Point-of-View Response: Risk Factors for Surgical Site Infection After Posterior Lumbar Spinal Surgery

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The authors of this study have again confirmed several specific perioperative risk factors for the occurrence of a postoperative spinal surgical site infection (SSI). These include prolonged drainage, diabetes, estimated blood loss, increased surgical time, and multilevel fusions. Additionally the authors should be commended for introducing several interesting pre and postoperative laboratory indices that may be, as this is a retrospective analysis, associated with SSI. This includes a decreased preoperative calcium level, increased preoperative glucose value, decreased preoperative and postoperative albumin, and decreased postoperative hemoglobin.

The findings of this study only report early occurring SSI’s and may underreport its prevalence as the authors only evaluated postoperative infections between 1 and 30 days following surgery. The CDC defines “deep SSI with instrumentation” as an infection that occurs up to 1 year after surgery, so therefore all infections that occurred after day 30 were not accounted for. Also the issues inherent in retrospective studies for “risk factors” in the setting of SSI may also over or underrepresent true positive infections in this study, as wounds that were red, swollen, painful, and tender meet inclusion criteria but may in fact not be infected. The readers are also unclear as to the methodology of lab collection. Were hematologic, renal, and hepatic lab collections routine or collected only if clinically indicated? Additionally the described method of controlled matching failed to account for presence of comorbidities or procedure type, including number of surgical levels or interbody versus posterolateral fusion.

The merits of this paper is that it offers new information on potential risk factors associated with SSI. This will stimulate further analysis and possibly inform patients and surgeons on additional factors that
may more accurately risk stratify patients before surgery. Future prospective studies with well-defined SSI criteria will allow us to determine valid correlations between laboratory risk factors and SSI.

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