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# The Spine Blog

Friday, November 25, 2011

## From the Desk of Fred A. Sweet, MD

I certainly appreciate the opportunity to discuss the highlights of our study on the application of vancomycin powder to instrumented spinal surgical wounds as a prophylaxis against infections. This study was done to address the increasing incidence of resistant organisms producing infections and complicating extensive instrumented spinal fusion surgeries. If we look at the sensitivity pattern of staph organisms, less than 50% are adequately covered by current prophylaxis with IV cephalosporins. There are significant limitations to utilizing vancomycin intravenously. The most concerning use of widespread intravenous vancomycin would be the promotion of resistant organisms that would further complicate managing postoperative surgical infections. I think the most important point of this paper, besides the dramatic reduction in surgical infection rate, is the lack of detectable vancomycin systemically. This would suggest that the likelihood of selecting resistant organisms is relatively low and the efficacy at reducing postoperative infections is high. While we did not prospectively evaluate for complications related to intrawound application of vancomycin powder, we feel that our assessment of the validated outcome instruments, narcotic usage, and other postoperative complications including our routine analysis of comprehensive blood work are more than adequate screenings for significant complications that systemically or otherwise might pertain to this particular method of utilizing vancomycin powder. Specifically we did not see evidence of an inflammatory response that might be indicated by increased narcotic use, prolonged hospital stays, post operative neuritis or wound drainage compared to the control group. The only aspect that we cannot

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adequately evaluate is the effect on pseudoarthrosis rate. Because our pseudoarthrosis rate was already fairly low, and there was not a significant difference in treatment groups, it would require a very large long-term study to identify significant implications in regards to healing rates. Currently we do not believe there is a difference.

We are confident in the efficacy of this intervention and lack of identified complications, so we have extended the application of vancomycin powder to essentially every surgical procedure. We feel that the potential risk of using vancomycin powder in the wound is extremely small to the benefit. To that extent, many of our colleagues in our region have adopted this practice as well as some of my colleagues at other university centers. I look forward to this study being reproduced under controlled clinical trials as I feel this technique is very promising. Additionally, the low cost of application of this technique compared to the significant morbidity and medical costs incurred by infection definitely warrant further investigation and consideration.

Resources:

-  [Intrawound Application of Vancomycin for Prophylaxis in Instrumented Thoracolumbar Fusions: Efficacy, Drug Levels, and Patient Outcomes](#)
-  [Vancomycin Powder and Surgical Site Infections: The Latest Magic Dust?](#)

Posted by Spine Journal at 6:11 AM

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