

Smoother Customized Antibiotics-Cement Rod

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Introduction:

Antibiotics-coated rods are commonly used in treating long bone infections, providing high concentration of local antibiotics delivery and internal stability. Various methods have been discussed in the literature regarding the coating techniques. In this case, we describe a method of customizing antibiotics cement rods using ball-tip guidewire and syringes.

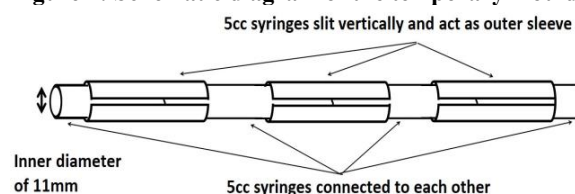
Report:

A 26 years-old male presented with haemopurulent discharge with sinus track noted over the right lateral thigh 4 years post nailing of right femur. The radiographs showing involucrum and sequestrum in the midshaft right femur. Patient underwent removal of nail and sequential reaming of the medullary cavity done till 13mm. A temporary mould was customized by connecting 5cc syringes to each other (with 5cc syringe slit vertically and acting as outer sleeve). A ball-tip guide wire was cut longer and the proximal end was bent to facilitate extraction later. Antibiotics powder (2g Vancomycin) was added to the poly(methyl-methacrylate) powder before liquid monomer was added in. Cement was inserted into the temporary mould and the guidewire was embedded within the cement. After the cement hardened, the mould was then removed and the cement rod (diameter 11mm) was inserted into the medullary cavity. The intramedullary tissue's culture grew MRSA and he was started on IV antibiotics accordingly. The removal of rod at 12 weeks was uncomplicated, contributed by the smooth outer surface contoured by the syringes. The repeated culture showed no growth. Serial ESR and CRP normalized at 4 months post insertion of cement rod and remained static during follow up.

Figure 1: Post insertion of antibiotics cement rod



Figure 2: Schematic diagram of the temporary mould



Conclusion:

This method of using ball-tip guidewire and syringes in customizing antibiotics cement rod provides a cheap and feasible solution in treating long bone osteomyelitis.

References:

1. Marcin K. Wasko, Rafal Kaminski, "Custom-Made Antibiotic Cement Nails in Orthopaedic Trauma: Review of Outcomes, New Approaches, and Perspectives", BioMed Research International, vol. 2015, Article ID 387186, 12 pages, 2015.