PROGRESSION OF DEFORMITY CORRECTION IN IDIOPATHIC CLUBFOOT DURING PONSETI CASTING SESSIONS: TWO SCORING METHODS DEPICTED GRAPHICALLY – POSTER ONE

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INTRODUCTION

Two widely accepted scoring methods for idiopathic clubfoot- Pirani and Dimeglio

AIM

The aim of this study was to graphically analyze and compare the correction of both scores and their subcomponents at sequential casting sessions for our subset of clubfoot in children

MATERIAL AND METHODS

- Age - Upto 2yrs with idiopathic clubfoot which were corrected by Ponseti method
- Surgically intervened, Syndromic and neurogenic excluded
- The Pirani score accounts for 6 components of deformity. Each component is graded as 0, 0.5 or 1 depending upon increasing severity. A maximum score of 6 indicates a very severe deformity whereas score 0 represents a corrected foot
- The Dimeglio score has 4 major and 4 lesser individual components with a total score of 20
- After weekly Ponseti casting , tendoachilles tenotomy was done when talar head was found to be reduced

RESULTS

A total of 88 clubfeet (34 bilateral) in 54 patients fulfilled our inclusion criteria. The average patient age at the time of enrollment was 59.8 ± 70.6 days. The average pretreatment Pirani and Dimeglio scores were 5.4 (range, 1.5-6) and 13.3 (range, 4-20) respectively. All feet underwent percutaneous Achilles tenotomy. Post tenotomy, the two scores reduced to 0.1(0-1) and 0.2 (0-3) respectively. Average 3.1 ± 1.2 (range, 1 to 6) casts were used pre-tenotomy for deformity correction.

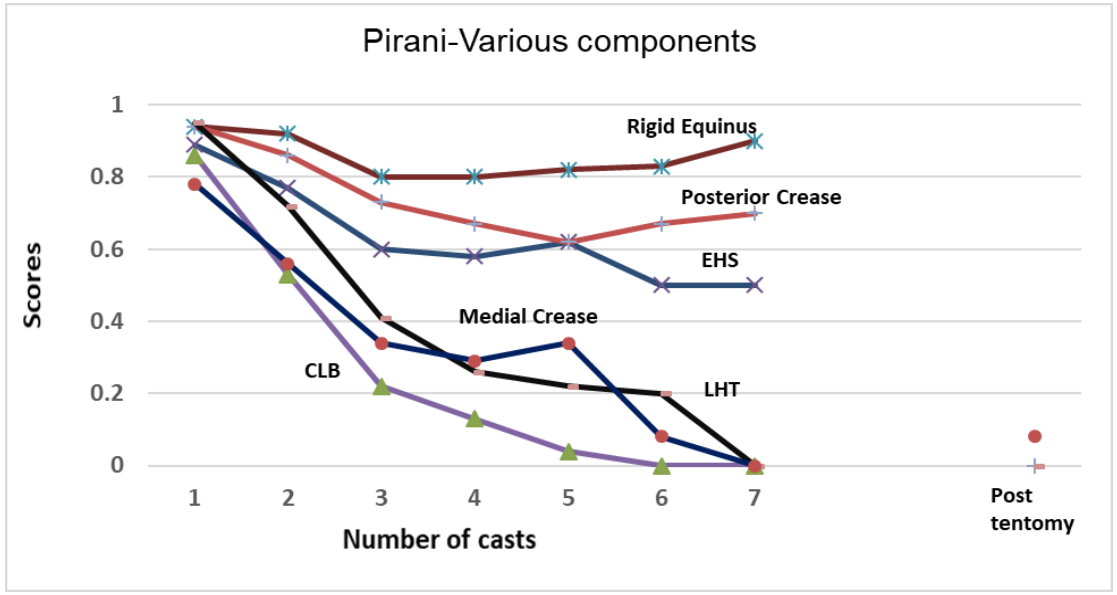

Figure 1. Pirani: Various components. Rigid equinus was the most resistant and last to correct. Curved lateral border was the earliest deformity to correct. LHT: coverage of lateral head of talus; EHS: empty heel sign; CLB: curved lateral border of foot

