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Abstract

Ankle Arthrodesis with Vascularized Fibular Graft in Failed Ankle Fusion

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Arthrodesis of the ankle joint is inevitable in the cases of severe arthrosis or defective bony structures around ankle joint. There have been many kinds of arthrodesis methods were introduced. In cases with failed athrodesis with previous arthrodesis surgery and neuropathic joints have difficulty to achieve fusion of joint with conventional methods.

Authors underwent four cases of ankle fusion with vascularized fibular graft from 1997 in the cases of three failed fusions and one diabetic neuropathic joint. Two of four performed free vascularized fibular transplantation from contralateral side leg with microvascular anastomosis, two of four performed with pedicled fibular transposition to the ankle joint in same side leg. Three of four cases achieved arthrodesis average 9.2 months after surgery, one case was failed due to vascular thrombosis of the anastomosed site in diabetic neuropathic condition. The result of this technique revealed 75%(three of four) success rate and longer bone union time required. However, in these cases had no recommendable options with conventional bone graft and additional ankle joint fusions procedure because of poor bone quality and defect of distal tibia and talus portions.

Free vascularized fibular transfer to the failed athrodesis of ankle joint is one of the effective alternative methods in failed ankle fusion cases, especially the quality of the bone around previous fusion site is poor.

Key Words : Ankle fusion, Failed, Free vascularized, Fibular graft

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joint) (Neuropathic Blair 가 . 2 1 Blair , 1 3 1 가 가 2 (Fig. 1). , 2 4 2 1997 3 1999 11 4 , 41 26 61 1 9 , 1 . 3 2 1. 9,11) (postero-medial approach) 가 (posterior tibial artery) 4



Fig. 1. 34 years old male with traumatic bone loss associated infection. This patient had previous ankle fusion in another hospital, radiographic finding shows distal tibia defect with talus dome defect and surrounding bony sclerosis that reveals pseudoarthrosis.

2.

(Fig. 2)

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4,7,9)

(nutrient foramen) 가
1/3 ~ 1/2
(nutrient vessels)

4 3 9.2
(Fig. 3)

가

가
가
가

61

가



Fig. 2. Harvested fibula, which has distally based peroneal vessel pedicle. The harvested bone and vascular pedicle put into the tibio-talar joint as a bridge of ankle fusion.

3



Fig. 3. Radiographic finding of post operative six months, shows maintained bridged fibula with gradual bony union process.

(Ilizalov)
(salvage procedure)

1879 Alber가
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2)

가 1,2,6,11)

:

3

9.2

Blair

23

²⁾

가 8 , 23

14.6

2~3

가

가

가

Charcot

^{1,2)}

가

Blair

^{2,3,5,8)}

가

가

가

⁴⁻⁶⁾

가

가

가

Buoy flap

가

가

가

^{7,9,11)}

pedicled transfer

pedicled transfer

,
anastomosis

가

가

(reversed flow)

가

(salvage

procedure) 가

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, Charcot-Marie-Tooth

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1,3,10)

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75%(4 3)

9.2

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