Bone Cysts in TAA

Foot & Ankle Category: Ankle Arthritis

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Introduction
TAR is a well-accepted procedure for end-stage ankle arthritis nowadays. Despite good short and mid-term results, we do not have many long term studies. In the literature it has been reported about bone cysts after TAR. There are only small case series available. Hence why a subtle analysis in a clinical prospective investigation was conducted.

Methods
Prospective study: 2002-2011; Subjects: 601 TAA; Complete radiological analysis (X-rays, CT scans); Definition: newly developed cystic lesions in the bone post TAR; Follow-up: average 34 months;

Results
601 TAA were evaluated: 478 TAA (79,5%) have no cystic bone lesion; In 26 TAA (4,3%) the patient had cysts prior to operation and no changes were found during the follow up; In 31 TAA (5,2%) there were only one suspected small lesion (smaller than 5 mm) – without any symptoms (no CT scan was performed); In 66 TAA (11,0%) bone cysts have been developed. Localization of cystic lesions in the 66 cases: Only on tibial side: 50 (8,3%); On tibial and talar side: 8 (1,3%); Only on talar side: 8 (1,3%); This means that in total 58 tibial cystic lesions (9,7%) and 16 talar cystic lesions (2,7%) were found. Specific cyst location: Tibial cysts n=58: n=31 (5,2%) were on dorsal rim; n=4 (0,7%) were anterior, situated behind the component shield; n=6 (1,0%) surrounded the screw direction; n=17 (2,8%) central located / confluent cysts. Talar cysts: n=16: n=5 (0,8%) were isolated anterior located; n=2 (0,3%) surrounded the screw direction; n=7 (1,2%) were multiple located / confluent cysts; n=2 (0,3) were connected to the subtalar joint or sinus tarsi. Progression: During the investigation (average 34 months to 46 months) 24 cysts (4,0%) were constant and 42 cysts (7,0%) were enlarged. Choice of treatment: Conservative (observational) treatment were done in n=55 (9,2%) cases and Surgical procedures were performed in n=11 (1,8%) cases.

Conclusion
In our mid-term study 20,5% of TAR had radiological findings of cystic lesions. Proven frequency of 11% cysts in TAR (CT evidence) was recorded. Two third of them were progressive. Only 1,8% of TAA underwent a surgical procedure. To date there is only a small number of revised TAA due to cystic lesions. But it has been acknowledged that there are a higher total number of cysts. This could lead to serious long term problems. Therefore a periodical radiological check is recommended.