

Single-Agent and Short-Course Antibiotic Result in Optimal Outcomes for the Nonoperative Management of Perforated Peptic Ulcer

Dimitri Tchienga, MD; Ramon Gil, MD; Robyn Meadows, MA; Dominique Belinga, MD; Shaikh Hai, MD



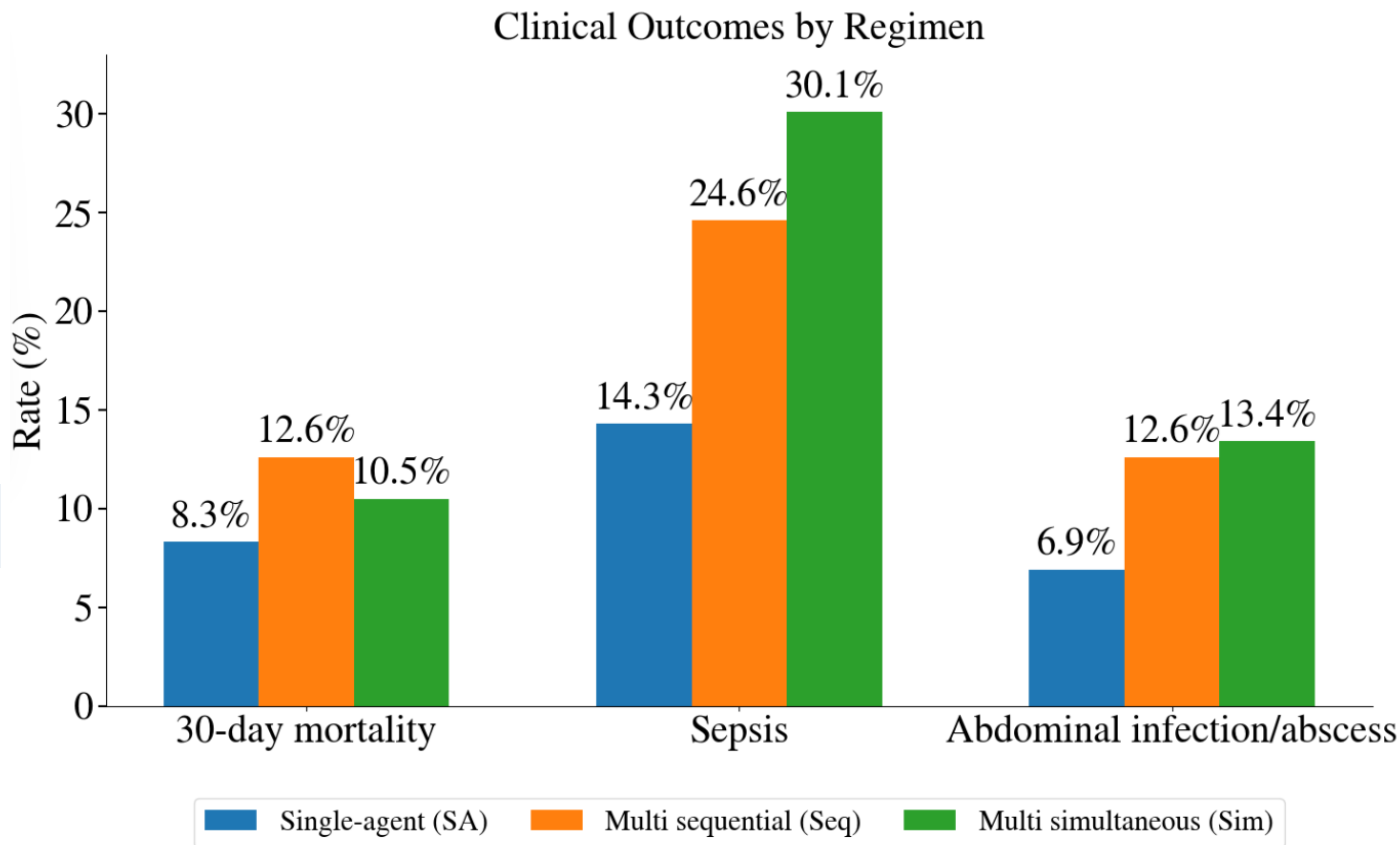
Background

- Taylor’s method is a common nonoperative approach (NOM) for hemodynamically stable PPU patients.
- Optimal antibiotic choice and treatment duration remain unclear — evidence-based guidance is needed.

Methods

- Retrospective multicenter cohort: **2,553 adults** with nonoperatively managed PPU (2016–2024)
- **Regimens grouped:** single-agent, multiple sequential, or multiple simultaneous
- **Duration classified:** 1–3, 4–6, or ≥ 7 days
- Multivariable regression: sepsis, abdominal infection, hemorrhage, LOS, 30-day mortality, readmission

Results



- **Single-agent therapy** (41.6%) was associated with lower sepsis, abdominal infection, 30-day mortality, and shorter LOS than multi-agent regimens.
- **Zosyn** was the most commonly used single-agent antibiotic (81.1%).

- Zosyn use for **≤ 3 days** was associated with reduced morbidity in NOM of PPU (OR < 1 , $p < 0.05$).
- Zosyn use **for 4–6 days** was associated with reduced mortality (OR < 1 , $p < 0.05$).
- Antifungal use was associated with higher infection and mortality rates (OR < 1 , $p < 0.05$).
- Pantoprazole use was associated with nearly **6-fold higher risk of perforation hemorrhage** (OR > 1 , $p < 0.05$).
- Increasing age was associated with worse sepsis, hemorrhage, LOS, and 30-day mortality (OR < 1 , $p < 0.05$).

Conclusion

- Findings support evidence-based protocols using **short-course single-agent antibiotics (Zosyn)** to improve recovery and reduce harm in NOM of PPU.
- **PPI and Antifungals** may be associated with **worse patient outcomes**.