

방향을 안정하게 회복할 수 있었고 다른 1례에서는 골단축 없이 절주부(Stump)를 덮어서 절주의 길이를 보존하고 견관절의 기능도 보존하였기에 문헌고찰과 함께 보고하는 바이다.

No. 20.

경골에 시행한 생비골 및 생피부편 이식의 임상적 연구

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최근 미세수술이 발달함에 따라 유리생골이식은 이식골의 충분한 혈액공급으로 고식적인 골이식처럼 잠행성 치환(creeping substitution)을 거치지 않고 직접 골절치유와 유사한 과정으로 치유되어 골유합이 더욱 빠르고 확실하게 되었다.

저자들은 1982년 5월부터 1992년 1월까지 개방성 골절로 인한 광범위한 연부조직결손을 동반한 감염된 경골결손 34례에 대하여 생비골 및 생피부편 이식술을 시행하고 임상적 결과를 문헌과 함께 보고하며, 다음과 같은 결과를 얻었다.

1. 국소염증이 완전히 조절되지 않은 상태에서도 생비골 및 생피부편 이식이 가능하였다.
2. 생비골 및 생피부편 이식술을 동시에 시행함으로써, 생피부편의 임상상태로 생비골 이식의 성공여부를 간접적으로 알 수 있었다.
3. 추시기간동안 이식된 비골은 비후되었으며, 이식골의 흡수는 없었다.
4. 경골을 부분절제한 경우에는 이식비골의 골절은 발생되지 않았다.
5. 이식된 비골의 비후는 수술부위의 국소염증상태에 영향을 받는 것으로 사료되었다.

No. 21.

Ilizarov 방법과 유리피편 이식술을 이용한 사지 재건

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심한 연부조직 손상과 골결손을 동반한 불유합이나 변형은 최근에 점차 감소 추세에 있지만 아직까지도 해결하기 어려운 문제로 남아있다. 미세수술을 이용한 유리피편 이식술을 이용하여 이러한 복합 손상의 치료에 획기적인 발전을 이루었으며 최근에는 Ilizarov 방법이 널리 보급되면서 이러한 문제점을 다각적으로 해결할 수 있게 되었다. 장관골의 염증성 골결손의 치료로 골이식술이나 혈관부착 유리조직이식술등이 있지만, 위축된 골단 및 실질의 결손, 만성 염증을 동반한 예에서는 좋은 결과를 기대하기 어렵다. 그러나 최근에 Ilizarov 기구를 이용함으로써 골격 및 연부조직 결손의 재건 뿐만 아니라 각변형, 회전 변형과 골단축까지 동시에 교정이 가능하게 되었다.

이에 저자들은 1990년 10월 부터 1992년 3월까지 연세대학교 의과대학 정형외과에서 연부조직 손상과 골결손을 동반한 불유합이나 변형이 있었던 11명의 환자에서 Ilizarov 방법과 유리피편 이식술을 동시에

No. 19.

**Upper Limb Salvage Using Free Forearm Flap Harvested From
The Non-Replantable Amputable Amputation Part**

— Case Report (2)—

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The decision to attempt a major extremity replantation depends on the potentiality for restoration of useful function. Several factors may prevent successful function recovery following replantation of the upper extremity, such as a high proximal level injury, extensive crushing injury with soft tissue or muscle loss, and segmental nerve defects and these may become relative contra-indications to proceeding replantation.

If replantation of the upper arm amputation is doomed to be contraindicated, salvage procedure in which microvascular transfer of a part of the amputated extremity to preserve the length of stump or covering the open wound obviously increase the patient's potential for rehabilitation.

Two patients are described who sustained upper arm amputation which were considered unsuitable for replantation. A free forearm flap harvested from the amputated part allowed coverage of open wounds on the stump, consequently preserving the stump length and shoulder motion, and eventually successful fitting of a prosthesis.

No. 20.

**A Clinical Study of Vascularized Osteocutaneous
Fibular Transfer to the Tibia**

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Recent advances in microsurgery have made it possible to provide a continued circulation of blood to the grafted bone so as to ensure viability. With the nutrient blood supply preserved, healing of the graft to the recipient bone is facilitated without the usual replacement of the graft by creeping substitution.

We have reviewed 34 cases of vascularized osteocutaneous fibular transfers to the infected tibial defect complicated with skin defect performed from May, 1982 to January, 1992. We have confirmed that the vascularized fibular transfer has several advantages, but there were some complications. And the following results were obtained:

1. Despite of uncontrolled bone infection with skin defect, the vascularized osteocutaneous fibular flap transfer could be performed.

2. In the vascularized osteocutaneous fibular transfer, the patency of anastomoses could be indirectly monitored by observing the color of the skin flap.
3. The vascularized fibular had been hypertrophied with bony union during the follow-up period and there was no resorption of the grafted fibular.
4. There was no fracture of the grafted fibular in partial resection of involved tibia.
5. The hypertrophic potentiality of grafted fibular could be inhibited by the infection status at operation site.

No. 21.

Limb Reconstruction by the Ilizarov Technique Combined with Free Tissue Transfer

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The treatment of nonunion with bone loss and established deformity secondary to severe composite tissue defect remains a challenging problem. Microsurgical free tissue transfer has been major advance in the management of these compound injuries. Recently, the Ilizarov method gained popularity as a multifactorial approach to these problems.

We experienced 11 patients in whom limb reconstruction was accomplished by combining the Ilizarov technique with free tissue transfer from October, 1990 to March, 1992. The average duration of follow-up was 21.2 months ranging from 14 months to 31 months.

The results of analysis were as follows ;

1. There were 8 cases of infected tibial nonunion with bone loss, 2 cases of ankle deformity secondary to epiphyseal injury and 1 case of infected tibial malunion with valgus deformity.
2. The average length of bone defect was 4.4cm in 8 cases in which internal lengthening was performed and average size of soft tissue defect or unstable skin with scar contracture was 4.6×9.3cm.
3. The combined reconstructions consisted of Ilizarov technique with 8 cases of parascapular flap, 1 case of inguinal flap and 2 cases of arterial pedicle flap.
4. The bone results were excellent in 7 cases, good in 3 cases, poor in 1 case and functional results were excellent in 4 cases, good in 5 cases, fair in 1 case and poor in 1 case.
5. Satisfactory corrections were obtained in all of the 3 deformed patients.

In conclusion, the combination of the Ilizarov technique and free tissue transfer can expand the reconstructive fields of the orthopedic microsurgeon ; as well as shortening the treatment time and reducing disability.