

## Use Of Antibiotic Cement-Impregnated Intramedullary-Nail In Treatment Of Infected Non-Union Of Long Bones Using 2 Stage Procedure

Pandey Arun Kumar<sup>1</sup>, Agrawal S<sup>2</sup>., Gupta P<sup>2</sup>., Bansal M<sup>2</sup>.

<sup>1</sup>Department of Orthopaedics, All India Institute Of Medical Sciences, New Delhi, INDIA

<sup>2</sup>Department of Orthopaedics, MLB Medical College, Jhansi, INDIA

### INTRODUCTION

Infected non –union of long bone is a chronic and debilitating disorder and antibiotic-impregnated bone cements have proven role in controlling infections. This study summarises our experience with the use of antibiotic cement-impregnated intramedullary nail (ACIIN) for control of infections and to achieve union in infected non union of long bones.

### MATERIALS AND METHODS-

We prospectively studied 29 patients with infected non union of long bones. ACIIN was used as 1st stage in all patients after adequate debridement. In patients with non-union after primary procedure, 2nd stage procedure was opted in form of exchange nailing with or without bone grafting. All patients were followed up with an average follow up of 18 months.

### RESULTS-

Infection controlled in 27 patients as primary procedure. Union achieved in 8 patients without any need of secondary procedure. union achieved in 19 patients after exchange nailing with or without bone grafting.

**Table 1: Relationship of union achieved and procedures done (n=29)**

S. No.	Union achieved	No. of cases	Percentage
1.	Single staged procedure	8	28
2.	Two staged procedure	19	66
3.	Non union	2	6

### DISCUSSION-

Local antibiotic therapy results in higher local concentration of antibiotics than those achieved with IV administration. PMMA is most widely used carrier material for antibiotic. In two stage philosophy of treatment of infected non union, the elimination of infection is prime importance. In our study, we used ACIIN as first stage procedure with primary goal to eliminate infection.

### CONCLUSION-

ACIIN are useful for infection control in infected non union of long bones.

### REFERENCES-

1. Quiang Z, Jun PZ, Jie XJ, Hang L, Bing L: Use of antibiotic cement rod to treat intramedullary infection after nailing. Arch Orthop Trauma Surg 2007; 127: 945-51.
2. Thonse R, Conway J: Antibiotic cement coated interlocking nail for the treatment of infected non union and segmental bone defects. J Orthop Trauma 2007, 21: 258-68.
3. DR Galfat, Amit Agnihotri, Ajay Bansal: Management of infected non union of long bones with antibiotic impregnated cement nails. Nat J Med Dent Res 2013; 1 (2): 14-21.
4. Ryan U Riel , Paul :a simple method for fashioning an antibiotic cement coated interlocking intramedullary nail :AmJ orthoP 2010:39(1):18-21
5. Motsitsi MS: Management of infected non union of long bones. The last decade (1996-2006). Injury 2008; 39:155-60.