

The Efficacy Of Antibiotic-Impregnated Bone Cement Implantation And Rotated Gastrocnemius Muscle Flap In The Treatment Of Chronic Osteomyelitis: A Case Report

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INTRODUCTION:

Osteomyelitis is an inflammation of bone caused by a pyogenic organism, which is usually related to trauma, surgery, immunocompromised patients, IV drug abuse and chronic systemic diseases. We report a young man with chronic osteomyelitis of left tibia plateau without any of these risk factors who responded well to the antibiotic-impregnated bone cement implantation and rotated gastrocnemius muscle flap.

MATERIALS & METHODS:

A 20 year-old male referred to us with a discharging sinus and pain in the left knee for about 3 months, without any previous event. His left knee range of motion was restricted due to pain. Blood tests showed elevated white blood count and C-reactive protein. Plain radiograph and magnetic resonance imaging showed the signs of left tibia plateau osteomyelitis with destruction and adjacent myositis. He underwent a debridement, pus and bone culture revealed mixed growth with 3 types of gram positive cocci. He was discharged well, continuing antibiotherapy at home. 1 year later, he again presented to us with worsening lesion of the left knee and unable to bear weight, rise of inflammatory markers in blood, consistent with recurrence of the infection. A decision was made to operate the patient. After thorough debriding the wound, implantation of antibiotic-impregnated bone cement done before the rotated medial gastrocnemius muscle flap is tunneled beneath the skin bridge to the lateral knee defect.

RESULTS:

Postoperatively, infection of patients was controlled, rotational flap was successful, and no recurrence appeared. (Figure 1 and Figure 2)



Figure 1: Pre and post operation

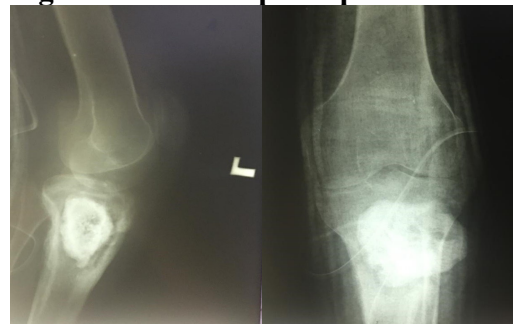


Figure 2: Plain radiographs post operation

DISCUSSIONS:

Chronic osteomyelitis had a longer course of disease and difficult to resolve. Successful surgical management requires adequate management of dead space created by debridement to prevent recurrence of infection. Use of antibiotic-impregnated bone cement and follow by the rotated gastrocnemius muscle flap coverage is safe and effective. Its advantages over systemic therapy include lower cost, lower risk of toxicity, and tremendously higher concentrations of antibiotics at the desired sites.

CONCLUSION:

We concluded that the dead space coverage with the antibiotic-impregnated bone cement implantation and the rotated gastrocnemius muscle flap is effective towards the resolution of infection while maintaining optimal function in the patient's extremity.

REFERENCES:

1. Brad Parsons, Elton Strauss. Surgical management of chronic osteomyelitis. The American Journal of Surgery 2004; 57-66