

## Original Research Article

**A Study of Different Modes of Management of Congenital Talipes Equino Varus**Dr. V. Venugopal<sup>1</sup>, Dr. P. Sukarna Reddy<sup>2</sup><sup>1</sup>Associate Professor in Dept of orthopaedics, Fathima institute of medical sciences, Kadapa, Andhra Pradesh<sup>2</sup>Associate Professor in Dept of orthopaedics, Malla reddy women's medical college, Suraram, Hyderabad**\*Corresponding author**

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**Abstract:** Congenital talipes equino varus, commonly called as congenital club foot is a deformity known since the times of Greeks. the deformity present at birth occurs in every 1000births (jones and lovette) one in every 1250 births (stewart).To study the various modalities of treatment and their outcome the present study conducted in the st.theresa hospital, Hyderabad. Total of 38 feet of 22 cases observed. 64% of patients were treated conservatively. In this 95.65% of patients shown excellent results.36% of patients were treated surgically in this 30.7% patients treated surgically produced excellent results, 61.53% of patients surgically were good and 7.69% of patients treated surgically produced poor results.

**Keywords:** congenital talipes equino varus, conservative treatment, surgical correction

**INTRODUCTION**

The actual cause of club foot is not yet known. Various theories have been propounded by various authorities. Congenital talipes equino varus has a worldwide distribution and known to occur in races. The deformity present at birth occurs in every 1000births (jones and lovette) one in every 1250 births (stewart)The problem of congenital talipes equino varus exists from time immemorial and has been detected even in present Egyptian mummies. With all the stirring advances of modern medicine, it is somewhat sobering to assess the fund of knowledge concerning congenital talipes equino varus gathered during the 2200 years since Hippocrates described the deformity. We are all still grappling with a problem, the cause of which is not known, the pathological anatomy of which remains uncertain, behaviour of which is unpredictable, and the treatment of which remains controversial. The result of treatment of congenital talipes equino varus can be a source of dissatisfaction if the technique of treatment is improper, lack of patience and co-operation from the patients. Effective treatment of congenital talipes equinovarus needs unremitting supervision.

**AIMS & OBJECTIVES**

To study the various modalities of treatment and their outcome

**MATERIALS AND METHODS**

Twenty two cases of congenital club foot were studied in detail in respect to the nature and severity of the deformity and their management in st.Theresa's hospital in the period of 2009. All the cases were treated conservatively initially followed by surgical procedures in rigid and resistant cases and the results were assessed clinically according to the criteria given below:

**Clinical grading of the club foot (Denham's classification)**

The severity of the deformity was noted at the first examination by estimation of angles of fixed inversion and of fixed equines, when firm pressure is sufficient to cause pain, was applied towards the everted and dorsiflexed position. On the basis of this observation, the deformity was classified into one of the three arbitrary degree of severity.

Grade-I: if the foot could be held at or beyond the neutral position, the deformity is described as grade-I or mild.

Grade-II: if the foot could not be pushed to neutral and yet the fixed equines or the angle of varus was 20<sup>0</sup> or less. The deformity was considered to be moderate or grade-II.

Grade-III: when the fixed deformity was of more than 20<sup>0</sup> of varus or equines, the deformity was considered as severe or grade-III.

All the cases of grade –I and II were treated conservatively. In cases with grade-III deformity, there was no improvement with conservative management or there was recurrence. Grade-III deformities were treated surgically.

**RESULTS**

Thirty eight feet in twenty two cases of idiopathic congenital talipes equinovarus are present and studied in detail with respect to the following Total no. Of cases 22 in this unilateral 6 (right-5, left -1) bilateral 16. Total number of feet 38.

**Table-1:Sex incidence**

sex	No. of cases	unilateral	bilateral	No.of feet
Male	14	6	8	22
Female	6	Nil	8	16
total	22			38

Three cases were associated with internal tibial torsion of about 10<sup>0</sup>. As has already been mentioned, tibial torsion is considered as the fourth element of congenital talipes equino varus, which may need separate tibial osteotomy for its correction when it is more than 30<sup>0</sup>. Its presence has been attributed for recurrence of the deformity. In all the cases with tibial torsion deformity, it got corrected with the subsequent correction of the deformity of the foot.

History consanguineous marriage present in four cases. There is a positive family history of congenital club foot in one case. More than one member of the family is affected in one case.in all cases there is full term normal delivery except in one case where there was forceps delivery. The mother’s health during pregnancy was good or fair.in all the cases there was no history of viral fever, no exposure to x-ray or cortisone therapy in the mother. The mother was not diabetic in any case.

There were no associated congenital anomalies other than the club foot in any case. There were two recurrent cases of congenital talipes equino varus and two neglected cases which required surgical treatment.

