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Case Report

Effect of Structured Mobility Exercises along with Multi-modal Drug Therapy in A 72-year-old Male Subject with Bullous Pemphigoid – A Case Report

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A B S T R A C T

Introduction: Bullous pemphigoid (BP) is an acquired autoimmune blistering disease occurring in the elderly (more than 70 years of age).

Case Report: We pre-sent a case of a 72-year-old male, a known case of hypertension and diabetes mellitus, with an abrupt onset of fluid-filled vesicles and bullae over the groin, abdomen and limbs for 3 months, associated with itching. Medications of corticosteroids and immunosuppressants along with adjuvant therapy were started to manage the skin lesions. Graded structured mobility exercises were also added in a gradual and progressive manner for 12 weeks. The physical mobility of the subject was assessed along with multi-modal drug therapy after 12 weeks of intervention. Values at baseline and post-12 weeks of intervention assessed using the Patient Specific Functional Scale showed improvement in physical activity level and skin lesion.

Conclusion: Bullous pemphigoid can be monitored with drug dosage and choice of drugs in controlling the skin lesion as well as reducing the risk of disease complications. Along with the multi-modal drug therapy, the graded mobility exercise advised in this case proved to be more beneficial in his physical functional level.

Keywords: Bullous Pemphigoid, Drug Therapy, Adjuvant Therapy, Mobility Exercise, Physical Function

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Introduction

Bullous pemphigoid (BP) is an acquired autoimmune blistering disease occurring in the elderly (more than 70 years of age).[1] It is characterised by the development of urticarial plaques surmounted by sub-epidermal blisters, and the deposition of immunoglobulin and complement at the basement membrane zone (BMZ) of the skin.[1] In recent times, more complex elements of the underlying inflammatory mechanisms have been elucidated and are being used to develop targeted immunotherapies.[2] We have presented a case of a 72-year-old male, who had hypertension and diabetes mellitus with an abrupt onset of fluid-filled vesicles and bullae over the groin, abdomen and limbs for 3 months, associated with itching. After treatment on regular follow-ups, there were no flare-ups of the disease. Apart from skin lesions, tightness of muscles and lack of mobility also acted as stress triggers.[3] He was monitored with multi-drug therapy along with active exercises and passive stretching of his limbs thereby improving mobility and hence physical activity.

Case Report

A 72-year-old male with a history of controlled hypertension and diabetes mellitus came to our hospital with the presentation of blisters in the groin, axilla, limbs and trunk region. He also complained that initially small lesions occurred in the groin and abdomen region with itching but over the past 3 months, they gradually started to spread on the entire body with blisters and swollen fluid-filled skin lesions. He was admitted to the hospital for monitored multi-drug therapy due to his age and co-morbidity factor and was started on the drug of choice of IV steroid along with IV antibiotics to control the lesion. Meanwhile, skin biopsy was taken from the lesion to check for the immunoglobin factor and bacterial infection. It showed IgG and complement deposits with the absence of microorganisms. He was advised to take routine oral steroid tablet Omnacortil of 10 mg twice daily and topical application too on affected area. He responded well and the lesions subsided. After 2 weeks of progress, a sudden recurrence of skin lesions was seen with large sub-epidermal blister formation and complement deposits all over the body. Due to the larger size of blisters formed in the major areas of the body, it was difficult for him to get up from the bed which affected his daily activities. He was immediately hospitalised in the emergency ward and a dermatologist evaluated him thoroughly. Opinions were sought from the general physician and cardiologist for his co-morbid condition and to initiate the corticosteroid medication, which is the first line of treatment to control the autoimmune disease.[2] Earlier, he was started on 40 mg of corticosteroid daily[4] and later on methotrexate (drug of choice) in order to suppress the immune system and taper the steroid drug. However, using the disease-modifying drugs and tapering the steroid dosage caused the occurrence of symptoms again. Endoxan (50 mg) was advised as an alternative to methotrexate and the steroid dosage was slowly tapered. Nursing care for the skin lesion was carried out with potassium permanganate solution dressing and the application of topical corticosteroid ointment and gelatin gauze gel twice daily. The patient was advised to lie down with a banana leaf support. The dermatologist advised starting early physiotherapy mobility exercises to avoid bed-ridden complications since the subject was immobile for 3 days from admission. Initially, free exercises like ankle movements, isometric exercises of the quadriceps, and other upper and lower limb movements were carried out as per the subject's comfort and pain-free range and he was encouraged to do bed mobility exercises. The physiotherapist motivated him to sit at the bed end for 30 minutes initially and made him stand with support. During the first few sessions, the subject felt difficulty in doing exercises because of the skin lesion interrupting the limb movement and got stressed too. Gradually, the exercise duration was increased from 20 minutes to 40 minutes with all the limb movements in bed side and in sitting and standing. As the medication helped to subside the skin symptoms, he was cooperative and continued to walk daily for 40–45 minutes along with the supervised resisted and active exercises. This protocol of graded exercises of all the limbs was continued for 12 weeks.[5] The subject's functional performance was measured at the baseline and post-12 weeks of treatment using the Patient Specific Functional Scale.[6] After the regular follow-up, the dermatologist started to gradually taper the steroid drug dosage from 40 mg to 25 mg. Simultaneously, they also started the disease-modifying drug methotrexate at 2.5 mg and further increased it to 7.5 mg. The structured graded mobility exercises along with drug therapy for 12 weeks showed a 75% improvement in the subject's physical functional performance from the baseline level.

Discussion

Recently, during the post-COVID period, a great number of autoimmune diseases and many health issues have become very common.[7] Bullous pemphigoid is one among them. The researchers sought to investigate new alternatives of treatment or complementary therapies for this disease with the goals of reducing inflammation, prolonging the remission period and leading to a good outcome.[5] Despite this observation, the role of early mobility exercises has never been addressed in this scenario. Thus, our results pointed to a beneficial role of graded mobility exercises as adjuvant treatment along with multi-modal drug therapy. Our subject also started a complaint of his skin lesion and may be the predicted triggering of this Bullous pemphigoid may be due to Post COVID 19 or after vaccination.[8] The

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graded mobility exercises performed for 12 weeks resulted in a 75% improvement in the subject's physical functional performance as measured using the Patient Specific Functional Scale.

Conclusion

Bullous pemphigoid (BP) is an autoimmune disease with severe blister formation in the skin. Multiple drugs of choice along with the periodical follow-ups help to control the symptoms. In addition, the early exercise intervention along with early mobilisation helps the subjects to perform their physical activities and thereby reduces further complications. Thus, we conclude from this case report that in the case of an individual with bullous pemphigoid lesions, along with multi-modal drug therapy, earlier mobilisation and gradual exercises improve the individual's physical ability and avoid further complications.

Ethical Approval: Institution-based human ethical clearance was taken prior to the study (reference number was IHEC-II/0255/22, dated 29-09-2022). Consent was also obtained from the patient for publishing this case report.

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