Research Paper

Volume : 2 | Issue : 10 | October 2013 • ISSN No 2277 - 8179

Congenital Talipes Equino Varus

Medical Science

KEYWORDS : congenital talipes equino varus – consanguinity

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ABSTRACT

Congenital talipes equino varus a stigma in growing children was studied in 40 children whose age ranged from 1month to 9years at BIRRD orthopedic hospital at tirupati. The condition is more prevalent in males and a history of consanguinity was positive in 42.5% of cases and more common bilaterally than unilateral and when unilateral left side involvement was more. There is a possibility of sex linked genetic factor which has to be established by further study .

Introduction :
Congenital talipes equino varus (CTEV) is also known as "CLUB FOOT". It is a common, but less studied developmental disorder of lower limb.

Talipes – walking on their talus as their pes (foot)

Equinovarus – if neglected the walk will resemble to that of horse's toe.

Incidence - 1 in 1000 .

Etiology : - various theories
- Microvascular disorder during in utero development of foot.
- Defective ossification of talus and other bones.
- Abnormal tendon and ligament attachment or contracture
- External compression in utero e.g. from oligohydromnios or constriction ring
- Neuro muscular dysfunction – e.g calf muscle denervation – delayed muscle maturation
- According to Lehman W B (1980) club foot is classified in to three types they are
- Type 1- it is mainly postural in nature i.e. Packing. syndrome.
- Type 2- it is Idiopathic and is the most common type.
- Type 3- it includes those cases secondary to conditions such as Arthrogryposis multiplex congenita and myelomeningocele.

Aim :
Human foot plays important role in locomotion and weight bearing. This particular deformity changes the style of walk of individual and often at the young school days stage the child is psychologically affected by the comments from the classmates and others. Hence we wanted to study in detail about it.

Materials and methods :
In the present study, 40 children with CTEV are selected among the patients attending BIRRD orthopedic hospital at Tirupati. The data is collected using various parameters like Sex, Age, History of consanguinity & unilateral or bilateral occurrence History of Occurrence in other siblings. The Methods adopted are History taking, Clinical Examination & Radiological Study.

Obsevations :
Sex incidence :

Out of 40 cases 29 were males and 11 were females

Age :
Age range from 1month to 9 years (fig:1 & fig: 2)

Consanguinity :
History of consanguinity was present in 17 cases

Relavance to unilateral & bilateral occurrence :
Uniateral occurrence is seen in 12 cases.
Bilateral occurrence is seen in 28 cases

Occurence in other sibblings :
In one case only the sibling was affected

Discussion :
In the present study 40 cases were selected from the patients attending the BIRRD orthopedic hospital tirupati, the results were tabulated according to various parameters. The parameters are based on sex prevalence, history of consanguinity, unilateral or bilateral occurrence and presence of CTEV in other siblings.

Out of 40 cases, In 29 cases (72.5%) were in males and 11 cases (27.5%) were in females. This shows the prevalence of CTEV in more males. In most studies approximately twice as many males as females are affected, giving a sex ratio 0f 2:1 (Kite 1964,Wynne Davies 1964), According to Yamatotto (1979), multifactorial inheritance is an important factor in etiology of CTEV and males are affected more than females.

In the present study, in relation to the consanguinity out of 40 cases in 17(42.5%) cases history of positive consanguinity was seen. Heredity as a factor in the etiology of Talipes is accepted but is operative in no more than 10%. (Browne 1936), Parental consanguinity is not seen in the 347 cases observed at princess Elizabeth hospital, Exeter. According to Wynne Davies (1965). The possible genetic factor for clubfoot is sex-linked gene, (Isigkeit (1927)).

With relevance to unilateral or bilateral occurrence, out of 40 cases in 28 cases (70%) the incidence was bilateral and in 12 cases it was unilateral .Multifactorial inheritance is important factor in etiology of clubfoot; about half of the cases are bilaterally affected. (Wynne Davies 1965), According to Gordon W.Ritchie & Hugo A. Keim (1964), 50% of the foot disorders are bilateral, but when it is unilateral it is more frequently seen on the left.

