The diagnostic validity of pedobarography

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My disclosure is in the Final AOFAS Program Book

I have no potential conflicts with this presentation.
Materials & Methods

Subjects

- 2009/1~2011/3
- 46 patients (56 feet)

Total N=46

<table>
<thead>
<tr>
<th></th>
<th>Total N=46</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>M / F</td>
</tr>
<tr>
<td>Age (years)</td>
<td>Mean 54.4 (18-89)</td>
</tr>
<tr>
<td>Height (cm)</td>
<td>Mean 161.4 (146-180)</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>Mean 64.4 (42-98)</td>
</tr>
</tbody>
</table>

Clinical maximal pressure area

- Inclusion
  - Painful callosity
  - Plantar Ulcer
  - Single lesion

- Exclusion
  - Plantar wart
  - Multiple lesion
# Materials & Methods

## Problem causing overpressure

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intractable plantar keratosis</td>
<td>16</td>
</tr>
<tr>
<td>MTPJ dislocation in RA foot</td>
<td>6</td>
</tr>
<tr>
<td>Lisfranc Charcot foot</td>
<td>5</td>
</tr>
<tr>
<td>Stump ulcer of TMT amputee</td>
<td>3</td>
</tr>
</tbody>
</table>

## Others (with callosity)

- Equinocavovarus
- Equinovarus
- Cavovarus
- 1,2 toe Amptee
- DM ulcer
- Metatarsalgia
- MT malunion
- Brachymetatarsia
- Hallux elevatus
- Paralytic foot
- Curly toe
- Hammer toe
- Fused MTPJ
- Post-traumatic deformity
Measurement of foot pressure

- Gaitview® (Alfoots, Seoul, Korea)
- Static and dynamic maximal peak pressure: 20 sec standing/4-5 times ex.
- Graphic and numeric present
- Including and excluding heel pressure

<table>
<thead>
<tr>
<th>Pressure Zone</th>
<th>Hallux pressure</th>
<th>2-5toe pressure</th>
<th>1st Mt pressure</th>
<th>2-4 Mt pressure</th>
<th>5th MT pressure</th>
<th>Midfoot pressure</th>
<th>M/heel pressure</th>
<th>L/heel pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9.63 Kpa</td>
<td>15.77 Kpa</td>
<td>32.92 Kpa</td>
<td>64.88 Kpa</td>
<td>29.05 Kpa</td>
<td>24.42 Kpa</td>
<td>62.07 Kpa</td>
<td>51.85 Kpa</td>
</tr>
</tbody>
</table>
Example: symptom of 3\textsuperscript{rd} MT head both

Maximal peak pressure area was represented as red box but we regarded 2\textsuperscript{nd} peak pressure area to maximal peak pressure area for high diagnoses about specific lesions.
Disease specific; numeric

- **IPK**
  - Static Including heel
  - Dynamic Including heel
  - Static Excluding heel
  - Dynamic Excluding heel

- **Lisfranc Charcot**
  - Static Including heel
  - Dynamic Including heel
  - Static Excluding heel
  - Dynamic Excluding heel

- **MT D/L of RA**
  - Static Including heel
  - Dynamic Including heel
  - Static Excluding heel
  - Dynamic Excluding heel

- **TMT Amputee**
  - Static Including heel
  - Dynamic Including heel
  - Static Excluding heel
  - Dynamic Excluding heel
Conclusion

• Summary: Diagnostic validity

1) Overall 16.1% ~ 55.4% diagnostic validity

2) Static ≥ Dynamic measurement

3) Graphic > numeric ( including heel )

4) Graphic = numeric ( excluding heel )

5) Highest in Charcot foot
References


