

APOA Foot & Ankle Council Presents..

Case of the Month

November 2023



www.apoaonline.com

www.apoafootandankle.org

Presented by:



Dr. Wong Chong Hing

Consultant, Department of Orthopedic and Traumatology, Princess Margaret Hospital Hong Kong

Learning Points:

- © The decision of limb salvage vs amputation should be individualized.
- © The clinical outcome of limb salvage can be satisfactory in selected cases.
- © Prompt restoration of circulation is essential for limb salvage.

Title:

A Mangled Foot for Amputation? or Salvage?

*Upcoming Case of the Month
December 2023*

Presented by:

Dr. Pat Chulasiri

MedPark Hospital,
Bangkok, Thailand.



Title:

Posterior tibial tendoscopic debridement

Want to present a case? Write to...



Prof. Chayanin Anthonng
chatthara@yahoo.com



Dr Kwai Ming Siu
siukmhk@hotmail.com

**To become a member of
APOA foot & ankle council [CLICK HERE](#)**

APOA Foot & Ankle Council Presents..

Case of the Month

November 2023



www.apoaonline.com

www.apoafootandankle.org

A Mangled Foot for Amputation? or Salvage?

Dr. Wong Chong Hing

Consultant, Department of Orthopedic and Traumatology, Princess Margaret Hospital, Hong Kong

Email: nelsonwongchi@gmail.com

Case:

A 19-year-old gentleman with good past health, admitted for right foot crush injury. His truck hit the roadside and then turned over. His right foot was trapped under the dashboard. There was no other associated injury. He arrived at the Accident and Emergency Department at 1hr 21mins after the incident. The vital signs were stable.

Physical examination revealed right foot degloved injury with only 3 cm dorsal skin bridge remained intact (**figure 1**). The ankle joint could be dislocated. Talar dome and tibial plafond were exposed (**figure 2**). No circulation distal to the open wound and the forefoot was insensate. There were some toe dorsiflexion and plantar flexion movement elicited.



(Fig. 1)

Deglove injury of right foot with open wound at the midfoot and hindfoot region. Only the 3 cm dorsal skin bridge was intact. The ankle joint was grossly deformed. The forefoot and toes were pale and there was no circulation.



(Fig. 2)

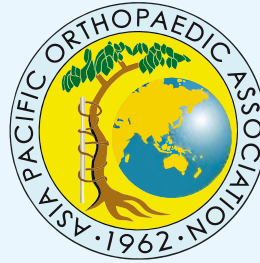
Open dislocation of the ankle joint. The articular surface of talar dome and tibial plafond could be seen.

To become a member of APOA foot & ankle council [CLICK HERE](#)

APOA Foot & Ankle Council Presents..

Case of the Month

November 2023



www.apoaonline.com www.apoafootandankle.org

X rays (**figure 3,4**) revealed total talar dislocation, fracture anterior process and body of calcaneum, fracture distal fibula and multiple metatarsals fracture with diastasis of Lisfranc joint.



(Fig. 3)

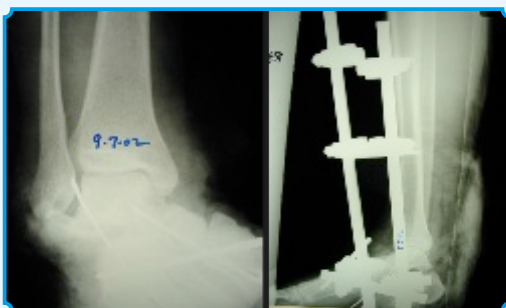
X ray showed pantalar dislocation, fracture distal fibula and calcaneum.



(Fig. 4)

X ray of his foot showed involvement of Lisfranc joint with multiple metatarsals and cuboid fracture.

An emergency operation with wound exploration was performed. Both posterior tibial and dorsalis pedis artery were torn. Tibial nerve and saphenous nerves were structurally intact. Peroneal tendons were avulsed from their musculotendinous junction. Tibialis anterior and posterior tendons, long toe flexors and extensors were intact. Repair of the dorsalis pedis artery was performed. Talar dislocation was reduced and fixed with K wires and external fixator (**Figure 5,6**).



(Fig. 5a & 5b)

5a & 5b. Post op X ray showed reduction of talar dislocation and fixation with K wires and external fixator.



(Fig. 6a & 6b)

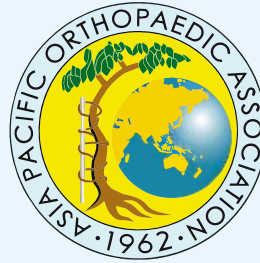
6a & 6b. Restoration of circulation after repair of dorsalis pedis artery. However, the heel became purplish despite revascularization.

To become a member of APOA foot & ankle council [CLICK HERE](#)

APOA Foot & Ankle Council Presents..

