

Revascularization of a Circumferential Hand and Forearm Degloving Injury Using an Arteriovenous Shunt

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Major upper-extremity degloving injuries with distal dysvascularity are rare and challenging surgical problems. When these degloving injuries occur over nonexpendable regions, such as the glabrous skin of the palm and digits, revascularization or replantation may be the treatment of choice. Because the degloved skin flap is often separated in the suprafascial plane, direct arterial repair may be impossible. We present a rare case of circumferential degloving of the hand and forearm with distal dysvascularity, treated successfully with revascularization with arterial anastomosis, venous anastomosis, and arteriovenous shunt creation. The patient required reoperation for partial flap loss and ligation of the arteriovenous fistula. At final follow-up 16 months after the injuries, she showed independence in activities, reported good functional use of the hand, and worked full-time at her original occupation. (*J Hand Surg Am.* 2020; ■(■):1.e1-e6. Copyright © 2020 by the American Society for Surgery of the Hand. All rights reserved.)

Key words Circumferential, degloving, degloving injury, forearm, hand.



MAJOR UPPER-EXTREMITY DEGLOVING INJURIES with distal dysvascularity present substantial challenges to treatment. Whereas degloving injuries over expendable regions may be treated with debridement of nonviable skin flaps and coverage using skin grafts, pedicle flaps, or free flaps, degloving injuries over the glabrous skin of the palm and digits are usually best treated with replantation or revascularization.¹ In cases with distal

dysvascularity, limb salvage depends on restoration of circulation. However, distal arterial targets for anastomosis often are not found in degloving injuries owing to the subcutaneous plane of separation,² which adds to the technical difficulty in treating this condition.

We present a rare case of circumferential degloving of the hand and forearm with distal dysvascularity, treated successfully with revascularization with arterial anastomosis, venous anastomosis, and arteriovenous shunt creation.

CASE REPORT

A 33-year-old right-handed woman presented to our emergency department 4 hours after a right hand and forearm degloving injury. While cleaning a running machine at a packing factory, the patient's bracelet was caught in the roller mechanism, resulting in a circumferential sleeve degloving injury from the forearm to the hand. The patient reported severe pain,

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