

Evaluation of Role of Rhomboid Flap and Double Z-Plasty in Post Burn Contractures, A Prospective Cohort

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Abstract:

Background and Aim: Numerous reconstructive treatments have been utilized to address post-burn scar contractures, including skin grafting, geometric relaxation techniques, local flaps, and free flaps. This study aimed to evaluate the efficacy of rhomboid flap and double Z-plasty in treating wide and long post-burn contractures over joints in various body parts.

Material & Methods: This prospective cohort study involved one hundred patients with post-burn scar contractures in different body areas who underwent surgery using rhomboid flap and double Z-plasty at Al-Wasiti Teaching Hospital between January 2020 and July 2024. Patient data, including age, sex, duration of contracture, preoperative and postoperative contracture band length, and improvement in joint range of motion, were recorded.

Results: Of the 100 patients included in this study, 98 experienced a significant increase in their joint range of motion and achieved full movement after release using our technique. There were no major flap losses or necrosis, although three patients experienced partial superficial epidermal sloughing, which did not affect the overall results. Only two patients had less than full-range shoulder abduction.

Conclusion: The rhomboid flap combined with double Z-plasty is a successful technique that should be included in the reconstructive surgeon's armamentarium for managing wide and long chronic post-burn contractures over joints. This treatment offers the advantages of effective lengthening, excellent postoperative function, and acceptable cosmetic outcomes, while requiring less postoperative splinting and resulting in a lower incidence of contracture recurrence.