Interchangeable Skin Grafting to Camouflage Self-inflicted Wound Scars on the Dorsal and Volar Forearm: A Case Report

Chang-Yi Chou, MD; Hsin An Chang, MD; Hao-Yu Chiao, MD; Chi-Yu Wang, MD; Yu-shan Sun, MD; Shyi-gen Chen, MD, MPH; and Chih-Hsin Wang, MD

Abstract
Scars from self-inflicted wounds to the upper extremities are the hallmark of self-mutilation. They are easy to recognize and difficult to hide. Camouflaging these scars can be an onerous task. In this case study, a 23-year-old woman who has major depressive disorder with comorbid borderline personality disorder presented for scar repair of self-inflicted wounds on the volar and dorsal forearm (each approximately 10 cm² x 15 cm²). Following a psychological and physical evaluation, split-thickness skin grafts (10/1,000 inches in thickness) were obtained from both areas and switched. The grafts were fixed with staples, immobilized with a short arm splint, and dressed daily with gauze and neomycin ointment. Staples were removed after 10 days; at the 6-month follow up, the wounds resembled burn wound scars. The patient was satisfied with this more socially acceptable result. This method might offer a simple camouflage option in appropriately selected cases.

Keywords: case study, self-mutilation, scars, skin transplantation

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Self-inflicted wounds and the resultant scars are viewed as evidence of borderline personality disorder and its comorbidity with other psychiatric conditions. These scars are usually thin, multiple, cover a large area, and stretch deep into the dermis or subcutaneous tissue, which makes scar revision difficult. Persons with a history of self-wounding may continue to be stigmatized, especially when the scars are located in an easily visible area such as the lower arms. In addition, they can be a source of lifelong shame, guilt, and regret. Self-inflicted wound scars may cause serious image problems that could disrupt social and professional activities.

Plastic surgeons often are approached to either completely remove the scars or at least convert them to socially acceptable scars, such as burn wound scars. When the patient seeks surgical aid for relieving self-inflicted scars, a thorough physical and psychiatric evaluation is mandatory. Such examination should be performed before the surgical intervention; it has been proposed that surgery should not be considered until at least 2 years have passed since the last self-inflicted injury.

Surgical therapy of self-inflicted scars differs from routine scar correction. Although various treatment options are available for self-inflicted scars, such as elliptical excision of the lesion in a single session, dermabrasion, and tattooing over the scarred area, these conventional scar correction techniques and treatment modalities may not effectively change the unique scar pattern. Full-thickness excision of the area and application of a split-thickness skin graft harvested from a remote site, microfollicular hair transplantation, and camouflaging self-inflicted wound scars are additional options to help reduce and destigmatize scar appearance, but some of these techniques increase total scar area and require the creation of a donor site.

Dr. Chou is a plastic surgeon, Division of Plastic Surgery, Department of Surgery, Tri-Service General Hospital, National Defense Medical Center, Taipei, Republic of China; and Department of Surgery, Taoyuan Armed Forces General Hospital, Taoyuan, Republic of China. Dr. Chang is a psychiatrist, Department of Psychiatry, Tri-Service General Hospital, National Defense Medical Center. Dr. Chiao and Dr. CY Wang are plastic surgeons, Division of Plastic Surgery, Department of Surgery; Dr. Sun is a family physician, Department of Family and Community Health; and Dr. Chen is Director of Plastic Surgery and Dr. CH Wang is a plastic surgeon, Department of Surgery, Division of Plastic Surgery, Department of Surgery, Tri-Service General Hospital. Please address correspondence to Dr. Chih-Hsin Wang, Plastic Surgeon, No. 325, Sec. 2, Chenggong Road, Neihu District, Taipei City 114, Taiwan (Republic of China) Taipei; email: super-derrick@yahoo.com.tw.
Conversion of the self-inflicted scar into another type of scar, such as that caused by burns, could camouflage the origin of the scarring in this location. This can be achieved with split-thickness excision of the area and a 90° reapplication of the excised tissue, which converts the transverse to a longitudinal scar without creating a donor site.

The case of a young woman seeking to repair evidence of self-inflicted wounds is reported.

Case Report

Ms. M, a 23-year-old woman who has major depressive disorder with comorbid borderline personality disorder, presented to the authors’ clinic requesting scar repair. She had no other medical comorbidities. Her early life experiences included emotional neglect and sexual abuse. She also had a history of repeated self-inflicted injuries to the nondominant forearm caused by a razor blade during adolescence. Ms. M explained she utilized self-inflicted injuries to relieve or help regulate psychological distress rather than commit suicide. She was aware that feelings of loneliness and an argument with her father caused her to feel emotional pain.

Ms. M had three previous admissions to a psychiatric ward. Following discharge from the hospital, she had several sessions of twice-weekly psychotherapy and irregular psychiatric outpatient follow-up for 5 years.

When she came to the authors’ clinic with a request to transform the self-inflicted wound scars into another type of scar, multiple transverse, pale, roughly parallel scars on the volar and dorsal forearm were noted (see Figure 1). After psychiatric consultation for psychological assessment and detailed discussions with Ms. M and her family, physicians decided to perform the operation to camouflage the most apparent scars. A split-thickness skin graft (10/1,000 inch thick) was harvested from the area of old scarred skin over the volar and dorsal forearm (each approximately 10 cm² x 15 cm²) (see Figure 2). Next, the skin graft from the dorsal forearm was placed on the volar forearm and that from the volar forearm was placed on the dorsal forearm. The skin grafts were fixed with staples and immobilized with a short arm splint. After the operation, the wound dressing was changed daily with neomycin ointment. Ms. M was discharged on post-op day 3. Following discharge from the hospital, she had weekly follow-up visits at the plastic surgery outpatient department; the staples were removed on post-op day 10. After 6 months, the surgical scar appeared similar to a burn injury scar without any other surgical treatment. Ms. M was satisfied with the result aesthetically and socially and started to back to work (see Figure 3).

Key Points

- Scars from self-inflicted wounds, often present on the forearm, are difficult to camouflage and easily recognized as the result of automutilation.
- The authors describe a case of a young woman with extensive scarring on both the volar and dorsal aspect of her forearm.
- By switching the scarred skin grafts, no skin graft donor site was created and the result resembled the scars of more socially acceptable burn injuries.
Discussion

It is under debate if it is aesthetically acceptable to increase total scar area and to produce another scar in the donor area. In this case, self-inflicted scars were camouflaged without creating a donor site scar. The patient was a good candidate for surgical intervention with interchangeable skin grafting because of her psychological status and because she had both volar and dorsal self-multilation scars. She was satisfied with the aesthetic and social result of this procedure.

Some authors state that the least acceptable aesthetic result leads to maximum patient satisfaction in appropriately selected cases.²

Conclusion

In appropriately selected cases, interchangeable skin grafting is a simple and effective method to convert a self-inflicted wound scar to a socially acceptable scar similar in appearance to a burn wound scar, without creating another surgical wound. In this case, the patient was satisfied with the result, which motivated her to take a more active and productive role in social and business activities.

References


Figure 3. Six months after the operation.