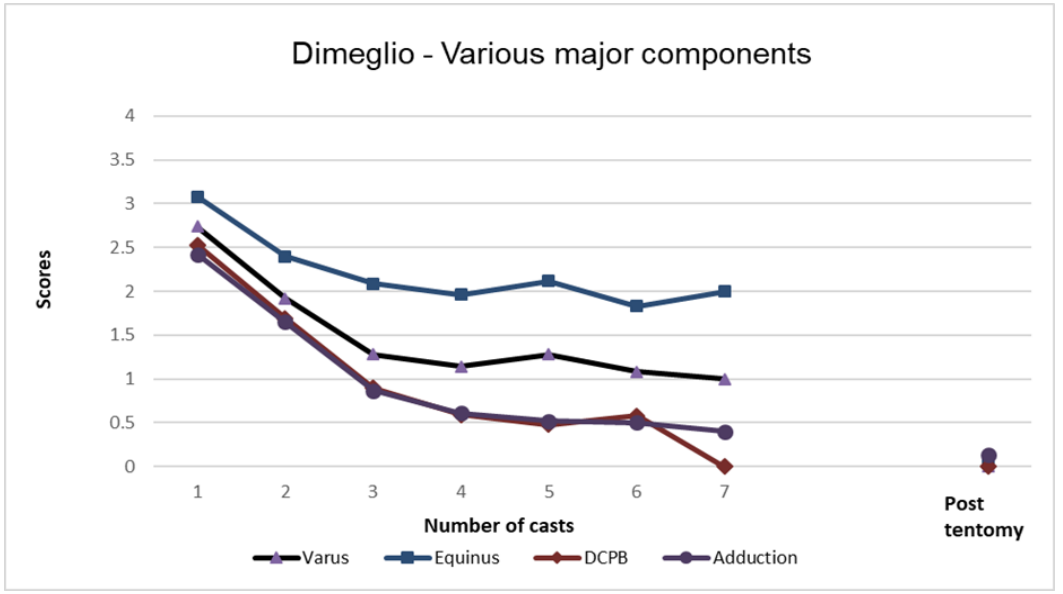

Figure 2. Dimeglio: Various major components. Equinus was the most severe deformity which persisted till final casts. For adduction and derotation of calcaneo-pedal block (DCPB), considerable correction was noted in early casts and then improvement slowed down

