

MULTIDISCIPLINARY REHABILITATION APPROACH FOLLOWING PALMAR THIRD-DEGREE BURN WITH SYNDACTYLY: A CASE REPORT

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Background

Although hand burns cover less than 5% of body surface area, they can cause profound functional limitations. Factors like edema, infection, poor positioning, and delayed skin coverage often lead to deformities such as syndactyly. Early, multidisciplinary rehabilitation – including surgery, therapeutic exercises, and scar care – is crucial for recovery. This case report shows how a tailored rehab approach enhances hand function and quality of life after a third-degree palmar burn with syndactyly.

Case report

A 56-year-old woman suffered a third-degree contact burn on the palmar surface of her dominant right hand and fingers, involving 1% of her total body surface area, which led to syndactyly affecting digits three to five and significant joint stiffness. She underwent multiple Plastic and Reconstructive Surgery procedures, including contracture release in the 2nd-4th interdigital spaces, application of a dermal regeneration template, and later split-thickness skin grafting. Hand dressings were consistently applied in a functional position, and passive mobilization of the upper limb began on day one, performed three times daily. Physical and rehabilitation medicine was initiated in the second week. The initial evaluation revealed restricted passive wrist and finger motion, especially absent flexion in the interphalangeal joints, accompanied by neuropathic pain in the 3rd finger, for which gabapentin was prescribed. A structured rehabilitation plan, including frequent passive and gradual active mobilization exercises, was maintained throughout hospitalization. By discharge, the patient demonstrated moderate improvement in wrist and metacarpophalangeal joint range of motion but persistent stiffness in the distal interphalangeal joints and limited thumb opposition, underlining the complexity of functional recovery following severe hand burns and the essential role of multidisciplinary rehabilitation in improving hand function and quality of life.

Conclusion

This case highlights the importance of early multidisciplinary rehabilitation in managing post-burn syndactyly, emphasizing how structured therapy and surgical intervention can enhance hand function and quality of life.

Keywords: BurnRehabilitation, HandBurn, Syndactyly, HandFunctionRecovery