SUMMARY

Fibular hemimelia, also known as congenital absence of the fibula, congenital deficiency of the fibula, paraxial fibular hemimelia, and aplasia or hypoplasia of the fibula, is the most common long bone deficiency. Fibular hemimelia consists of a spectrum of anomalies, the least severe being mild fibular shortening and the most severe being total absence of the fibula[(1)] .

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 or more lateral rays. Frequently the femur is short as well as the tibia, the femoral shortening may be mild to severe [(33)] .

Because of the myriad anomalies associated with even mild fibular deficiency, **Stevens and Arms. 2000,** suggested that postaxial hypoplasia is a more descriptive designation for this condition [(32)] .

Various classification schemes have been described for fibular hemimelia as by **Coventry and Johnson 1952, Achterman and Kalamchi 1979, Birch 1998, Stanitski and Stanitski 2003 and Paley 2004.**

The most commonly used throughout the literature is that of **Achterman and Kalamchi** [1,31,35,36,38] .

At the initial evaluation the physician should attempt to predict the ultimate LLD, based on the current percentage of shortening tends to remain constant throughout growth. For an anticipated mild LLD, the goals of treatment are equalization of limb length and correction of the foot deformity [13,33] .

The definite line of treatment has been a debatable issue for a long time, the problem is not merely a diseased bone, but also a problem of limb length discrepancy which carries various psychological, cosmetic, social, economic and community aspects [59] .

The main problems in the treatment of fibular deficiency are the limb length discrepancy, the deformity and instability of foot and ankle. It is very important to realize that the discrepancy will become worse with growth and its ultimate discrepancy at maturity [3] .

For many years, **Syme or Boyd amputation** in early childhood has been recommended to replace the deformed foot with a more functional prosthetic one, to simplify the treatment of limb length inequality, and to avoid subjecting the child to multiple reconstructive operations. However, recent advances in reconstructive techniques afforded by the introduction of **Ilizarov's** method and apparatus, have resulted in renewed

interest in the reconstruction of limbs that have deformities associated with fibular deficiency [46].

As scientific advances are widely spread nowadays parents tend to refuse to allow their child's foot to be amputated at an early age especially when the foot is near normal and the limb length is not grossly abnormal. The Ilizarov technique provides a means of achieving simultaneous lengthening and angular and rotational correction in children with congenital fibular deficiency. Because a greater percentage of lengthening can be achieved with this method as compared with previous methods, children with large projected limb length discrepancies who were previously managed with amputation may now be candidates for lengthening. This method may be combined with simultaneous ankle or foot reconstruction when symptomatic ankle instability or foot deformity exists. One must be aware of potential complications which may occur during the treatment, but the incidence of expected complications will diminish as greater experience with the Ilizarov technique is obtained [50] .