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이식편 없는 합지증 재건을 위한 변형 삼엽 피판술

(Modified trilobed flap for Graft-Free Syndactyly Reconstruction)



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**Purpose:** Surgical release of syndactyly aims to restore independent digital motion while preventing web creep and scar contracture. Conventional techniques frequently rely on full-thickness skin grafts to compensate for predictable soft-tissue deficiency at the interdigital commissure and digit bases, inevitably introducing donor-site morbidity, color mismatch, and secondary contracture risk.

**Methods:** We present a graftless correction of simple soft-tissue syndactyly using a modified trilobed flap design in a 16-month-old boy with right 2nd web-space involvement. The trilobed flap was planned to reconstruct the commissure and adjacent digital defects without skin grafting. The distal lobe was anchored deeply to recreate a stable web corner, the central lobe was advanced to resurface the primary defect, and the lateral lobes were inset precisely into interdigitating digital defects to achieve tension-free closure. Key technical principles included wide flap mobilization, secure distal anchoring for commissural definition, meticulous tension distribution across lobes, and application of a space-maintaining non-adherent dressing to preserve interdigital separation during early healing.

**Results:** The flap survived completely, and wounds healed without major complications. At 1-month follow-up, the reconstructed webspace demonstrated stable contour, preserved depth, and no evidence of early web creep or contracture. Importantly, the absence of skin graft harvest eliminated donor morbidity and contributed to uniform scar quality across the reconstructed area.

**Conclusion:** This case highlights that a modified trilobed flap can provide reliable graftless syndactyly correction in selected simple cases, achieving early web stability and favorable scar behavior while avoiding the disadvantages inherent to skin grafting.



Fig. 1. Preoperative photo of the right foot demonstrating soft-tissue syndactyly of the 2nd webspace



Fig. 2. Surgical design and application of the modified trilobed flap. (A, B) Design of the modified trilobed flap for web reconstruction and adjacent digital resurfacing. (C) Flap elevation and inset to recreate the interdigital webspace.



Fig. 3. Postoperative photographic finding 1 month after operation