Introduction

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The term fibular hemimelia implies a congenital absence of all or part of the fibula.

Fibular hemimelia the most common long bone congenital absence or hypoplasia, was first described by **Gollier, (1698)**.

The term melia is derived from the greek melos, meaning limb amelia denotes absence of the entire limb hemimelia refers to loss of half the limb as described by **Frantz, (1961)**.

Extensive studies of complete fibular absence and the anomalies associated with it have reported in the past **(Coventry and Jonhason 1952; Thompson et al., 1957; Framer and Lauren, 1969; Janson and Anderson 1974 & Kalamchi, 1979)**.

The appearance of a limb with fibular deficiency can vary from barely detectable to severely deformed. The typical limb is characterized by a valgus foot, shortening of the leg, variable anterior bowing of the tibia with a dimple over the apex, and variable valgus of the knee. The foot is often deformed, missing

one to several lateral (post axial) rays **(Lovell and Winter's, 2003)**.

Frequently the femur is short as well as the tibia, the femoral shortening may be slight to severe.

The main problems in the treatment of fibular deficiency are the limb length discrepancy (LLD), the deformity and instability of other food and ankle. It is very important to realize that the discrepancy will become worse with growth and its ultimate discrepancy at maturity that is it important.

In treating LLD in a congenital deformity or deficiency one should put in mind that muscular anomalies are common in them in fibular hemimelia there may be dysplasia and soft tissue contractures about the ankle with absent rays of the lateral aspect of the food **(Guidera et al., 1993)**.

The treatment may be conservative, surgical, or a limb lengthening procedure, the lengthening procedure should be considered in the child or adolescent who has significant shortening or angular deformity **(Paley et al., 1992)**.

This type of treatment (limb lengthening procedure), yields good results but takes long time and multiple lengthening

sessions, the patient and family should be informed and selected properly so that are welling to help and bear with long time, and possible complications **(Cattaneo, 1991)**.

Not all limb length inequality needs to be treated, e.g. type 1 fibula hemimelia, frequently is managed by manipulation and bracing and observation rarely it deserves intervention. **(Tachdijian, 1990)**.

In the past most of the literature agreed that severe cases of fibular hemimelia is to under go early amputation and orthotic replacement **(Anderson et al., 1963)**.

But **Paley and his coworkers, (1992)** stated that development of the new techniques of limb lengthening especially the llizarov method limb salvage even in those severe cases that were amputated in the past is possible.

They also stressed that procedure should be approached with caution, patience, and a through understanding of the techniques, biology, and physiological aspect of lengthening of a child limb, since there are frequent complications throughout every lengthening procedure.

Although limb lengthening is not a new procedure **Codilla and others** attempted this technique in the **1920** using one stage lengthening as published by **Paterson, (1990)**.

The standard of the lengthening procedure was introduced by **Wagner, (1978)** that involved a laterally placed unipolar fixator held with large Schans screws combined with a diaphyseal osteotomy.

The Ilizarov technique utilizes thin wires that penetrate bone are fixed to steel rings surrounding the limb **(Cattaneoet al., 1991)**.

So congenital absence of fibula is one cause of the broad spectrum of LLD, which its treatment caused a great controversy in the literature.