

Abstract 11440: Ossoscopic curettage and allogenic bone grafting for the treatment of simple bone cyst and intraosseus lipoma of the calcaneus

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**Background:** Both unicameral bone cyst and intraosseous lipoma of the calcaneus are rare entities, which are mostly diagnosed due to unspecific heel pain, pathologic fracture or as incidental finding. Standard surgical procedures such as open curettage and autologous bone grafting can entail non-negligible risks. Prolonged wound healing and iatrogenic damage of the sural nerve are well known complications for this localization. Minimal-invasive ossoscopy with endoscopic resection of the tumor followed by allogenic bone grafting can minimize these risks and speed up convalescence.

**Purpose:** We present a simple, safe and cost-effective surgical technique for endoscopic surgical treatment of benignant osteolytic lesions of the calcaneus. Each step of the modified procedure is demonstrated with informative illustrations (Fig.1&2).

**Patients and Methods:** Between June 2013 and January 2015 ten consecutive patients underwent ossoscopic curettage and allogenic bone grafting for osteolytic lesions of the calcaneus. There were 4 cases of intraosseus lipoma and 6 cases of unicameral bone cyst of the calcaneus. Mean age of the patients was  $18,57 \pm 5,35$  years. Nine patients had allogenic bone grafting with cancellous bone, one with demineralized bone matrix (DBM).

**Results:** Average operation time was  $71 \pm 22$ min. A seroma with prolonged superficial wound healing developed in one case (DBM). No nerve lesions or other complications were recorded. All patients were allowed full weight bearing 6 weeks after surgery. Early radiographic follow-ups showed progressive bony consolidation within 12 weeks postop.

**Conclusions:** This technique is a simple and save procedure for benignant osteolytic bone lesions of the calcaneus. Compared to its alternatives, grafting with allogenic cancellous bone might proof favourable in this localization for several reasons: Osteointegration, handling, availability and costs. Our preliminary investigations show promising results although further clinical and radiographic results are needed.



Fig.1: Minimal invasive bone grafting made easy through an ear speculum (left). Impaction of the cancellous bone chips with a curved bone tamp (right).



Fig.2: Fluoroscopic documentation of ossosopic shaving, curettage and introduction of the ear speculum for plompage of the bone cavity