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Triclosan-Coated versus Conventional Sutures for Reducing the Incidence of Abdominal Surgical Site Infections: an Updated Systematic Review and Meta-Analysis

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Introduction

Surgical site infections (SSI) are a complication related to higher financial costs, longer length of hospital stay (LOS), and worse quality of life. We aimed to perform an updated systematic review and meta-analysis addressing the use of triclosan-coated sutures in abdominal procedures, assessing the rates of SSI.

Material & Methods

PubMed, Embase, Cochrane Central, LILACS, and SciElo were systematically searched for studies that compared triclosan-coated with uncoated sutures. The main outcome was SSI, which was analyzed as overall, superficial, deep, and organ space. Statistical analyses were performed using R statistical software.

Results

Seventeen studies comprising 11,472 patients were included. We found that triclosan-coated sutures decreased the overall incidence of SSI (OR 0.63; p < 0.001). When splitting the kinds of SSI as deep (OR 0.83; p = 0.56), superficial (OR 1.23; p = 0.33), and organ space (OR 0.91; p = 0.71), it did not present a statistically significant reduction.

Secondary outcomes such as LOS (MD -0.17 days; p = 0.68), operative time (MD 3.92 minutes; p = 0.06), intraoperative blood loss (MD -0.29 mL; p = 0.98), and all-cause mortality (OR 0.77; p = 0.41) were also not associated with a significant reduction. An analysis of the number of contaminated surgeries did not favor the triclosan group (OR 0.72; p = 0.35).

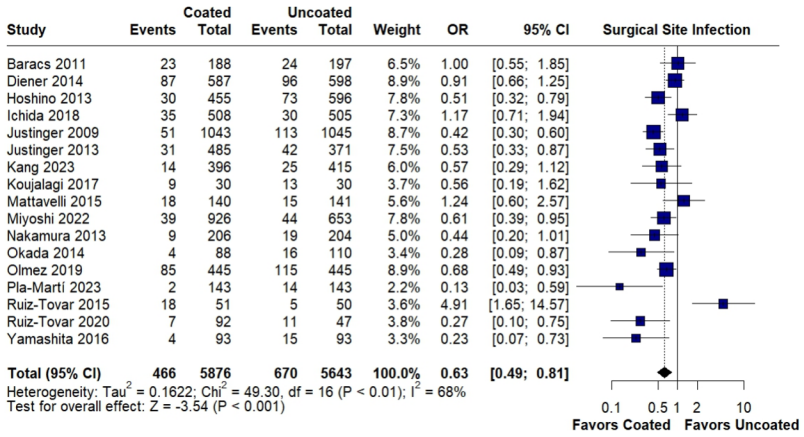

Figure 1. Overall surgical site infection rates.

Scan to access our Table 1 and references!

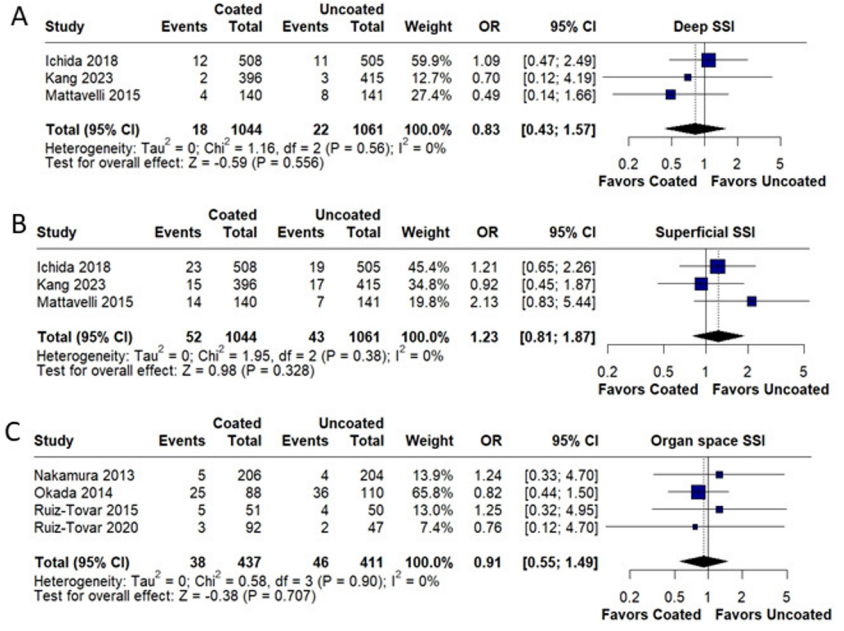

Figure 2. A. Deep surgical site infection rates. **B.** Superficial surgical site infections rates. **C.** Organ space surgical site infection rates.

Conclusion

The use of triclosan-coated sutures was associated with a lower incidence of SSI without an increase in operative time or LOS. Further studies could address the influence of this kind of suture in contaminated surgeries, in order to provide better evidence of its use.