The incidence of CTEV in other siblings was observed in 1case (2.4%) out of 40 cases, According to Wynne Davies, (1964) recently reported the results of family studies on 635 patients with clubfeet and concluded that, for all index patients with tali-

pes equino varus the overall proportion of first degree relatives affected with same malformation was 12 in 560 cases, 2.14%. For male index patients, 1of 97 fathers, 4of115 brothers but no mother, and none of 40 sisters were affected. For female index patients, 3of 47 fathers, 2of 33 brothers, no mother, but 2of 34 sisters were affected .

Summary & conclusion:

In the present study, 40 children with CTEV were selected among the patients attending BIRRD orthopedic hospital at Tirupati. The data is collected using various parameters like Sex, Age, History of consanguinity & History of occurrence in other siblings.

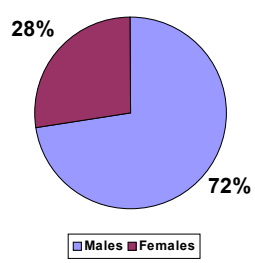
Male to female ratio was found to be 2:1 , Incidence of consanguinity was observed in 42% unlike that of earlier authors . This has to be born in mind while work is being continued in the same field. Inspite of not carrying out genetic study in these cases we infer bilateral incidence of 70% shows the genetic cause rather than an environmental factor.

Sex incidence :

Out of 40 cases 29 were males and 11 were females

TOTAL NO, OF CASES	**40**
MALES	**29**
FEMALES	**11**
%OF MALES	**72.5%**
%OF FEMALES	**27.5%**

The above table reveals the incidence of CTEV in relation to sex prevalence out of 40 cases , the incidence of CTEV in relation to sex prevalence. Out of 40 cases, the incidence in males is 29 cases, females 11 cases

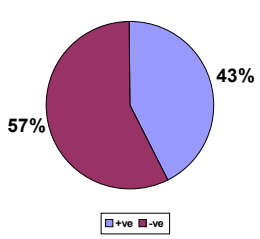


Consanguinity :

History of consanguinity was present in 17 cases

TOTAL NO, OF CASES	**40**
NO, OF CASES WITH +VE CONSANGUINOUS HISTORY	**17**
NO, OF CASES WITH –VE CONSANGUINOUS HISTORY	**23**
% OF +VE HISTORY	**42.5%**
% OF –VE HISTORY	**57.5%**

The above table reveals the incidence of CTEV in relation to consanguity. Out of 40 cases studied the history of consanguity was seen in 17



Relavance to unilateral & bilateral occurrence :

Bilateral occurrence is seen in 28 cases

Uniateral occurrence is seen in 12 cases.

TOTAL NO, OF CASES	**40**
NO, OF BILATERAL CASES	**28**
% OF BILATERAL	**70%**
NO, OF UNILATERAL CASES	**12**
% OF UNILATERAL	**30%**
NO, OF UNILATERAL RIGHT & %	**4 (33%)**
NO OF UNILATERAL LEFT & %	**8 (66%)**

The above table reveals the incidence of CTEV with relevance to Bilaterality.Out of 40 cases bilateral occurrence is seen in 28 cases and in 12 cases, the occurrence is unilateral .

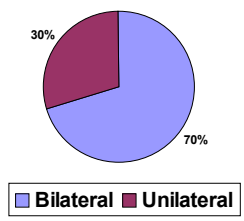




Fig :1 Full term dead born foetus with congenital talipes equino varus.

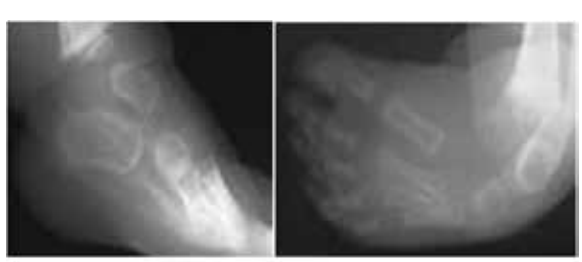


Fig :2 X ray of the foot of the baby with congenital talipes equino varus

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