Characteristics of rheumatoid patients undergoing forefoot surgery

-Analysis using Japanese national cohort database-

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My disclosure is in the Final AOFAS Mobile App.
I have no potential conflicts with this presentation.
Background

Rheumatoid arthritis is a systemic disease affecting multiple joints. As far as surgery is concerned, it seems that patients and surgeons place low priority on foot in comparison to other joints such as knee, which critically affects walking ability, and fingers, which is highly related to coordinated movement of upper extremity.

There is no previous report analyzing the difference of the characteristics of patients with rheumatoid arthritis undergoing surgery of forefoot and other joints.
Purpose

To elucidate the difference of the characteristics of patients with rheumatoid arthritis undergoing surgery of forefoot and other joints using a Japanese nationwide observational cohort database of rheumatic diseases [National Database of Rheumatic Diseases by iR-net in Japan (NinJa)].
Among 54,689 patients enrolled in NinJa from 2003 to 2011, 218 patients underwent forefoot surgery. Demographic data of these patients (‘forefoot group’) were extracted from the database and compared with the data of 201 patients who underwent surgery on fingers (‘finger group’) and 857 patients who underwent total knee arthroplasty (TKA) (‘TKA group’) using Student’s t test.

Demographic data includes age at disease onset, disease duration, number of previous joint replacement surgeries, DAS28CRP, and mHAQ.
Results

Onset of disease was younger in forefoot group than in TKA group. Disease duration was longer in forefoot group than the other groups.
Patients of forefoot group had more artificial joints than TKA group.
DAS28CRP (disease activity) was lower (=better) in forefoot group than in TKA group.

mHAQ (Functional disability) was higher (=worse) in forefoot group than in finger group.
As components of mHAQ, not only the score related to upper extremity but also the score related to lower extremity was worse in forefoot group than in finger group.
Overview of the characteristics of patients undergoing surgery of forefoot and other joints

<table>
<thead>
<tr>
<th></th>
<th>Fingers</th>
<th>Forefoot</th>
<th>TKA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disease onset</td>
<td>Younger</td>
<td>Younger</td>
<td>Older</td>
</tr>
<tr>
<td>Disease duration</td>
<td>Shorter</td>
<td>Longer</td>
<td>Shorter</td>
</tr>
<tr>
<td>Disease activity</td>
<td>Lower</td>
<td>Lower</td>
<td>Higher</td>
</tr>
<tr>
<td>Functional disability</td>
<td>Lower</td>
<td>Higher</td>
<td>Higher</td>
</tr>
</tbody>
</table>
• Important for skilled motor activities
• Exposed in public
• Function could be lost suddenly when tendons ruptured

=> Surgery at the early timing

• Important for weightbearing
• Joint replacement surgeries promises good result

=> Surgery if painful

• Not necessarily bear full weight
• Not exposed (hidden in shoes)

=> Surgeries tend to be postponed
Conclusion

TKAs tend to be performed for patients with relatively high disease activity and short disease duration, and finger surgeries tend to be performed for patients with relatively low disease activity and mild systemic functional disorder. Forefoot surgeries tend to be performed for patients after functional disorder was accumulated by long duration of the disease.

References

