Advances in total joint replacement have directly correlated with a rise in utilization and implementation. More patients are educating themselves and prefer total joint implants instead of arthrodesis procedures. Unfortunately, increased implementation is also directly correlated with increased complication risks as foot and ankle surgeons are becoming more aggressive in regards to indicative guidelines of total joint replacements. When complications occur, the foot and ankle surgeon must address them in a swift and effective manner with the goal of producing a plantigrade yet pain free extremity. 

Hindfoot arthrodesis with an intramedullary nail has been effective in physiologic preservation of the extremity. In cases with significant bone loss due to failed ankle arthroplasty, intramedullary arthrodesis becomes an essential salvage tool.

Patients have been shown to respond favorably to this procedure with significant increase in subjective scores post-operatively with up to 100 percent fusion rates. Schill’s single non-union in a cohort of 15 patients who underwent intramedullary hindfoot arthrodesis secondary to infected ankle implants further speaks to the stability and predictability of the procedure. In 16 patients with failed total ankle replacements, Kotnis et al showed more favorable outcomes win patients who underwent hindfoot fusions versus revisions total ankle replacements. At this point, the literature supports this method of therapy in providing a stable extremity capable of facilitating pain – free ambulation.

Literature Review

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Pre-op

In the case of total ankle implant failure, it is important to establish long – term functional and quality of life goals. These goals can aid the foot and ankle surgeon in deciding on continuing with ankle joint replacement or turning to arthrodesis procedures. In the case presented, the amount of talar subsidence coupled with the patient’s size and her long – term goals lead to the choice of an arthrodesing procedure which she is extremely satisfied with.

Case Study

A 76 year old female presented with persistant Left ankle pain and discomfort. She previously had a total ankle replacement by an outside physician secondary to post – trauma dis 2 years ago. The patient is now having persistent pain in the ankle radiating to the knee. She can no longer ambulate without the assistance of a walker. She has a medical history of sleep apnea, hypertension, gout, myocardial infarction, hepatitis, kidney disease, atrial fibrillation and deep venous thrombosis leading to pulmonary embolism. Clinically, her gait is antalgic with maximum tenderness at the ankle and sinus tarsi. Ankle / STJ range of motion is limited due to pain. Radiological findings showed talar subsidence of implant with loosening. These findings were confirmed on advanced imaging along with advanced degeneration of the STJ. After a thorough medical optimization, patient was consented for: hardware removal with ankle / STJ arthrodesis via intramedullary nail along with tibial bone graft harvest and tricortical bone graft use. Post – operatively, patient was placed in a non- weight bearing splint for 2 weeks and then transitioned to a non-weight bearing cast for and additional 7 weeks. She was then transferred to a low tide boot but did not initiate protected weight bearing until 13 weeks post – op, full, regular weight bearing began at 16 weeks as patient transitioned into a regular shoe.

Analysis/ Discussion

The patient is now 12 months post – op and is ambulating with no pain. She has had an uncomplicated post – operative course and continues the use of compressive stockings for edema control. The patient did require multiple rounds of physical therapy but is very satisfied at this point.

Post-op

References


12 months post - op

Analysis/ Discussion

The patient is now 12 months post – op and is ambulating with no pain. She has had an uncomplicated post – operative course and continues the use of compressive stockings for edema control. The patient did require multiple rounds of physical therapy but is very satisfied at this point.

Results

Post-op

References