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

Pande Arun Kumar1, Agrawal S2, Gupta P2, Bansal M2

1Department of Orthopaedics, All India Institute Of Medical Sciences, New Delhi, INDIA
2Department 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)

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Union achieved</th>
<th>No. of cases</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Single staged procedure</td>
<td>8</td>
<td>28</td>
</tr>
<tr>
<td>2.</td>
<td>Two staged procedure</td>
<td>19</td>
<td>66</td>
</tr>
<tr>
<td>3.</td>
<td>Non union</td>
<td>2</td>
<td>6</td>
</tr>
</tbody>
</table>

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-