Eleven cases of club feet of grade-III severity were selected and treated by medial soft tissue release. All the cases were treated conservatively initially in the form of manipulation and adhesive strapping and plaster of Paris cast application. Those cases in which there was no satisfactory improvement with conservative treatment were treated surgically. In all the

patients treated surgically, general anaesthesia and tourniquet was used. In one case of residual club foot triple arthrodesis and Steindler’s release was done.

Post operatively the deformity was under corrected for the first two weeks to prevent neurosis of the skin and subsequent scar contracture. Post operatively the limb was immobilised in a long leg cast for three months with the foot in fully corrected position. After correction of the deformity, Denis Browne splint was advised till the patient was of walking age. B/K calliper with inside bar and outside strap was given to patients who were able to walk. Denis Browne splint was advised to be used during nights. Parents were advised to passively stretch the foot into corrected position several times a day. Some features such as atrophy of the calf muscles, metatarsus adducts difference in foot size in unilateral cases, some limitations of movement and structural abnormalities in the radiographs cannot be eliminated completely in severe club foot whatever the treatment may be. If at all there is recurrence of the deformity it occurs between the first and second year after operation (TOurco, 1971).therefore, a follow up period of two years is sufficient even though the feet are not skeletally mature. The patients are followed from 3 months to 2 years and the results are assessed as excellent, good or poor.

Twenty three feet with grade-I and grade –II deformities were treated conservatively and the results were either excellent or good. Patient who was brought earlier had excellent results.

**Table-2: Conservative treatment**

grade	Below 6 months	Above 6 months	total
Excellent	22	-	22
Good	1	-	1
Poor	Nil	-	-
total	23		23

Thirteen feet with grade –III deformity and recurrent and neglected club feet were treated

surgically. All the patients were treated conservatively initially.

**Table-3: Surgical treatment**

grade	Below 6 months	Above 6 months	total
Excellent	1	3	4
Good	2	6	8
Poor	1	NIL	1
total	4	9	13

**DISCUSSION AND CONCLUSIONS**

The management of congenital talipes equino varus continues to be a challenge to the skill of the orthopaedic surgeon. Earlier the treatment betters the result leaving no loss of function in the foot. In the older patient, bony deformity occurs as opposed to soft tissue contracture in the young and therefore there is always a loss of function since bone correction is required. Thirty eight feet in twenty two cases of idiopathic congenital talipes equino varus were studied in detail with respect to the aetiology and the degree of deformity and treated by manipulation and adhesive strapping, plaster of Paris casts and surgically by postero medial soft tissue release.

During the initial examination the possible etiological factors were ascertained. In most of the cases there is no definite cause to attribute for the aetiology of congenital club foot. Genetic factors probably have a role in congenital club foot, as there is a positive family history of club foot in some cases and more than one member of family are affected in some cases. All the results were clinically assessed and were graded as excellent, good or poor.

64% of patients were treated conservatively. In 95.65% of patients treated conservatively, excellent result were produced. 36% of patient were treated surgically. 30.76% of patient treated surgically were within 6 months of age. 69.24% of patients treated surgically were more than 6 months of age. 30.7% of patients treated surgically produced excellent results. 61.53% of patients treated surgically were good and 7.69% of patients treated surgically produced poor results.

Early surgical correction yield better results than later corrections. In the rigid feet and those where conservative treatment is ineffective, a soft tissue release operation is kinder to the patient. The key to correction of the division of the posterior capsule of the ankle joint. Post operatively under correction of the foot for a period of two weeks is advisable as it prevents post-operative skin necrosis and subsequent scar contracture.

A long term follow up is necessary in these cases as there may be recurrence of the deformity at a later date. It has been evident that all cases of clinical correction do not have radiological correction when the

tala calcaneal angles were compared and these cases are to be carefully watched for recurrence. Cooperation of parents in the maintenance of plasters and stretching the feet subsequently is extremely important in controlling the deformity and this is one of the biggest problems one have noticed in the management of congenital talipes equino varus.

Although this series is small, the result are comparable in that early treatment by either conservative or posteromedial soft tissue release produce better results than in patients treated in later age groups. Radiographic studies in all cases were not done due to several causes including the non-affordability.

In our study the results have not been in accordance with wyne Davis’s in 1964 [1, 2] and Turco’s in 1971 [3] observation that the results are unsatisfactory in about fifty percent of cases with conservative treatment. In our study 96% of patients with supple club feet, the results were excellent. We agree with Mehta, 1976. chacko and Mathew 1976, and Mahanti 1980. That early surgical treatment in rigid club foot yields good results. We do not agree with Attenborough’s observation (1966) that posterior release alone is enough and the fore foot adduction corrects itself. In our series fore f

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