FACTORS AFFECTING THE FORMATION OF POSTTRAUMATIC SUBTALAR ARTHRITIS FOLLOWING THE INTRAARTICULAR CALCANEAL FRACTURE

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CONFLICT TO DISCLOSE

Factors affecting the formation of posttraumatic subtalar arthritis following the intraarticular calcaneal fracture

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• I have potential conflicts with this presentation due to: financial supports to attend the meetings from Device Innovation Company (Thailand), Phoenix Company (Thailand), and Smith & Nephew Company.
PURPOSE

• **Subtalar arthritis** is caused by many conditions, such as trauma, following calcaneal fracture, talocalcaneal coalition, failure of the posterior tibial tendon (PTT), isolated instability of the subtalar joint and inflammatory arthritis.

• The present study was performed to prospectively follow up the **arthritic changes of subtalar joint following the intraarticular calcaneal fractures** in 38 patients.
METHODS (1)

• A total of 38 patients with intraarticular calcaneal fractures were prospectively studied with a mean follow up as 17.4 months.

• Conventional fixations were performed in 27 patients by several surgeons.

• Arthroscopic-assisted reduction and internal fixations were performed in 11 patients by a single foot & ankle fellowship trained surgeon.
METHODS (2)

• Baseline data, including postoperatively radiographic alignment, arthritic changes, osteochondral lesion characteristics via modified Outerbridge classification and locations of lesions at calcaneal/talar side, and arthroscopic treatment procedures, were collected.

• Comparing two groups: the group with or without posttraumatic arthritic changes.

• Statistical analyses were performed to compare the data, the prevalence and characteristics of the osteochondral lesions between the group with or without posttraumatic arthritic changes.
RESULTS (1)

• Based on the interpretation of radiographic parameters by a single foot & ankle fellowship trained surgeon, there were 8 patients (21.1%) showed the arthritic progression.

• Acceptable reduction (fracture step/gap < 2 mm) was found in 31 patients (81.6%) in overall.
RESULTS (2)

- No significant difference of the quality of fracture reduction was found among the groups (none, mild, significant progression of arthritis).

- In subgroup analysis in patients with arthroscopic-assisted reduction and internal fixations, there was no significant difference of the prevalence of osteochondral lesions among the groups.
SUMMARY: CALCANEAL FRACTURE VS ARTHRITIC CHANGES

- Our research was performed to **prospectively follow up** the arthritic changes in 38 patients (mean follow-up **17.4 months**).
- 21.1% showed the arthritic progression.
- No significant differences of osteochondral lesion or quality of reduction among the groups yet.
DISCUSSION & CONCLUSION

• The prevalence of posttraumatic subtalar arthritis was found in X-rays around one in 5 patients with the intraarticular calcaneal fractures in short-term follow up.

• No definitive factors regarding associated chondral lesion or quality of fracture reduction affecting arthritic changes were found in this study.

• Initial fracture energy at traumatic event may play an important role in the formation of arthritis.

• Further investigation is needed to identify these factors in longer term of follow up.
REFERENCES

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