THE DIABETIC BURN PATIENT: A 20-YEARS SINGLE CENTER EXPERIENCE (P148)

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Objective: The purpose of this study was to determine the demographic characteristics of diabetic burn patients and to evaluate a possible impact of diabetes on mortality in severely burned patients.

Background: The number of patients with diabetes is continuously increasing, and diabetic patients are a significant population in burn centers. In Europe there are an estimated 10% of the population living with diabetes which is about 60 million people. (WHO Regional Office for Europe) International literature shows that diabetic burn patients have a higher risk for complications such as wound infections. Data about an effect concerning mortality are scarce.

Methods: A retrospective analysis was performed on all patients operated at the burns intensive care unit (BICU) of the Medical University Vienna between June 1994 and December 2014. All patients were assessed among others in terms of sex, age, %TBSA, length of stay, complications, in-hospital mortality and were divided into two groups: diabetic and non-diabetic.

Results: Of 632 burn patients encountered, 63 (10%) were diabetic. The majority of the injuries occurred at home (67%) and were mostly caused by flame and scalding (60.3% and 27%). The diabetic patients were significantly older than the non-diabetic (mean age 67.2y ± 12.3 vs. 49.1 ± 19.6), with a smaller extent of burnt area (20.9% ± 16.8 vs. 31.6% ± 21.4) and shorter mean length of stay (29.1d ± 27.3 vs. 32.4d ± 36.8). Diabetic patients had a higher BMI (30.7 ± 7.4 vs. 26.3 ± 5.7). Overall mortality was 23.9%.

A subgroup analysis was performed to compare the mortality in the two groups. In the group with a TBSA between 0-10% 1 out of 18 diabetic patients died (5.5%) compared to non-diabetics with 6/96 (6.3%) (OR 0.88). Between a TBSA of 11-20% 3 out of 22 diabetic patients died during the stay (13.6%) compared to non-diabetics with 12/129 (9.3%) (OR 1.54). In the group with a TBSA between 21-30% there was seen a difference with 5 deaths out of 12 diabetic patients (41.6%) compared to 23 out of 113 non-diabetic patients (20.4%) (OR 2.8).

Conclusions: When diabetic patients are compared to non-diabetic patients at 0-10% TBSA or 11-20% we see no difference in mortality. This changes at a range between 21-30%TBSA with a mortality of 41.6% in diabetic compared to 20.4% in the non-diabetic patients (OR 2.8).

As opposed to studies investigating diabetes as a risk factor in the outcome of burn injuries, where diabetes has not been associated with increased mortality, the results of our research do support a diabetes related difference in outcome after thermal injury.