

## Case Reports 2018 & Orthopedics-2018- Treatment of proximal femur osteomyelitis occurred after proximal femoral nail anti-rotation fixation, with antibiotic cement-coated tibia intramedullary nail: A case report - Jongho Noh- Catholic University of Korea

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**Introduction:** Antibiotic cement-coated intramedullary nails maintain a locally high antibiotic concentration while contributing to bone stability. We present a case of femoral subtrochanteric fracture in a patient with an infected nonunion who was successfully treated for an infection and nonunion using an antibiotic cement-coated tibial intramedullary nail.

**Case report:** A 79-year-old woman with a right femoral subtrochanteric fracture underwent internal fixation using proximal femoral nail anti-rotation (PFNA). She developed osteomyelitis with nonunion at the surgical site, 10 months postoperatively. A two-stage surgery, including removal of the existing PFNA to treat the infection and stable fixation to treat the nonunion, is generally performed but requires a prolonged hospitalization period. We, therefore, decided to insert an antibiotic cement-coated intramedullary nail in a one-stage surgery. However, the patient's diaphysis of the femur was too shallow to insert the antibiotic cement-coated intramedullary nail, even when using the smallest femoral intramedullary nail. Stable fixation could not be achieved using an antibiotic cement-coated intramedullary K-wire, thus, we decided to use an antibiotic cement-coated tibial intramedullary nail. After coating the nail with bone cement mixed with antibiotics, bone fixation was achieved by inserting the nail at the site of the PFNA. The patient's symptoms improved, symptoms of the infection disappeared, and the bone union was confirmed.

**Discussion:** Osteomyelitis occurred because of postoperative infection following a proximal femoral fracture. Antibiotic cement-coated tibial intramedullary nails are an effective option to treat patients with osteomyelitis of the femur and achieve bone union where nonunion persists with a shallow intramedullary femoral canal.

Rewarding patients with cracks and tainted nonunions is a test for some orthopedic specialists. Before, contaminations were controlled exclusively subsequent to accomplishing association. Techniques for contamination control extensively incorporate negligible resection, anti-microbial stacked concrete addition, and intravenous anti-infection use. Bone association is accomplished through outer or inside obsession. Anti-toxin concrete covered intramedullary nails keep up a locally high anti-toxin focus while keeping up bone soundness. Radiography indicated a privilege atypical femoral subtrochanteric crack, and inside obsession was performed utilizing proximal femoral nail antirotation (PFNA). Autologous iliac peak bone join was performed all the while, due to a high pace of atypical

subtrochanteric break nonunion. The patient's indications improved, and she was released from the emergency clinic. Around 8 months postoperatively, while as yet experiencing outpatient development, the patient introduced to the clinic again with nearby warmth, agony, and expanding at the careful site on the correct hip. The patient had raised erythrocyte sedimentation rate (ESR) and C-responsive protein (CRP) level: 103 (0–15) mm/hour and 192.5 (0–5) mg/L, individually. Ultrasonography uncovered a canker on the correct hip, and 3-stage bone output demonstrated no positive osteomyelitis. In view of these discoveries, entry point, waste, and debridement were performed on delicate tissues. A mix of intravenous ampicillin and sulbactam was directed for 5 weeks after *Streptococcus anginosus* was recognized. ESR and CRP diminished back as far as possible (46 mm/hour and 2.29 mg/dL, individually). Indications improved and the patient was released with oral amoxicillin and clavulanate for about fourteen days. She came back to the emergency clinic 2 months after release, giving warmth, agony, and growing at the careful site. ESR and CRP levels were raised once more (116 mm/hour and 311.5 mg/dL, individually). At her last follow-up before introduction she had ESR of 38 mm/hour, and CRP of 4.67 mg/dL, which is inside the typical range. A 3-stage bone sweep affirmed incessant osteomyelitis at the careful site, conceivably stretching out to the intramedullary trench. Radiography gave some callus development at the crack site, yet at the same time a nonunion could be watched. A two-phase medical procedure, including evacuation of the current PFNA to treat the disease and stable obsession to treat the nonunion, is by and large performed however requires a delayed hospitalization period. We along these lines chose to embed an anti-infection concrete covered intramedullary nail in a one-phase medical procedure. In any case, the patient's diaphysis of the femur was too shallow to even consider inserting the anti-infection concrete covered intramedullary nail, in any event, when utilizing the littlest femoral intramedullary nail. Stable obsession couldn't be accomplished utilizing an anti-toxin concrete covered intramedullary K-wire; hence, we chose to utilize an anti-toxin concrete covered tibial intramedullary nail. Debridement and societies from the canker pocket were performed. Curettage was performed utilizing a long curette on the medullary waterway without reaming.