A Novel Technique for Percutaneous Harvest of Calcaneal Autograft: Evaluation of Complications and the Effect on 1st MTP and Lapidus Arthrodesis

British Wetzel B.S., Kelly Rogers B.S., Natasha Bhagat B.S.

Statement of Purpose

The purpose of this poster is to present a novel technique for harvest of calcaneal bone graft, and retrospectively evaluate potential complications with this harvest. Calcaneal bone graft is frequently documented in the medical literature, however formal analysis of complication rates and their modifiability is currently lacking.

Introduction and Literature Review

Bone grafting is a well-recognized technique to enhance bone formation, consolidation, and long-term stability in situations where internal fixation is used. Adequate bone grafts are essential for the success of many surgical procedures. In this study, outcomes for complications following the harvest of calcaneal bone graft will be described. The anterior and posterior calcaneus are a rich source of cancellous bone. The calcaneus provides an excellent site for the harvest of graft due to its rich vascularity and secondary to early weight bearing.

The calcaneus contains a rich blood supply from the posterior tibial artery and popliteal artery. This abundant blood supply makes the calcaneus an excellent source of cancellous bone.

Surgical Technique

The patient is placed in the supine position. A well-padded table is placed under the ipsilateral heel to minimize risk of iatrogenic insult. The patient is placed in the supine position. A well-padded table is placed under the ipsilateral heel to minimize risk of iatrogenic insult. The patient is placed in the supine position. A well-padded table is placed under the ipsilateral heel to minimize risk of iatrogenic insult. The patient is placed in the supine position. A well-padded table is placed under the ipsilateral heel to minimize risk of iatrogenic insult.

Results

48 patients were initially included in our patient population for this retrospective cohort. Five patients had bilateral surgeries and thus were included in both our study group and control group. This study included 6 patients with Lapidus arthrodesis and 42 patients with first metatarsophalangeal joint fusion. Descriptive data is demonstrated in Table 1. In a total of 43 females and 5 males, with an average age of 52.6 (SD 10.7). The average BMI of the patient population was 25.1 (SD 3.5). The average BMI of the patient population was 25.1 (SD 3.5). The average BMI of the patient population was 25.1 (SD 3.5).

Outcomes Data for the Primary Objective of this Study

The primary outcome variable was considered to be infection or failure of the harvest site. Table 1 demonstrates the absence of infection or failure of harvest. The primary outcome variable was considered to be infection or failure of the harvest site. Table 1 demonstrates the absence of infection or failure of harvest.

Discussion

The mean purpose of this study was to evaluate the safety of a highly specialized harvest technique for first and calcaneal autograft. This technique provides a single minimally invasive soft and cutaneous incision to address complications associated with autograft harvest in areas such as foot and ankle surgery.

References

1. Fourth year medical student, Kent State University College of Podiatric Medicine, Independence, OH

Figure 1: Instrumentation to perform modified percutaneous harvest of calcaneal bone graft

Figure 2: Surgical technique for the harvest of calcaneal autograft

Figure 3: Distribution of complications following percutaneous harvest of autograft

Table 1: Outcome data of primary investigation

Table 2: Distribution of complications following percutaneous harvest of autograft

Table 3: Distribution of complications following percutaneous harvest of autograft