential without spontaneous activity, that was suggestive of the development of steroid induced myopathy. An increase in muscle strength can be observed within 4 weeks after tapering of the glucocorticoid. The Result of EMG and clinical improvement after tapering steroid indicated that steroid-induced myopathy was the main reason of declined muscle strength.

Conclusion

Dermatomyositis is an idiopathic inflammatory myopathy characterized by cutaneous findings. In previous steroid users, presentation may be nonspecific or delayed, leading to late diagnosis. Early identification of symptom allows not only early diagnosis but also prompt treatment. During the treatment course, it is important to be aware of steroid-induced myopathy which may mimic a worsening dermatomyositis. In this case, steroid should be tapered to improve muscle strength.

Table 1. Results of the Needle Electromyography

Muscle	Spontaneous		MUAP		Recruitment pattern
	Fib	PSW	Duration	Amplitude	
INITIAL STUDY					
Tibialis anterior, Right	None	None	Normal	Normal	Normal
Vastus lateralis, Right	None	None	Normal	Normal	Normal
Rectus femoris, Right	3+	3+	Decreased	Decreased	Early
1st dorsal interosseous, Right	None	None	Normal	Normal	Normal
Biceps brachii, Right	3+	3+	Decreased	Decreased	Early
FOLLOW UP STUDY					
Tibialis anterior, Right	None	None	Normal	Normal	Normal
Vastus medialis, Right	None	None	Decreased	Decreased	Early
Rectus femoris, Right	None	None	Decreased	Decreased	Early
1st dorsal interosseous, Right	None	None	Normal	Normal	Normal
Biceps brachii, Right	None	None	Decreased	Decreased	Early

Fib: Fibrillation, PSW: Positive sharp wave, MUAP: Motor unit action potential

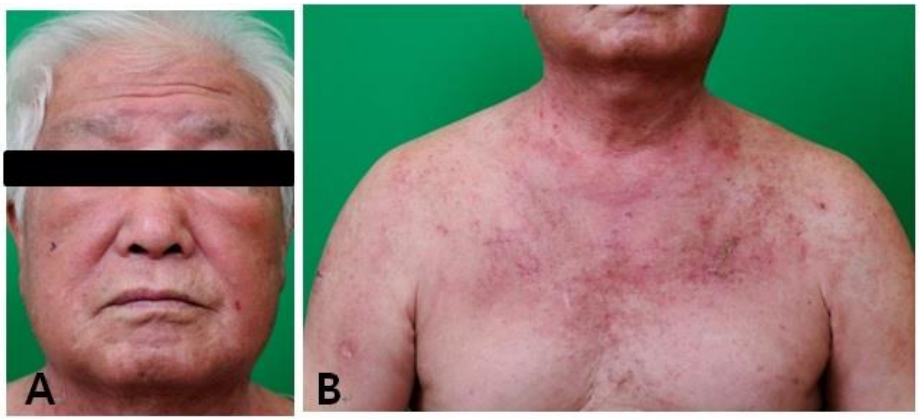

Fig. 1. (A) Edematous erythema on the face including the upper palpabrae (B) erythematous rash on ther upper chest

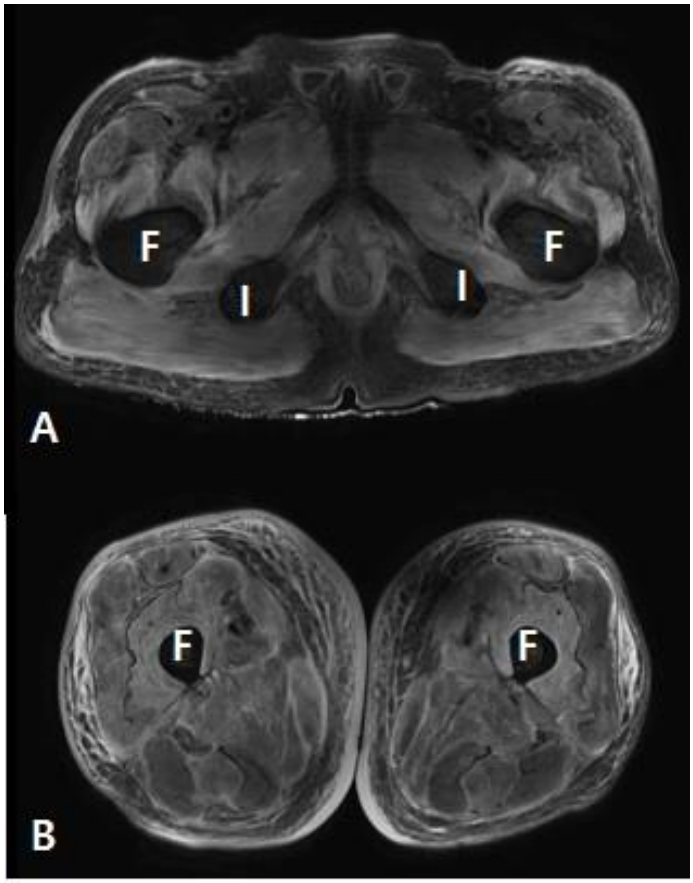

Fig. 2. Transverse T2-weighted fat-saturated MR images of lower extremity muscles. (A) Below femoral head level (B) Mid-thigh level. The MR confirmed the clinical suspicion of dermatomyositis – (A) Severe, extensive bilaterally symmetric edema in the muscles of the pelvic girdle muscles. (B) Subcutaneous edema at medial side of thigh. F = femur, I = ischium.