Vinegar Liquid contained Closed Vacuum Drainage System managed the Deep Spinal Wound Methicillin-resistant *Staphylococcus aureus* Infection following Spinal Surgery

Dear editor,

Surgical site infection (SSI) following spinal surgery is a frequent complication that has been reported and can be devastating for patients and result in higher postoperative mortality, morbidity and healthcare costs. Although exact rates for SSI after instrumented spinal surgery are unavailable the most common organisms causing infection in spinal surgery patients is *Staphylococcus aureus*. The methicillin-resistant *Staphylococcus aureus* (MRSA) infection rising quickly caused by resistant bacteria, especially MRSA, and continues to rise providing a difficult challenge for medical community. The evolution and development of spinal instrumentation technology enabled the spine surgeon to achieve spinal stabilization during surgery. There are risks associated with spinal hardware including injury cord and nerve root, failure of instrumentation/migration and infection.

Vinegar, from the French word vinaigre, meaning ‘sour wine,’ made from any fermentable carbohydrate source example apples, grapes, melons, coconut, honey. Recent scientific investigations demonstrate the antimicrobial properties of vinegar. Vinegar liquid that contained acetate acid 0.5% already have some report of its safety for topical therapy. Acetate acid is frequently used for wound care as 0.25 to 1% solution. The effectiveness of closed vacuum drainage system (CVDS) using acetate acid 0.5% in this case believe due to acidity of the liquid. It would be lowering pH and so complex making the environment not suitable for growing and multiplication of MRSA. Acetate acid also destabilize cell membrane integrity. Other mechanism is dilution by normal saline inflow and outflow has been reported decrease bacterial concentration. Closed vacuum drainage system with vinegar liquid that contained acetate acid 0.5% has been reported its effectively as the method for the management of postoperative MRSA spinal infection. It has some beneficial effect and allow us to close the wound primarily.

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