Commentary: A meta-analysis of risk factors for non-superficial surgical site infection following spinal surgery

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It is well known that postoperative surgical site infection (SSI) is the most critical factor affecting postoperative wound non-healing in patients. In addition, SSI can also lead to fever (>38°C), pneumonia, localized pain, or tenderness, abscess, toxemia and so on. The Centers for Disease Control and Prevention (CDC) is responsible for monitoring SSI. In their latest report, they categorize SSI based on the layer of tissue involved, timeframe and the presence of implants which include superficial SSI, deep SSI, organ/space SSI. However, we found in clinical work that the treatment strategies of the three types of SSI are different.

Superficial SSI can cause local symptoms such as redness, swelling, heat, and pain in the early stage of infection, characterized by mild symptoms and a favorable prognosis through timely care of the incision. For deep SSI and organ/space SSI, they are difficult to identify, which can lead to severe symptoms and poor clinical outcomes. Deep infection and organ/space infection often need to be treated with antibiotics, even deep debridement. The difficulty of treatment for non-superficial SSI is greatly increased compared with superficial infection, which suggests that clinicians should pay more attention to the risk factors of non-superficial infection.

Numerous studies have reported on the risk factors for postoperative SSI following spinal surgery through literature review. Some scholars have also conducted meta-analyses on the risk factors for surgical site infections after spinal surgery. However, there is currently no existing research that specifically summarizes the risk factors for non-superficial infections following spinal surgery from the perspective of treatment difficulty. Therefore, we conducted this meta-analysis to summarize the risk factors for non-superficial infections after spinal surgery, which aims to provide clinicians with valuable insights for postoperative wound care.