

# Talectomy in a Neglected Club Foot in Zambia: A Low Cost One Step Option in a Developing Country

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## ABSTRACT

Talectomy was first described in 1608, but the enthusiasm for this procedure peaked in the 1920s.

Nowadays, it is considered only as a salvage procedure and it is used extremely rarely. Ponseti treatment and multiple stage surgery are both better alternatives than talectomy, but they require a long follow-up period, which could not be affordable for all patients in any developing countries.

Our equipe has been involved in a charity program in Zambia and we are presenting as a case report the clinical results of a talectomy performed to a 12 years old male child, affected by a severe neglected clubfoot.

The surgery was performed through an anterior approach, the patient was casted for 4 weeks.

At 6 months follow-up, he presented a good limb alignment with apparently a good function and a residual 20 degrees of range of motion.

Ponseti treatment and multiple-step surgery should be both preferred to talectomy, which, anyway, sometimes for social reasons, represents a viable alternative to those treatments.

**Keywords:** Talectomy, Club-foot, One-step surgery, Equinus-varus deformity, Ponseti, Medial release.

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## INTRODUCTION

Talectomy was first described by Fabricius Hildanus (1608), as related by Szyszkowitz.<sup>1</sup>

It was not one of his cases but one he heard about. He described this patient who presented with a complete talus dislocation out of the skin.

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The talus was completely removed and the patient was seen walking, afterward no complaining any major discomforts.<sup>2</sup>

Talectomy has been used commonly in pediatric orthopedics<sup>3</sup> with some degree of success in tumors, tuberculosis, severe clubfoot deformity, myelomeningocele and arthrogryposis multiplex congenital.<sup>4</sup>

In adults, talectomy has been used as a salvage procedure in posttraumatic avascular necrosis talus<sup>5</sup> adult neglected clubfoot, failed talar prostheses failed total ankle arthroplasty, neuroarthropathy,<sup>6</sup> inflammatory arthropathy, non-union of ankle fusions.

The talectomy may be an effective long-term solution to address severe stiff multiplanar deformity of the foot.<sup>7</sup>

One of the author is a Resident Surgeon at Cure International Hospital (Lusaka, Zambia), a charity American Institution for the treatments of pediatric diseases in Africa.

Two of the authors are visiting surgeon applying to a charity program.

The following case was a children visited and treated during this program.

## CASE REPORT

A 12-year-old black male child was admitted to clinic for observation, limping for a major multiplanar inversion adduction supination deformity (Fig. 1).

His medical history was positive for neglected clubfoot without any previous diagnosis and treatment.



Fig. 1: Weightbearing preoperative view

The patient's pain was localized to the midfoot, hindfoot and ankle region.

Physical examination of the foot and ankle region identified fixed deformity in supination of the hindfoot and varus deformity of the ankle. No range of motion at both ankle and subtalar joints was present for articular impingement. Achilles tendon was brevis.

The only accessible imaging study was no weightbearing foot and ankle X-ray which showed a complete alteration of the normal shape of the talus.

A complete talectomy with an anterior approach was performed without Achilles Tendon lengthening.

A plantigrade foot with a good alignment of the hindfoot and of the ankle was obtained.

The patient was put in cast for 4 weeks. Weightbearing was given after cast removal.

At 6 months follow-up, the patient presents a good alignment of the foot, apparently a good function with no limping when walking on flat surfaces, with 20° of range of motion in flexion/extension.

## DISCUSSION

Enthusiasm for the talectomy peaked in the 1920s.

Talectomy nowadays is considered only as a salvage procedure to treat extreme neglected congenital deformity in pediatric orthopedics.

Ponseti conservative treatment<sup>8</sup> and in alternative multiple-stage surgery treatment represent both better options than talectomy in club foot disease but they require a continuous follow-up of the patient during the treatment.

In some countries for social reasons, it can be impossible to achieve this quality multiple-step treatment and it is not uncommon to meet cases with major stiff deformity.

In these cases, talectomy can address the need of patient to have a normal alignment of the foot and ankle, with no shortening of the limb, weightbearing thrust on the normal

joint surface with a residual range of motion in the sagittal plane (anterior subtalar facets and talonavicular joint allow rocking motion) in a one step surgery.<sup>9</sup>

## SUMMARY/CONCLUSION

Talectomy nowadays is an extreme salvage procedure, generally reserved to adult pathology. Recently, it is an uncommon procedure in pediatric diseases even in developing countries, especially after Ponseti treatment become popular. Ponseti treatment should be considered as gold standard in club foot pathology, but talectomy can be a valid option in neglected club foot with high deformity even in pediatric patients, especially for the ones not available for long period follow-up.

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