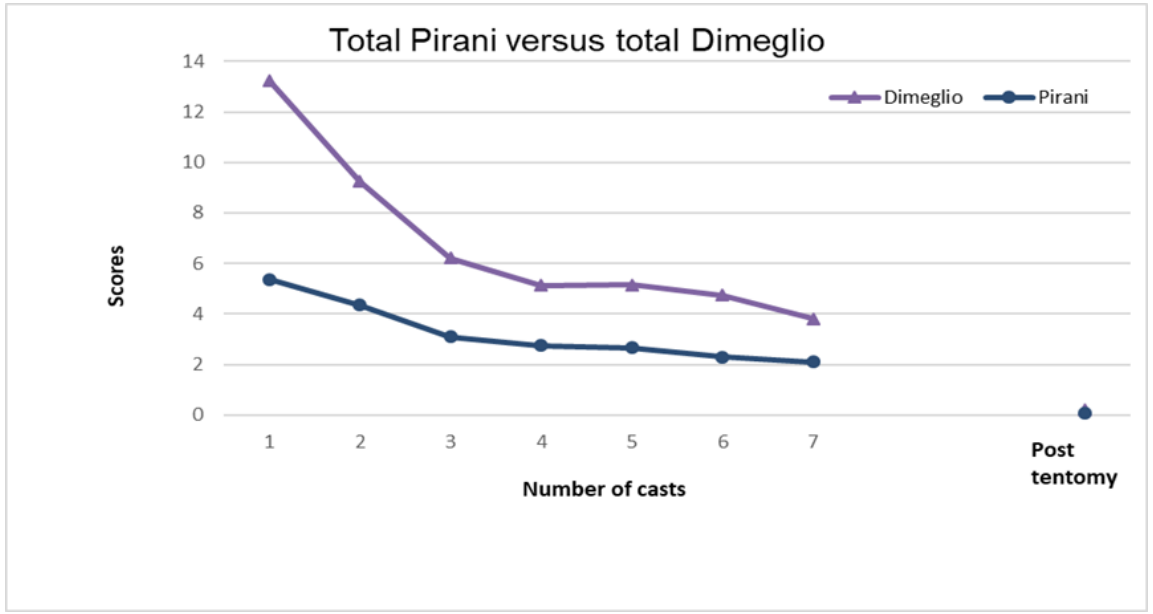

Figure 3. Pirani versus Dimeglio scores: Total. There was more rapid improvement in Dimeglio scores when compared to Pirani scores in early casts. Both score remained static or showed minimal improvement in midlevel and final casts. Both showed correction post tenotomy.

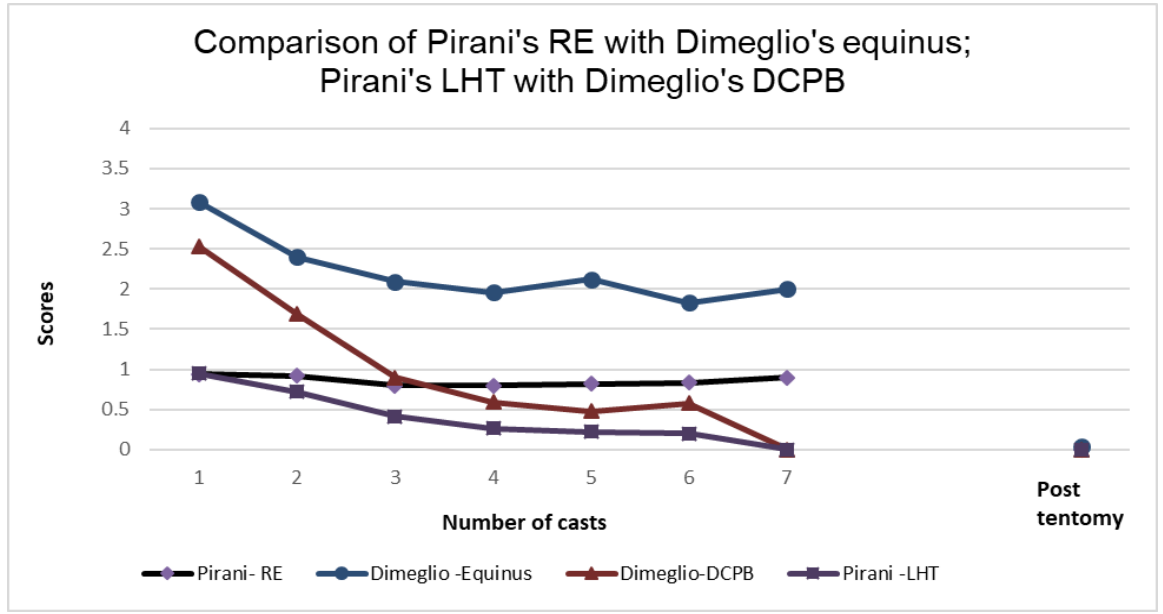

Figure 4. Comparison of Pirani's RE with Dimeglio's equinus; Pirani's LHT with Dimeglio's DCPB. Dimeglio graphs were at a slight advantage to bring out the coupling of various foot motions and gradual correction occurring in ankle equinus even in early stages. RE-rigid equinus; LHT- coverage of lateral head of talus; DCPB- derotation of calcaneo-pedal block

CONCLUSION

- The initial clubfoot deformities, their subsequent recovery in serial casting sessions and the effect of tenotomy could be readily judged from the plotted graphs.
- Dimeglio classification and its graphical representation was found to be slightly better than Pirani scoring in representing correction of deformity with Ponseti method in idiopathic clubfoot.