Intraosseous Administration of Vancomycin, Morphine, and Ketorolac in Hip and Knee Arthroplasty: Update and Video Technique

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This presentation presents a brief history of the intraosseous administration of fluids and drugs used for resuscitation. The initial studies of intraosseous vancomycin in total knee arthroplasty, which were conducted by Simon Young et al, are reviewed, including the Coventry Award paper. The authors of this video then present their publications on the use of intraosseous vancomycin in total knee arthroplasty, which won the Knee Society Chitranjan Ranawat Award and showed a statistically significant reduction in the 90-day periprosthetic infection rate. The video also shows intraosseous vancomycin administration into the tibia. The authors of this video then present their study on intraosseous vancomycin administration in the hip, which won the 2023 Hip Society Otto E. Aufranc Award and showed a statistically significant reduction in systemic vancomycin levels with intraosseous administration compared with intravenous administration. The study also showed that bone and tissue levels about the hip were universally greater with intraosseous administration compared with intravenous administration. Statistically significantly greater bone from the acetabulum was observed in the intraosseous group. The video shows intraosseous vancomycin administration in the greater trochanter. Finally, the authors of the video present two papers on the safety and efficacy of morphine and morphine plus ketorolac with intraosseous vancomycin. This literature supports the use of intraosseous vancomycin as safe and effective. It also supports the claim of efficiency because this technique avoids the problems of timing of administration associated with the prophylactic intravenous administration of vancomycin.