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Pantalar fusion for correction of painful equinus after traumatic Chopart's amputation—a report of 2 cases

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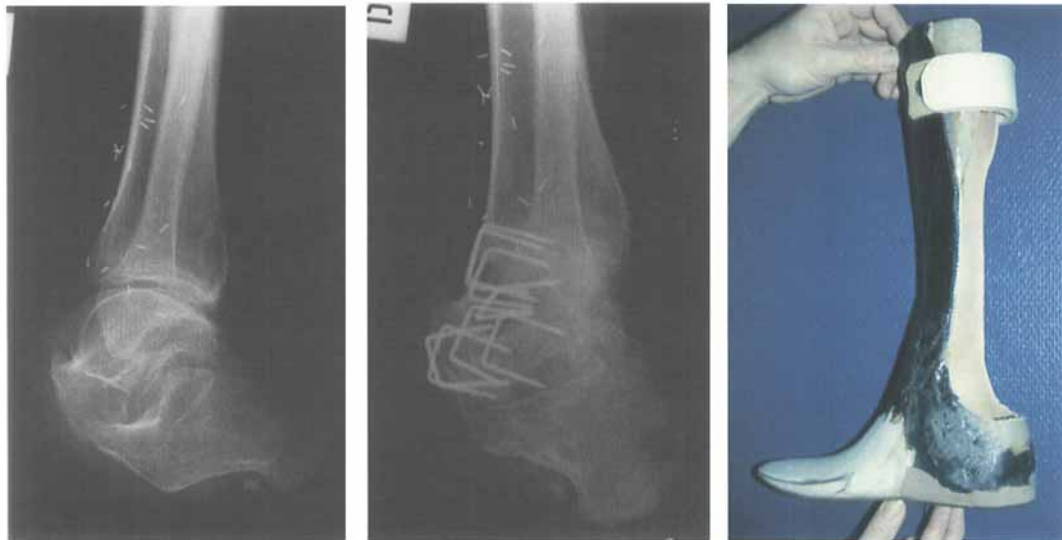
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Case 1

A 22-year-old man was injured in a traffic accident in 1980 causing a Chopart amputation that healed after split skin transplantation to the anterior non-weight-bearing part. 7 years later he was referred to our department for increasing pain and problems caused by the contracted equinus position of the stump (Figure) which moved inside the prosthetic socket. This caused recurrent superficial ulcerations distally with chronic pain and the patient asked for a higher amputation. In 1987, we instead performed a pantalar arthrodesis, using an anterolateral longitudinal incision. With a chisel, the remnant cartilage and subchondral

bone above and below the talus were excised to reduce the malposition of about 30 degrees each in equinus and varus angulations. Shapiro staples above and below the talus were used for fixation. A plaster cast was applied for 6 weeks. He returned to a full time work as a factory controller, using a carbon fiber-reinforced prosthesis with full end-weight-bearing in a half-open socket. Due to his high demands, we provided 35 sockets during 7 years before the fusion, but only 12 sockets during the 7 years after. He has no pain, ulcers or problems with a moving stump inside the socket. He walks all day with his prosthesis and at night at home always barefoot without crutches.

Case 1. 22-year-old man with fixed equinus after a traumatic Chopart's amputation



Fixed equinus. Silver clips after vascular surgery.

Fusion with correction of position above and below the talus, using Shapiro staples.

Prosthesis of composite material and a posteriorly open socket.

Case 2

A 28-year-old railway technician was run over by a train in 1987. This resulted in a high above-elbow amputation of the left arm, a Chopart amputation and a pelvic wing fracture. Due to persistent problems with progressive equinus, a left foot revision amputation was performed in 1988, with excision of a remnant part of the navicular bone, achilles tendon tenotomy and pantalar fusion. The patient used a plaster cast for 2 months. The healing was uneventful and the patient could start using a prosthesis without problems regarding ulcer, pain or instability. During 7 years follow-up, the patient has been very satisfied with the result of the fusion and has returned to half-time work and amateur dancing competitions. His stump is 1 cm shorter than the healthy side and the heel pad is stable.

