3 - Clinical Anatomy

OC-106 - (23919) - COMPARISON OF MYOTONOMETRIC PROPERTIES OF LEG MUSCLES BEFORE AND AFTER ACHILLOTOMY IN CHILDREN WITH CLUBFOOT

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The aim of this study is to analyze and compare the myotonometric properties of some leg muscles in children with clubfoot before and after achillotomy.

Our study was prospectively constructed from January 2023 until May 2024.The MyotonPRO digital palpation device was employed to assess the myotonometric properties (tone, stiffness, elasticity) of tibialis anterior muscle(TAM), gastromedialis muscle (GMM), gastrolateralis muscle(GLM), soleus muscle(SM), plantar aponeurosis (PA), calcaneal tendon (CT). Myotonometric measurments were conducted on patients who commenced treatment for clubfoot, and subsequent measurements were conducted following the end of the Ponseti method. Patients who were older than one year of age, had prior treatment for clubfoot, and exhibited accompanying syndromes were excluded from the study.

Study encompassed 29 feet of 17 clubfoot patients.The mean age of the patients at commencement of treatment was 2.23±1.56 months.The second set of measurements was initiated three months after the casting completed.A significant decrease was observed in all of muscles when tone, stiffness, and elasticity values were compared before and after

achillotomy($p<0.05$).The values of TAM preop tone ($p=0.032$),GMM postop tone ($p=0.012$),GLM preop tone ($p=0.021$),stiffness ($p=0.011$),SM postop tone ($p=0.000$),and stiffness ($p=0.022$) were significantly lower in women than in males when the measured parameters were compared according to gender.Men showed a significantly lower postop CT elasticity value($p=0.000$).

To our knowledge, no study has been found in the literature evaluating myotonometric properties of some leg muscles in children with clubfoot. This is preliminary study, and it's anticipated that the quantitative data obtained will provide insight into literature in future research.

Palavras-chave : Congenital Clubfoot, Myotonometric Measurments, Achillotomy