

A Successful Reconstruction of Fingertip Using Digital Artery Perforator Flap

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Purpose

Microsurgical reconstruction is an established procedure for treating avulsion or amputation of fingertip. After failure of replantation or composite graft, digital artery perforator flap can be a good treatment of choice. The authors present a patient with an avulsed fingertip who initially underwent composite graft and later treated with digital artery perforator flap.

Method

A 29-year-old male presented with avulsed wound on the left middle finger fingertip and amputation on the left ring finger at the level of distal phalanx. The physical examination suggested that the vessels of amputees were severely crushed and there were little viability left after pressed into a conveyor belt. Composite graft was done for both two fingers but grafts were not well taken and debridement was done. The conclusive soft tissue defect was measured 0.5 x 1 cm on left middle finger and 1.5 x 1.5 cm on left ring finger. (Fig 1.) The lateral digital artery perforator flap and volar digital artery perforator flap was done respectively. Split thickness skin graft from hypothenar area of the same hand was done to cover up each donor sites. (Fig 2.)

The flap was inset and survived successfully. After 6 months, the patient showed an excellent result in terms of sensory and function on the fingers. (Fig 3.)

Conclusion

This case shows that digital artery perforator flap can be an alternative procedure when replantation does not fit to the circumstances of a patient. Moreover, restoration of sensory function and preserving maximal length of fingers make this procedure even more suitable for such cases.



Figure 1. Preoperative photograph of two fingers.



Figure 2. Intraoperative photographs. Middle finger fingertip defect was covered by lateral digital artery perforator pedicled flap and the defect on ring finger fingertip was covered by volar digital artery perforator pedicled flap.



Figure 3. Follow up photo of two finger after 6 months.