

## **Repair of neck radiation ulcer with superficial cervical artery flap**

Gang Li, Zhi Zhang, Ye-Yang Li, Jun Huang, Jin-Lun Wang

Department of Burn and Plastic Surgery, Guangzhou Red Cross Hospital, Jinan University, Guangzhou, China

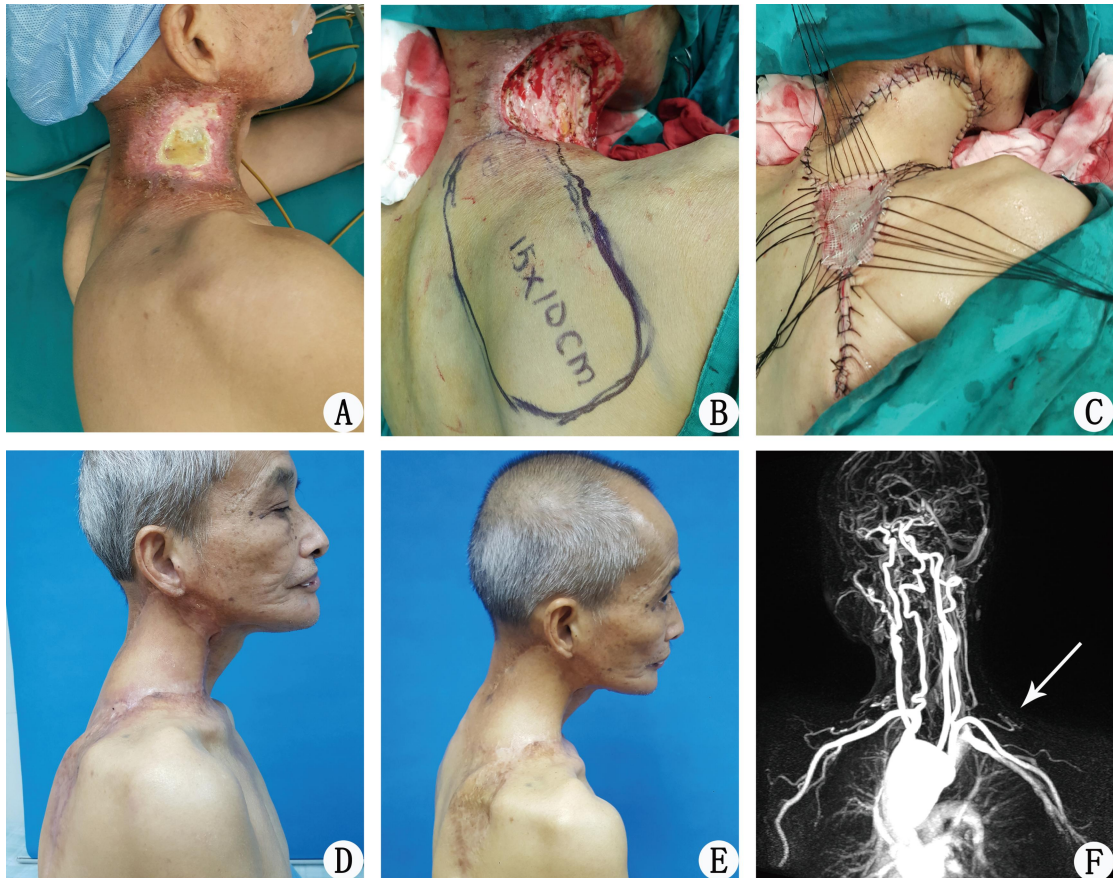
Email: greatligang@qq.com

**【Abstract】 Objective:** To explore the method and clinical effect of repairing neck radiation ulcer with superficial cervical artery flap. **Methods:** January 2016 to June 2019, 11 cases of neck radiation ulcer were repaired with superficial cervical artery flap. The ulcer occurred 13.4 years after radiotherapy on average, with area between 1cm× 2cm and 3cm ×7cm, extensive fibrosis. Surgical removal of ulcer and surrounding fibrotic tissue, and avoid injuring the main blood vessels of neck. Among them, 7 cases underwent one-stage operation, 4 cases underwent two-stage operation after pre-expansion of the donor area. **Results:** All patients with radiation ulcer were healed completely. The appearance and function of operation area were good. Followed up for 6-24 months, no recurrences of radiation ulcer were observed. Among them, the flaps of 10 cases survived completely and the wound healed in one stage. The distal area of flap necrosed in 1 case, and repaired by dressing change and skin grafting. **Conclusion:** Radiation ulcer of the neck is a serious long-term complication after radiotherapy. Once it occurs, it is difficult heal by conservative treatment. skin grafting is difficult to survive as well. The superficial cervical artery flap has constant and abundant blood supply, as well as a hidden donor area, is a feasible method for the treatment of radiation ulcer of neck and reconstruction of the function.

**【Key Words】** Radiation ulcer; superficial cervical artery flap; Wound healing;



CASE1 a. Preoperative wound condition, with obvious "marble"-like changes around the wound; b. The implanted dilator in the donor site was fully expanded, and preoperative Doppler blood vessel detection and positioning; c-e. Ulcer debridement, flap removal and transfer during operation Situation; f. The sutures were removed 14 days after the operation, the flap survived well, and the donor valve area healed well; g. The neck flap was soft, the neck or obstacles improved, and the ulcer did not recur 1 year after the operation; h. The pathological indication of the ulcer Severe fibrosis, punctate calcification with more lymphocyte infiltration; i. Preoperative MRA angiography showed the presence of superficial carotid artery in the patient with good filling (arrow).



CASE1 a. Preoperative wound condition of the patient; b. After neck radiation ulcer resection, a 15 × 10 cm superficial carotid artery pedicled neck-scapular flap was designed; c. The flap was transferred to the neck wound, and the donor flap area was partially sutured and reduced After skin grafting; d. The condition of the skin flap was good 3 months after the operation; f. The texture of the skin flap was good at 2 years after the operation, and the ulcer did not recur; g. The preoperative MRA angiography showed the existence of the superficial carotid artery. Filled well (arrow).