

The Local Application of Gentamicin Containing Collagen Implant for Bone Infection

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INTRODUCTION:

Bacterial infection in Orthopaedic surgery can be devastating, despite improvement of operative techniques and advancement in medical facilities. It ranges from 0.8% - 1.2% in Total hip Arthroplasty, 3.6-8.1% and 17.5%-21.2% in closed and open fracture surgery respectively. This study explores a new localized biodegradable implant which had a potential positive effect in eradicating bone infection with minimal systemic toxicity.

MATERIALS & METHODS:

A total of 10 cases were collected from January 2015 until December 2017. All cases had underwent wound debridement and Gentamicin Containing Collagen Implant (Collatamp EG) packing intra-operatively.

Then, all patients were on continuous systemic antibiotics for total of six week to three months. All of our cases were regularly follow up in clinic with blood investigations and radiographic monitoring.

RESULTS:

Summary of the results shown in Table 1. All cases were free from clinical signs of infection. None of them had a documented complication

of Collatamp EG such as local reactions or systemic toxicities.

DISCUSSIONS:

Osseous infection is a very disabling and causes a huge impact to the healthcare systems. It may result in permanent disability of the patient and affect their quality of life if left untreated. Treatment with isolated systemic antibiotic is difficult to achieve a bactericidal effect. Moreover, biofilms formation in the infected area will need a higher concentration of antimicrobial agents which is difficult to achieve neither intravenously nor orally.

Thus, to minimize the systemic toxicity and achieve a higher concentration of antimicrobial level, a local antibiotic which is Collatamp EG was introduced in our study. The special design of this material allows equally distribution of the high concentration of gentamicin in a localize region without causing systemic adverse effect.

CONCLUSION:

Collatamp EG is a potential local antibiotic in eradicating bony infection.

REFERENCES:

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Table 1 : Summary of 10 Cases	
Cierny&Mader : S = Systemic	
Age/ Sex	9yr-57yr (Mean 28.2yr) Male 90% , Female 10%
Site	Femur = 1 Tibia = 8 Mix (Tibia&Femur) = 1
Stage/ Type	Acute = 4 (1 case Haematogenous , 3 cases Trauma) Chronic = 6 (Trauma)
Classification (Cierny&Mader)	Type III A = 7 Type III B(s) = 2 Type IV A = 1
Collatamp Dosage (9mg/kg or Max 600mg)	600mg = 6 400mg = 3 200mg = 1
Total Duration of Antibiotics (Intravenous & Oral)	6weeks = 6 3month = 4