54F with masses in the feet
Left Foot
Right Foot
Second Patient
Superficial transverse metatarsal ligaments
Anterior arm of inferior extensor retinaculum
Plantar aponeurosis
Medial process of calcaneal tuberosity
Central portion of plantar fascia
Outer portion of plantar fascia
Inner portion of plantar fascia
Plantar Fibromas

- Nodular lesion that blends with plantar aponeurosis usually at the central aspect of the medial plantar fascia
- Isointense to hypointense relative to skeletal muscle on T1WI and T2WI
- Variable, heterogeneous enhancement relates to degree of maturity of lesion
  - $\uparrow$ enhancement $\Rightarrow$ $\downarrow$ maturity $\Rightarrow$ $\uparrow$ recurrence rate
- Can invade muscles or neurovascular bundles
Ledderhose disease

- The precise etiology is unclear
- Trauma
- Infection
- Neuropathy
- Epilepsy?
- Biochemical and metabolic imbalance such as DM and alcoholism
  - Frozen shoulder, Dupuytren disease, and penile fibromatosis

Phenobarbital & Plantar fibroma

• Dupuytren’s contracture, Ledderhose syndrome, and “frozen shoulder” attributed to chronic phenobarbital use (Schmidt, 1983).

• Development of Dupuytren’s contracture
  – May occur from 3 months up to 20 years after introduction of phenobarbital therapy
  – Dose dependent
  – Will disappear in half of the cases when phenobarbital is withdrawn

• Dupuytren’s disease predominantly affects older men of northern European descent with a M/F of 6/1
Plantar Fibromatosis Surgical Staging

• Sammarco et al described a staging system (I-IV), which depends on the extent of plantar fascia involvement, the presence of skin adherence, and the depth of the tumor.

Table 1
TUMOR STAGING SYSTEM FOR PLANTAR FIBROMATOSIS

<table>
<thead>
<tr>
<th>Tumor Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Focal disease isolated to a small area on the medial and/or central aspect of the fascia</td>
</tr>
<tr>
<td></td>
<td>No adherence to the skin</td>
</tr>
<tr>
<td></td>
<td>No deep extension to the flexor sheath</td>
</tr>
<tr>
<td>II</td>
<td>Multifocal disease, with or without proximal or distal extension</td>
</tr>
<tr>
<td></td>
<td>No adherence to the skin</td>
</tr>
<tr>
<td></td>
<td>No deep extension to the flexor sheath</td>
</tr>
<tr>
<td>III</td>
<td>Multifocal disease, with or without proximal or distal extension</td>
</tr>
<tr>
<td></td>
<td>Either adherence to the skin or deep extension to the flexor sheath</td>
</tr>
<tr>
<td>IV</td>
<td>Multifocal disease, with or without proximal or distal extension</td>
</tr>
<tr>
<td></td>
<td>Adherence to the skin and deep extension to the flexor sheath</td>
</tr>
</tbody>
</table>

Sammarco et al.

