

Comment on “Surgical Site Infections in Gastroenterological Surgery”

Jun Hirai

Division of Infection Control and Prevention, Nippon Medical School Chiba Hokusoh Hospital, Chiba, Japan

To the Editor:

We read with great interest the review article “Surgical Site Infections in Gastroenterological Surgery” by Matsuda et al.¹. This comprehensive summary offers valuable insights into the incidence and risk factors of SSIs in gastrointestinal procedures and emphasizes the importance of appropriate prophylactic antibiotic strategies. We fully agree with the authors on the importance of optimal antimicrobial use, and we would like to supplement their discussion by focusing on three additional aspects: (1) timing of preoperative antimicrobial administration, (2) intraoperative redosing strategies, and (3) nasal decolonization to prevent *Staphylococcus aureus*-associated SSIs.

1. Refining the Timing of Antimicrobial Prophylaxis

The authors mention that prophylactic antibiotics should be administered within 60 minutes before incision. In this context, a recent large-scale retrospective study by Sommerstein et al.², conducted across 158 Swiss hospitals (n = 162,796), provides new insights. The study compared two groups undergoing various surgeries, including gastrointestinal procedures: one group received cefuroxime in the operating room 10-25 minutes before incision, while the other group received it in the preoperative room 30-55 minutes prior. The former cohort was significantly associated with a lower incidence of SSI (adjusted OR: 0.89; 95% CI: 0.82-0.97; *p* = 0.009). These findings suggest that not only the 60-minute window but more immediate timing—ideally 10-30 minutes

before incision—may offer superior protection, and future guidelines may need to reflect this nuance.

2. Intraoperative Redosing: Ensuring Sustained Coverage

Hanai et al.³ recently conducted a systematic review and meta-analysis evaluating the impact of intraoperative redosing of antimicrobials on SSI prevention. Their analysis showed that redosing was associated with a significant reduction in SSI risk (OR: 0.64; 95% CI: 0.50-0.82). Importantly, this benefit was most pronounced in procedures lasting longer than 4 hours or with estimated blood loss >1,500 mL. While redosing practices vary among institutions, their findings reinforce the importance of incorporating weight, blood loss, and duration into redosing protocols, especially in extended colorectal or hepatopancreatobiliary procedures.

3. Revisiting Nasal Decolonization for *S. aureus* Carriers

The WHO's Global Guidelines for the Prevention of Surgical Site Infection (2018)⁴ strongly recommend perioperative mupirocin decolonization for *S. aureus* nasal carriers undergoing cardiothoracic or orthopedic surgery. However, the recommendation remains conditional for gastrointestinal surgeries due to a lack of high-quality evidence. Given that *S. aureus* nasal carriage has been associated with an increased risk of SSI across various surgical types, we suggest that future research evaluate the efficacy and feasibility of targeted decolonization strategies in high-risk gastrointestinal surgeries (e.g., colorectal cancer resection). A screening-and-treat approach for known carriers may prove beneficial if integrated into preoperative optimization bundles.

In conclusion, the review by Matsuda et al. offers an excellent foundation for understanding SSI prevention in gastroenterological surgery. We hope our additional

Correspondence to Jun Hirai, Division of Infection Control and Prevention, Nippon Medical School Chiba Hokusoh Hospital, 1715 Kamagari, Inzai, Chiba 270-1694, Japan
E-mail: j-hirai@nms.ac.jp
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remarks contribute to further discussion on refining perioperative antibiotic strategies. Clarifying the optimal timing of administration, implementing evidence-based redosing protocols, and evaluating the utility of nasal decolonization in this patient population are critical areas for future investigation.

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