Case of the Month

November 2023



www.apoaonline.com

www.apoafootandankle.org

Repeated debridement and fixation to the Lisfranc joint diastasis were performed in a later stage. The necrotic heel pad was debrided and the raw area was partially covered with split skin graft. Angiogram revealed satisfactory vascular inflow. Free latissimus dorsi flap was performed 5 weeks after the injury (*figure 7*).

The wound healed up uneventfully and the split skin graft was well taken. The external fixator was removed and changed to walking brace at 3 months post injury. Subsequent bone scan showed no photopenic area to suggest avascular necrosis over talus. Follow up X ray showed congruent ankle and subtalar joints. The alignment of the Lisfranc joint was well maintained (*figure 8,9*).



(Fig. 7a & 7b)

The heel pad defect was covered with vascularised latissimus dorsi free flap. The free flap was well perfused.



(Fig. 8a & 8b)

4 months post injury showed congruent ankle joint. There was bone lost over anterior process of calcaneum.



(Fig. 9a & 9b)

The Lisfranc joint alignment was well maintained and the metatarsals and cuboid fracture were healed.

APOA Foot & Ankle Council Presents..

Case of the Month

November 2023



www.apoaonline.com

www.apoafootandankle.org

During the subsequent follow up at post-op 6 months, the patient was able to walk unaided with normal shoes. He reported only mild lateral calf pain after prolonged walking. The ankle range of movement was 0-15 degree of plantar flexion. Forefoot sensation was normal. Toe and subtalar joint movement were limited (**Figures 10a, 10b & 10c**).



(Fig. 10a, 10b & 10c)

Clinical photos showing satisfactory foot shape at post-op 6 months. There was no ulceration or callosity. The forefoot sensation was intact.

At post-op 10 years, the patient was able to walk unaided with normal shoes. There was no foot and ankle pain. The ankle range of movement was 0-15 degree of plantar flexion. Forefoot sensation was normal. Toe and subtalar joint movement were limited (**Figures 11a & 11b**).



(Fig. 11a & 11b)

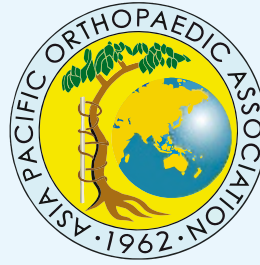
Clinical photos showed satisfactory foot shape at post-op 6 months. There was no ulceration or callosity.

To become a member of APOA foot & ankle council [CLICK HERE](#)

APOA Foot & Ankle Council Presents..

Case of the Month

November 2023



www.apoaonline.com

www.apoafootandankle.org

Discussion:

The decision for amputation or limb salvage procedure for mangled limb is always challenging. We have to weigh the benefit of limb salvage against the potential risks of multiple operations needed. Donor site morbidity for reconstruction surgery and the function of the salvaged limb cannot be overlooked. Various indices such as energy of trauma, nerve, bone, muscle, soft tissue injury, ischemia time, degree of contamination, age, blood pressure were included in different scoring systems for the reference of decision making. None of the scoring system including Mangled Extremity Severity Score (MESS), Predictive Salvage Index (PSI), Limb Salvage Index (LSI) and Nerve Injury, Ischemia, Soft-Tissue Injury, Skeletal Injury, Shock and Age of Patient (NISSSA) Score was proven to be perfect for the prediction of amputation. It shows the complexity in the decision making of that challenging situation. However, in the patient with relatively good prognostic factors such as young age, short ischemic time, limb salvage can also yield satisfactory clinical outcome. Timely restoration of circulation is paramount for the limb salvage.

Case of the Fortnight Sponsored by:

stryker

Plating that fits.

Only by truly understanding the challenges you face can we offer a portfolio to best fit your needs. With anatomically contoured plates designed or validated using our proprietary SOMA technology, streamlined instrumentation and trained representatives, Stryker's plating portfolio is designed with you in mind.

Fit for patients
Fit for procedures
Fit for you
Fit for the future



A surgeon must always rely on his or her own professional clinical judgment when deciding whether to use a particular product when treating a particular patient. In other cases, an appropriate medical advisor and accordingly their surgeon be trained in the use of any particular product before using it in surgery. The information presented is intended to demonstrate the benefits of Stryker product offerings. A surgeon must always refer to the package insert, product label and/or instructions for use before using any Stryker product. Warnings may not be available in all markets because product availability is subject to the regulatory and/or medical practices in individual markets. Please contact your Stryker representative if you have questions about the availability of Stryker products in your area. For the Corporation or its divisions or other corporate affiliated entities, use is hereby granted for the following trademarks or service marks: SOMA, Stryker. All other trademarks are trademarks of their respective owners or holders. Contact: 001-AP-62-6-09-0017 Copyright © 2017

To become a member of APOA foot & ankle council [CLICK HERE](#)