

Introduction

- The Laboratory Risk Indicator for Necrotising Fasciitis (LRINEC) score is a widely utilised clinical decision tool for distinguishing necrotising soft tissue infections from non-necrotising cellulitis¹
- The efficacy of the LRINEC score in guiding surgical intervention and prognosis is contentious: while some argue scores ≥ 6 predict mortality and amputation², some report high false positives for cellulitis³

Aims

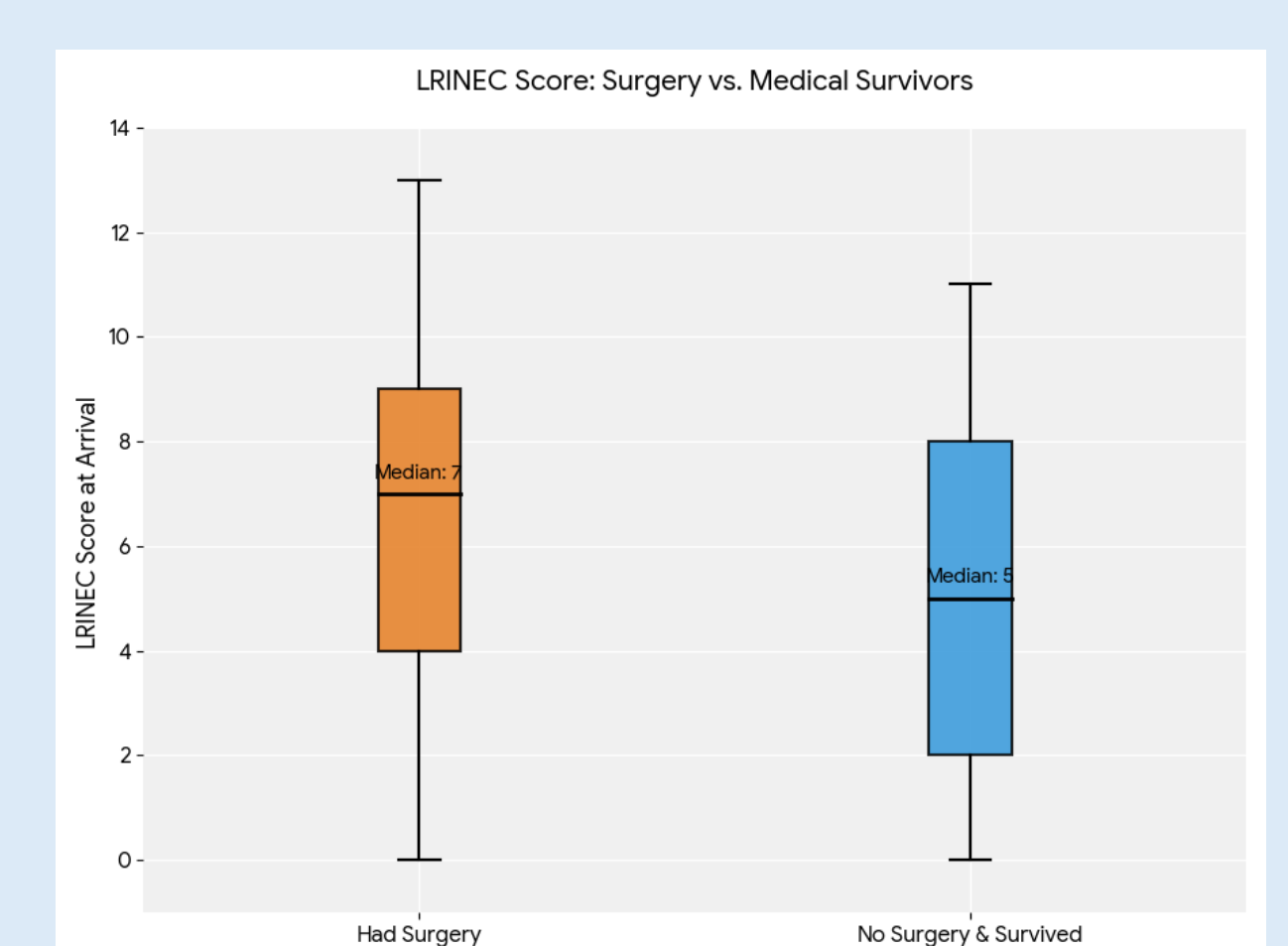
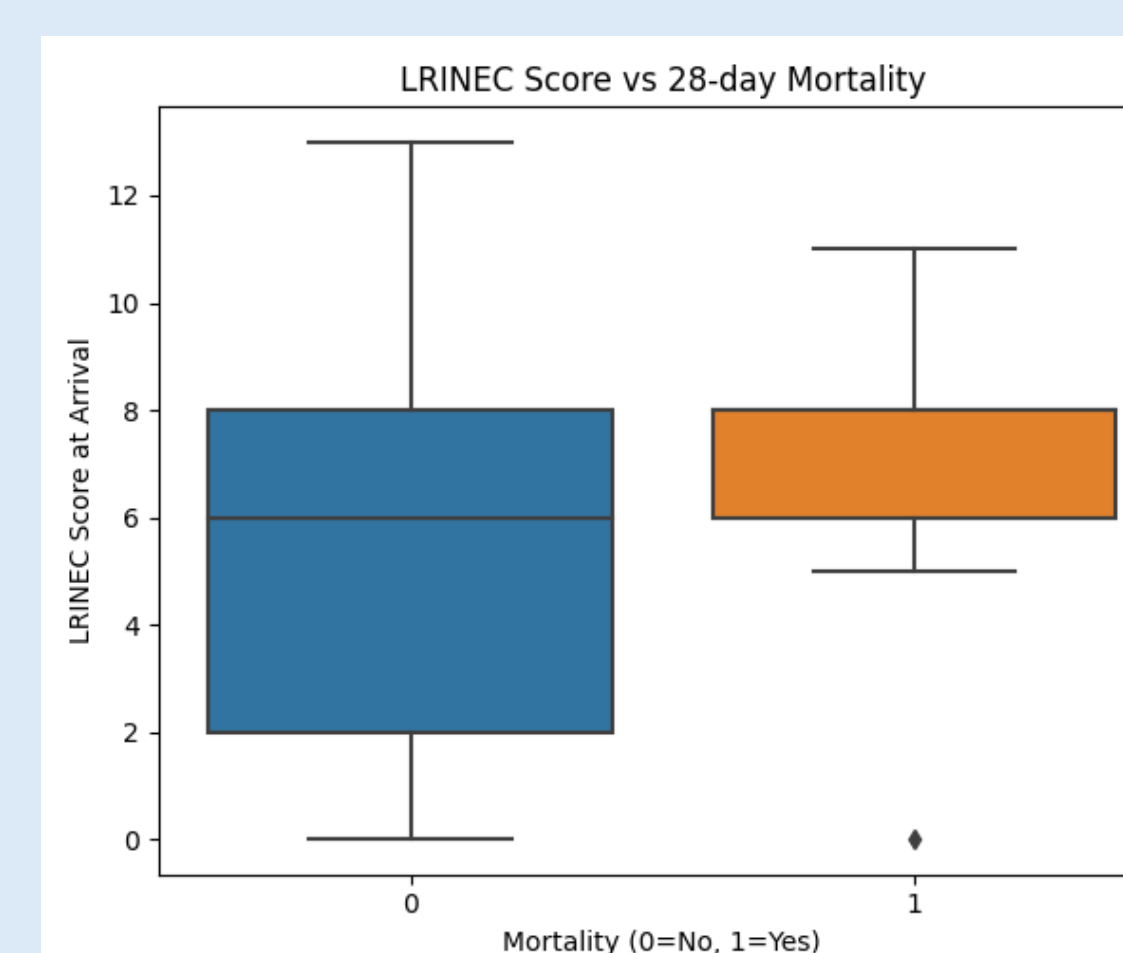
- To evaluate the diagnostic utility of the LRINEC score in predicting surgical intervention, radial limb loss, and mortality in a UK tertiary centre

