

Prevalence and Mortality Rate of Necrotizing Fasciitis, 5 Years' Experience in a Single Center

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Background: Necrotizing fasciitis (NF) is a life-threatening and rapidly progressing soft-tissue infection. It is characterized by fulminant tissue destruction, systemic signs of toxicity and high mortality. NF is a diagnostic dilemma, with a majority of the cases initially misdiagnosed. Hence, these patients can rapidly deteriorate with the delay in timely interventions and surgical debridement. It was noticed that number of NF cases has been increasing in the kingdom of Bahrain, particularly in Salmaniya Medical Complex (SMC), despite that NF is a rare disease. Our aim in this case series is to describe the prevalence and determine the mortality rate of NF in our center SMC, in Bahrain.

Methods: A retrospective review of electronic medical records and medical files of patients with the main diagnosis of NF presented to Salmaniya Medical Complex, from 2015 to 2019 was performed. Data was collected in standardized forms and used for analysis. Patients' demographics, length of in hospital stay, and clinical course and outcome were reviewed.

Results: A total of 90 cases with the main diagnosis of NF were reviewed. The median age was 51 (range 25 - 78) years old; 80% male and 20% female. Patient nationalities showed 57.7% of patients were Bahrainis and 42.2% of Other nationalities. Majority of the patients were admitted in the Surgical department, a total of 84 patients. Sixty-three (70%) patients had pre-existing comorbidities, with 33 (52.3%) of them having more than one existing comorbidity. 53 patients (84.1%) had diabetes mellitus. Polymicrobial infection was more common in 39 (43.3%) patients, with either *Staphylococcus* spp or *Streptococcus* spp (Groups A, B, C) being the main causative organisms. Six (6.6%) patients had sterile intraoperative tissue, pus and wound cultures; while fifteen (16.6%) patients had missing culture results. The median length of in hospital stay for this study population was 21 days (range 2-89 days). Seventy-five (83.3%) patients were admitted to the general ward, and fifteen (16.6%) patients were admitted or shifted to the high-dependency unit and intensive care unit. The case fatality rate in this case series was 12.2%, and their median age is 56 (range 29-75).

Conclusion: This case series has showed that NF incidence has increased, especially in 2019, but its mortality has reached zero comparing to the previous 4 years (12.2%). The above results indicates that SMC standards in diagnosis and treatment are on good standards.

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