Discussion

In patients with a traumatic hindfoot amputation, muscular imbalance often causes equinus contracture and also a varus tilt (Marquardt 1983, Baumgartner 1987, Dederich 1987). For such cases a conversion to a Syme's amputation resulting in about 6 cm shortening or even a transtibial amputation are advocated. Letts and Pyper (1990) modified in 6 children the Chopart's amputation by transferring both the tibialis anterior and posterior tendons to the anterior talus and made a Z-plasty lengthening of the achilles tendon.

These feet remained well balanced during a 2–6-year follow-up. With the Chopart's level, even when balance is good, a higher boot type of prosthesis is usually needed and, in such cases, problems with movement inside the socket can occur. As an alternative, the stump can be converted to a Boyd or a Spitzzy type by excision of the talus and fusion of the calcaneus to the end of the tibia, solving the equinus problem at the price of 3–5 cm shortening (Spitzzy 1914, Boyd 1939). This shortening makes barefoot walking difficult. Burgess (1966) and Chang et al. (1994) also suggested an achilles tenotomy to improve balance.

Our alternative method, consisting of fusion of the talus both to the tibia and the calcaneus with a simultaneous correction of the equinus and varus contracture, preserves leg length for better barefoot walking and creates stability of shape inside a prosthetic socket.

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Asymptomatic big toe changes in diabetic patients with early Charcot knees—a report of 2 cases

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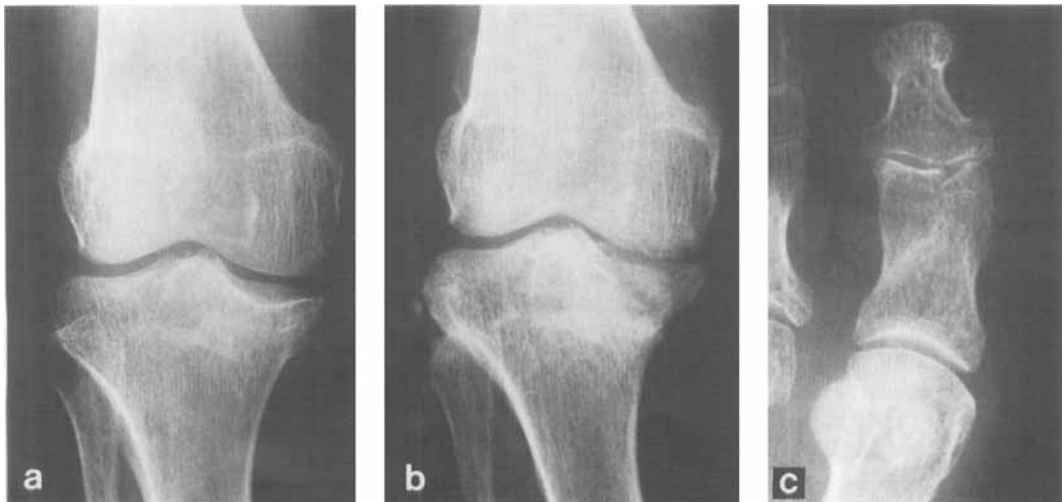
Case 1

A 59-year-old woman had had diabetes mellitus for 25 years. She had been treated with insulin for 16 years, and had severe neuropathy and retinopathy. While standing, she twisted her right knee in November 1991 and began to complain of mild pain and swelling. She was diagnosed as having gonarthrosis at a nearby hospital and received physical therapy. Since the symptoms did not subside, she visited our department in December 1991.

Hydrops was present in the right knee. The range of motion was 5–130 degrees and there was slight medial instability. Both superficial and deep sensations in her lower extremities were decreased, and ankle and knee jerks were absent. A plain radiogram of the knee

showed slight indentation of the medial tibial plateau and an obscure, transversely running small fracture line. Although her complaints were confined to her right knee, radiographic surveys of other joints of the lower extremities were done. Distinct changes showing a fracture at the distal end of the proximal phalanx of the right first toe were found, although there was no complaint or history of trauma to the foot.

1 month later, destruction of the medial tibia condyle became distinct radiographically, varus deformity had progressed and a fracture of the fibula head had developed. She was able to kneel and squat without significant pain, despite the marked joint destruction and instability.



Case 1. The right knee a) in December 1991 and b) in June 1992.

Spontaneous fracture of the distal end of the first proximal phalanx.