FLATFOOT RECONSTRUCTION
in
ADOLESCENTS & YOUNG ADULTS

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SAN DIEGO

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My disclosure is in the Final AOFAS Program Book. I have no potential conflicts with this presentation.
INTRODUCTION

• There is still no consensus about the indication, efficacy and type of the procedure for the surgical reconstruction of the flat foot in adolescents and young adults\(^1\).

• Our hypothesis was that various combinations of soft tissue procedures and osteotomies can achieve functional and radiological improvement in the treatment of symptomatic, idiopathic, flexible pes planus in adolescent and young adult patients, in a manner similar to the approach in adult flatfeet.
**METHODS**

- 14 patients’ 17 feet (8 boys, 6 girls)
- Mean age of 14.5 years (range, 9 to 24)
- Between June 2005 and December 2010
- Mean follow-up: 26.7 months (range, 5.6 to 72.1 months)
### PROCEDURES

<table>
<thead>
<tr>
<th>Procedure applied</th>
<th>Patients</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcaneus lateral column lengthening osteotomy</td>
<td>17 feet</td>
<td>100%</td>
</tr>
<tr>
<td>Percutaneous lengthening, gastrocnemius recession or open Z-plasty for Achilles tendon</td>
<td>17 feet</td>
<td>100%</td>
</tr>
<tr>
<td>Calcaneus medializing osteotomy</td>
<td>12 feet</td>
<td>70.5%</td>
</tr>
<tr>
<td>Flexor digitorum longus tendon transfer</td>
<td>11 feet</td>
<td>64.7%</td>
</tr>
<tr>
<td>Medial cuneiform open wedge osteotomy</td>
<td>4 feet</td>
<td>23.5%</td>
</tr>
</tbody>
</table>
Flatfoot reconstruction in adolescents and young adults

Lateral column lengthening
Medializing osteotomy
FDL tendon transfer
Medial cuneiform osteotomy
Gastrocnemius recession
# RESULTS

<table>
<thead>
<tr>
<th></th>
<th>Preop</th>
<th>Postop</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AOFAS scores</strong></td>
<td>56.76</td>
<td>95.29</td>
<td>p=0.001</td>
</tr>
<tr>
<td><strong>Lateral talus–1st metatarsal angle</strong></td>
<td>12.9°</td>
<td>3.71°</td>
<td>p=0.002</td>
</tr>
<tr>
<td><strong>Calcaneal pitch angle</strong></td>
<td>12.88°</td>
<td>19.53°</td>
<td>p=0.005</td>
</tr>
<tr>
<td><strong>Talohorizontal angle</strong></td>
<td>28°</td>
<td>19.65°</td>
<td>p=0.002</td>
</tr>
<tr>
<td><strong>AP talus–1st metatarsal angle</strong></td>
<td>12.29°</td>
<td>6.35°</td>
<td>p=0.018</td>
</tr>
<tr>
<td><strong>Talonavicular coverage angle</strong></td>
<td>25°</td>
<td>12.59°</td>
<td>p=0.007</td>
</tr>
</tbody>
</table>
RESULTS

12 y, ♀, left

PREOP

POSTOP

Flatfoot reconstruction in adolescents and young adults

ÖĞÜT et al.
DISCUSSION

• Corrective osteotomies, ostectomy, tendon lengthenings and/or tendon transfers can be used in combination for flexible flatfoot treatment. ²
• Principles that apply to adults can be applied to children as well³ but studies are limited.
• Oh et al. achieved significant improvements with combined technique usage in pediatric and adolescent patients. ⁴

CONCLUSION

Various combinations of soft tissue procedures and osteotomies can be used effectively in the treatment of symptomatic, idiopathic, flexible pes planus in adolescent and young adult patients, in a manner similar to the approach in adult flatfeet.

