

을 함께 시행한 경우는 14례였다.

5. 수술후 혈전증 및 이식편의 감염이 발생하였던 3례를 제외한 19례에서 이식편이 생존하였다.

No. 3.

유리피판술을 이용한 족부재건

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해부학적으로 족부는 주위에 이용할 수 있는 연부 조직이 별로 없을 뿐 아니라 이용할 수 있더라도 크기가 제한되어 있으므로 광범위한 연부조직 결손시 이의 복원이 어렵다.

광범위하고 오염된 족부의 창상을 재건시 이상적인 조직의 조건으로서는 감염에 잘 견디고, 가능한한 원래의 모양 및 크기에 가깝게 복원해야 하며, 적절한 감각이 있어야 하고, 끊임없는 마찰력과 체중 부하에 잘 견뎌야 할 것이다.

미세혈관술을 이용한 유리조직이식은 비교적 위와같은 장점들을 제공할 수 있다.

저자들은 최근 약4년간 외상과 전기화상 및 화상후 후유증으로 인하여 족배부, 발꿈치, Achilles건, 족저부등에 광범위한 결손 및 변형이 있었던 환자 21예에서 미세혈관술을 이용하여 Fasciocutaneous, musulocutaneous, muscle with skin graft 등으로 족부를 재건하여 추적중에 있으며 현재까지 관찰된 결과 및 장점, 단점과 문제점들을 보고하는 바이다.

No. 4.

족무지 유리 피부편을 이용한 수무지 재건

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절단된 수무지의 재건술에는 족지 이식술, Pollicization, 유리 피판술 등이 시행되어 왔으며 1980년 Morrison과 O'Brien은 족무지 유리 피부편을 이용한 수무지 재건술을 시행하여 무지의 감각성, 연부조직의 안정성과 조갑부를 포함한 수지 기능을 얻을 수 있다고 보고하였다.

저자들은 1982년 3월부터 1992년 12월까지 10년 10개월간 총 30례의 족무지 유리 피부편을 이용한 수무지 재건술을 시행하여 평균 28개월간 추시 관찰하여 다음과 같은 결과를 얻었다.

1. 총 30례중 1례를 제외한 29례에서 이식이 성공하였으며 미용적 측면과 기능적인 면에서 모두 우수한 결과를 얻을 수 있었다.
2. 합병증으로 1례에서 이식실패, 6례에서 부분 피부괴사, 1례에서 부정 유합, 15례에서 이식골의 흡수가 있었으며 그 중 1례에서 피로 골절이 관찰되었다.
3. 제1수장골 경부 절단시에도 수무지의 재건이 가능하였으나 무지 운동성의 제한과 많은 이식골의 골 흡수가 문제점으로 제시되었다.

이상에서 족무지 유리 피부편을 이용한 수무지 재건술은 수무지 절단환자에 있어 미용상 및 기능적인 면에 있어 우수하며 공여부에도 비교적 결손이 적은 추천할 만한 수술법으로 사료되며 또한 술자는 합병증의 방지를 위하여 세심한 주의를 기울여야 할 것이며 미세수술수기에도 숙달되어야 할 것이다.

2. The arteries used in free flaps were 11 dorsalis pedis arteries, 2 deep circumflex iliac arteries, 2 superficial iliac arteries, 2 branches of lateral femoral circumflex iliac arteries, 2 radial arteries, and 3 thorcodorsal arteries.
3. The mean size of the vascularized bone was 4.5cm×3.5cm, and that of skin flap was 12.1cm×9.2cm.
4. Of the 22 cases, 19 had a successful outcome and 3 in failure, the causes of failure were thrombosis and infection.

No. 3.

Microvascular Reconstruction of Extensive Foot Injuries

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The successful treatment of the extensively traumatized foot warrants reconstruction utilizing tissue that will provide adequate coverage, is resistant to infection, thin enough to conform to the contours of the foot as well as durable to constant frictional movement and weight bearing. Currently, free flaps offer the best means in achieving these difficult and sometimes contradictory goals.

We treated twenty-one patients suffering from extensive soft tissue loss of the foot due to trauma, electric burn or postburn sequelae with free flaps. A fasciocutaneous, musculocutaneous or muscle flap with skin grafting was used based on the location, volume of tissue required, and the functional anatomical requirement of the injured region. The follow-up duration averaged twenty-nine months. From our group of patients, we believe that the muscle free flap with skin grafting offers the most favorable outcome.

No. 4.

Thumb Reconstruction with a Free Neurovascular Wrap-Around Flap from the Big Toe

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There are several methods to reconstruct an amputated or lost thumb such as toe to thumb transfer, pollicization and other variety of free flaps.

In 1980, Morrison and O'Brien advocated reconstruction of the thumb with a free wrap-around flap from the big toe to recreate a stable, sensate and functional digit, including the nail.

From March, 1982 to December, 1992, thirty cases of thumb reconstructions were performed using the wrap-around procedure at Korea University Hospital.

1. 29 cases of total 30 cases were successful and can be obtained the excellent results in fuctional and cosmetic aspect.
2. In postoperative complications, one case is graft failure, six cases in partial skin necrosis, one case in malunion, 15 cases in resorption of grafted iliac bone and among them one case of fatigue fracture of grafted bone.
3. Even if the 1st metacarpal neck amputation is occurred, thumb reconstruction with a free neurovascular wrap-around flap was also possible, however, the limitation of the mobility of the reconstructed thumb and resorption of grafted bone piece were come out.

We conclude that cosmesis and fuctional results were quite satisfactory despite of some complications. The thumb reconstruction with a wrap around free flap from the big toe in thumb amputated patients is the excellent method in the cosmetic and fuctional aspect and can be considered as the most useful method because of less morbidity to the dornor site and the operator should be trained to get the meticulous microsurgical technique and to detect the complications.

No. 5.

Experimental Study of the Anastomosis with Suture vs Non-suture Technique

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Suture microvascular anastomosis is time-consuming and tedious and demands long and continuous training. Technique of anastomosis of microvessel was presented interrupted suture and continuous suture. Recently the Unilink instrument system is created as a fast and simple method to achieve high patency rates without long and continuous training in the anastomosis of small vessels.

The author experimentally studied the femoral artery of 20 mice (0.5-1.0mm, av. 0.7mm), the femoral vein of 20 mice (0.8-1.6mm, av. 1.2mm) after anastomosis with interrupted suture in 20 cases and continuous suture in 20 cases. For the unilink apparatus we used the carotid arteries of 15 cases in 14 rabbits (1.0-1.6mm, av. 1.3mm) and facial veins of 12 cases in 14 rabbits (0.9mm-2.2mm, av. 1.5mm). A total of 27 arterial and venous anastomoses were performed. We examined the postoperative patency at immediate, 2 weeks, and 8 weeks. The results were as followings.

1. In the arterial anastomosis the rate of patency was 90% (18/20) in interrupted suture, 90% (18/20) in continuous suture and 93% (13/15) in unilink apparatus. In the venous anastomosis the rate of patency was 90% (18/20) in interrupted suture, 80% (16/20) in continuous suture and 75% (9/12) in unilink apparatus.
2. The mean time for completion of the arterial anastomosis were 12.2 minutes in interrupted suture group, 10.3 minutes in continuous suture group and 8.5 minutes in unilink apparatus group. The mean time for completion of the venous anastomosis were 12.2 minutes in interrupted suture group, 11.0 minutes in continuous suture group and 6.2 minutes in unilink apparatus group.