

Outcome of Tibial Selective Motor Fasiculotomy in the Management of Equinovarus Deformity Due to Cerebral Palsy(A Prospective Cohort Study in 14 Children) pavankumar pelluru; Aneelkumar Pulugopu; Aniruddhkumar Purohit; Naveenkumar Balane DEPARTMENT OF NEUROSURGERY AND PHYSIOTHERAPY, NIZAM'S INSTITUTE OF MEDICAL SCIENCES, HYDERABAD, INDIA



Learning Objectives

To assess the outcome of Tibial Selective Motor Fasiculotomy (SMF) in the management of equinovarus deformity and to measure the resulting changes in motor functions in children with cerebral palsy.

Introduction

Tibial Selective Motor fasiculotomy (SMF) involves ablation of hyperexcitable tibial nerve fasicles, which help in reduction of spasticity in ankle plantar flexors

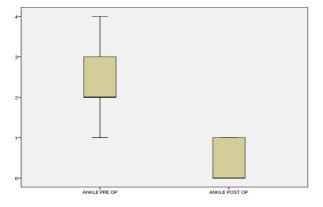
Methods

This prospective cohort study included 14 children with cerebral palsy, age ranging from 5-18 (mean10.21) years and M: F ratio is 5:1 having spasticity in ankle plantar flexors. All the children were assessed pre and post operatively by Modified Ashworth Scale (MAS), Selective Voluntary Control (SVC) grade and locomotor Abilities (squat to stand, standing and walking).

Tibial Selective Motor Fasiculotomy(SMF) was performed (n=23) for relieving ankle plantar flexors spasticity in 14 children and were followed for a mean of 30 (6- 60) months. All the children were given physical therapy pre and post operatively.



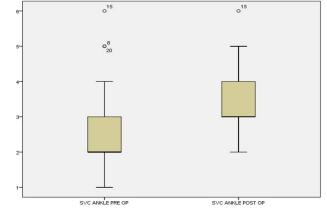
Pre and Post op MAS Score in Ankle plantar flexors – Tibial SMF (n= 14, no. of nerves =23)



Pre and Post op MAS Score in Ankle plantar flexors – Tibial SMF(n= 14, no. of nerves =23)

BOX PLOT REPESENTATION OF SELECTIVE VOLUNTARY CONTROL GRADEFOLLOWING TIBIAL SMF

Pre and Post op SVC in Ankle Plantar flexors – Tibial SMF (n= 14, no. of nerves =23)



Pre and Post op SVC in Ankle Plantar flexors – Tibial SMF(n= 14, no. of nerves =23)

Results

During a mean follow up (30 months) there was statistically significant reduction in spasticity (MAS, p < 0.005) from 1.92 to 0.31 in ankle plantar flexors. Pre and post operative SVC grade also improved from 2.65 to 3.35 in ankle plantar flexors (p >0.005). There were no complications and spasticity did not recur during follow up. 9 children required additional Z plasty simultaneously to relieve the contracture.

Conclusions

The Tibial SMF of tibial nerves significantly relieves spasticity and SVC in the ankle palntar flexors there by motor abilities in children having cerebral palsy with spastic foot. It is quite a safe procedure and the spasticity does not recur during a mean follow up of 30 months.

References

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