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Epidemiology and Outcomes of NSTI: A Population-Based Incidence Study of California Hospitalizations in 2016

Purpose:

Soft tissue infections (STI) encompass a wide spectrum of disease, ranging from cellulitis to necrotizing soft tissue infections (NSTI) which have a mortality rate as high as 20-40%.

Diagnosis of NSTI is hampered by lack of characterization. More research is needed to determine the epidemiology of NSTI, the spectrum of disease over time, and risks for severe disease.

Methods used:

Retrospective analysis of the California Office of Statewide Health Planning and Development Patient Discharge Database for the year 2016 was used. Patients were selected using ICD-10 codes representative of the spectrum of STI and NSTI as the principal diagnosis code.

Population-based incidence for was calculated using the census-obtained population.

Summary of results:

1925 patients were included. The incidence of NSTI within this population is 4.9/100,000. 68% are male and 49% are white with a median age of 55. Common comorbidities include HTN (61%), DM (60%), and IVDU (39%). Common anatomic locations include the lower extremity (37%) and perineum (27%). 32% of patients experienced severe sepsis with 15% going into septic shock. 24% were placed on mechanical ventilation. The mortality rate was 15%. Of those that survived, 52% were discharged home.

Conclusions:

The prevalence of NSTI is higher than previously reported, especially among 50-59 year-old white males. Common comorbidities include DM, HTN, and IVDU. Many, but not the majority, required advanced ICU care, with 50% being discharged home and approximately 15% succumbing to the disease. This study increases the availability of epidemiological data for this disease process. Future goals include characterizing NSTI in diabetic patients for earlier prevention, diagnosis, and management.