Methods

- Retrospective cohort study of patients referred for suspected severe soft tissue infection to the Trauma and Orthopaedics department at Royal Stoke University Hospital in England, a tertiary Trauma and Orthopaedic centre
- Analysis period from January 2020 to December 2023
- Data collected from electronic patient records from inpatient course including admission, surgery, and discharge
- Primary outcomes: requirement for ≥ 1 surgical debridement and 28-day mortality
- Secondary outcomes: requirement for radical limb loss surgery (amputation and disarticulation), early mortality (≤ 72 hours)
- Analyses conducted in SPSS v31.0 using Mann-Whitney U and chi-square tests, with odds ratios (ORs) and 95% confidence intervals (CIs) reported. Significance was set at $p < 0.05$

Results

- 145 patients included in study
- 65.5% men, 34.5% women
- Mean age was $58.9 \text{ years} \pm 20.8 \text{ years}$
- Mean LRINEC score on admission was 5.52 ± 3.25
- High LRINEC score (≥ 6) was significant independent predictor of 28-day mortality (OR 7.98, 95% CI 1.77–35.98, $p=0.016$)
- High LRINEC score had no statistically significant association with requirement for surgery ($p=0.298$)
- Patients who had surgery had a mean LRINEC score of 5.95
- Patients managed conservatively had a mean LRINEC score of 5.34
- LRINEC score ≥ 8 was significantly associated with radical amputation ($p=0.0019$)



Discussion and conclusions

- LRINEC score functions effectively as a marker of physiological collapse and mortality risk when considering prognosis, particularly in determining risk of early mortality within 72 hours
- In our dataset, LRINEC score fails to serve as a reliable score to determine risk of surgical intervention
- Diagnostic pathways for severe soft tissue infections should prioritise early metabolic markers such as lactate and pH over the LRINEC score when determining need for surgery

References

- Wong CH, Khin LW, Heng KS, Tan KC, Low CO. The LRINEC (Laboratory Risk Indicator for Necrotizing Fasciitis) score: a tool for distinguishing necrotizing fasciitis from other soft tissue infections. Critical care medicine. 2004 Jul 1;32(7):1535-41.
- Su YC, Chen HW, Hong YC, Chen CT, Hsiao CT, Chen IC. Laboratory risk indicator for necrotizing fasciitis score and the outcomes. ANZ journal of surgery. 2008 Nov;78(11):968-72.
- Neeki MM, Dong F, Au C, Toy J, Khoshab N, Lee C, Kwong E, Yuen HW, Lee J, Ayvazian A, Lux P. Evaluating the laboratory risk indicator to differentiate cellulitis from necrotizing fasciitis in the emergency department. Western Journal of Emergency Medicine. 2017 May 12;18(4):684.