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“Interhospital Transfers Do Not Affect Outcomes of Necrotizing Soft Tissue Infections”

BACKGROUND: Necrotizing soft tissue infection (NSTI) is a rapidly progressive disease with high morbidity and mortality that requires extensive care and multifaceted rehabilitation typically found at a tertiary facility. However, many patients initially present to smaller outside hospitals with less resources and require inter-hospital transfer during their treatment.

OBJECTIVE: The aim of in this study was to further characterize the overall prognosis of subjects with NSTI transferred to a higher echelon of care and to determine if there is a clinical difference in outcomes based on transfer status.

METHODS: We conducted a retrospective, multi-institutional review of subjects admitted for NSTI between January 1, 2015, and January 1, 2021. Data collected included subject demographics, predictors of interhospital transfer, various outcomes, readmissions, and overall mortality. Our outcomes of interest were compared between subjects transferred to tertiary facilities and those who initially presented to tertiary facilities. We also compared outcomes of patients who remained at outside hospitals with patients admitted to tertiary facilities. Categorical data was analyzed by Fisher's exact test, while continuous data was analyzed through a t-test.

RESULTS: Out of 189 subjects admitted for NSTI, 48 (25.4%) required an interhospital transfer. There was no statistically significant difference in outcomes based on transfer status when analyzing time to surgery, number of surgeries, length of ICU and hospital stay, mortality, readmissions, and discharge destination. When analyzing predictors of interhospital transfer, we found that 70.8 % of transferred patients received antibiotics at the outside hospital (OSH), and only 8.33% of transferred patients received pressors at the time of transfer. In comparing the 100 patients who remained at outside hospitals to the 189 patients admitted to tertiary facilities, both initially and transferred, there was no statistically significant difference when analyzing time to surgery, length of ICU and hospital stay, mortality, and discharge destination. However, patients who stayed at outside hospitals had less surgeries (2.4 ± 2.22) than those admitted to tertiary facilities (3.77 ± 3.41) ($p=0.0003$).

CONCLUSION: Interhospital transfer status does not appear to affect overall mortality among subjects admitted for NSTI. Though there were significantly less surgeries in patients at outside hospitals compared to tertiary facilities, this is likely representative of more severe cases of NSTI requiring admission to tertiary facilities. Future studies with a higher proportion of interhospital transfer cases are required to further characterize predictors of transfer and overall outcomes.