

بسم الله الرحمن الرحيم

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Evaluation of the Ponseti Method in Management of Idiopathic Clubfoot

A thesis submitted for fulfillment of M.D. degree of orthopaedic surgery

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Abstract

From the 90 feet, there are 87 feet (96.6%) corrected with Ponseti technique, one foot (1.2 %) was relapsed and needed extensive surgical release and 2 (2.2%) feet didn't respond to Ponseti technique (early failure). Relapses had occurred in 13 feet, 10 feet had manipulation and recasting successfully, and 3 feet had recasting which failed to correct the recurrence, those underwent surgery on one foot, and two need TATT. The factors that are associated with high risk of recurrence were the non compliance with FAO, age at the presentation and the severity score before casting.

Key word:

Clubfoot – Cavus – Adductus – Varus – Equines -
Ponseti method

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List of Abbreviations

CLB	: Curvature of Lateral Border of the foot
EH	: Empty Heel
FAO	: Foot Abduction Orthosis
HFCS	: Hindfoot Contracture Score
HS	: Hind foot score
LHT	: Lateral part of the Head of the Talus
MC	: Medial Crease
MFCS	: Midfoot Contracture Score
MS	: Midfoot score
PC	: Posterior Crease
RE	: Rigidity Equinus
TATT	: Tibialis Anterior Tendon Transfer
TAL	: Tendo Achilles Tenotomy
TC	: The TaloCalcaneal angle
T-MT1	: The talo- first metatarsal angle
T-MT5	: The talo- fifth metatarsal angle
TS	: Total score
- ve	: Negative.
+ ve	: Positive.

Introduction

The clubfoot is one of the most common congenital deformities, and it is a complex three-dimensional deformity having four components; equinus, varus, adductus, and cavus. More than 100.000 babies are born world wide each year with congenital clubfoot. Eighty percent of the cases occur in developing nations. Untreated or poorly treated clubfoot is the most serious cause of physical disability among the congenital musculoskeletal defects **(1)**.

The treatment of clubfoot has been controversial throughout the last 150 years but all would agree that the initial treatment of clubfoot should be nonoperative **(1)**.

Although the early results of surgical release of clubfoot were encouraging, the long term results were unsatisfactory with the later development of foot pain and stiffness **(2)**.

Several casting techniques have been described as the French method and Kite's method but finally most feet ended up in surgery with these two methods because more complications observed after over aggressive and improper casting treatment include pressure sores, flattop talus, rocker bottom deformity and residual deformity **(2)**.

Sixty years ago, after careful study of the pathological anatomy and the biomechanics of the tarsal joints, dissection of clubfoot of stillborn babies and examination of serial histological sections of the fetuses, Ponseti developed a new conservative technique of manipulation followed by plaster cast applications that have yielded excellent results in majority of cases with minimal or no surgery. Popularity of his method has increased dramatically around the world **(3)**.