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Research Article

**ONE MONTH SURVIVAL RATE OF SEPSIS PATIENTS WITH
OR WITHOUT DIABETES: A COHORT STUDY IN PAKISTAN**¹Dr. Farhan Farooq, ² Dr. Muhammad Hasnain Tahir, ³ Dr. Usama Ehsan¹Independent Medical College Faisalabad, Pakistan²Allied / DHQ Hospital Faisalabad, Pakistan³Allied / DHQ Hospital Faisalabad, Pakistan**Abstract:*****Objective;** To compare the survival rate of sepsis patients with diabetes and without diabetes****Study Design;** Prospective Cohort Study****Study and Evaluation Period;** Study was conducted at All Three Medical Units of Allied Hospital Faisalabad for a period of 3 months from January 2018 to April 2018.****Methods;** Total 120 patients were included in the study which were diagnosed with sepsis among these 120 patients 60 were Diabetic and 60 were Non-Diabetic. Patients were followed for a period of one month. For the severity of sepsis SOFA Score was calculated and have adjusted accordingly.****Results;** Overall 72 patients survived more than one month, out of these 51 were non-diabetic and 21 were diabetic.****Conclusion;** One Month Survival rate for Non-diabetic patients with sepsis is much more than one-month survival rate for Diabetic patients with sepsis.***Corresponding author:****Dr. Farhan Farooq,**

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INTRODUCTION:

Diabetic patients are more prone to suffer from infections. Defects in host response including neutrophil chemotaxis, adhesion and intracellular killing are some of the known defects attributed to hyperglycemia. Diabetics constitute more than 20% of all sepsis patients. This association was first observed a thousand years ago by Avicenna (980–1027), who noted that diabetes was frequently complicated by tuberculosis (1) The number of Diabetic patients is growing each year in the district of Faisalabad and so is the case with the sepsis and its complications. There is a need to pay special attention to diabetic patients especially when they are suffering from sepsis with SOFA score more than 10. Sepsis and septic shock can result from an infection anywhere in the body, such as pneumonia, influenza, or urinary tract infections.(2)

Allied Hospital, Faisalabad is one of the largest Hospital in the province of Punjab, Pakistan. There is no known literature of Sepsis, diabetes and mortality in this region of Faisalabad. Comparison of survival

rate of septic patients with and without Diabetes is very important for the proper treatment and prognosis of patients.

METHODS:

120 Patients with sepsis were included in this study and were followed for a period of one month. 60 of them were Diabetic and equal number of patients was non-diabetic. Among the diabetic we made 3 categories;

- 1- Diabetics with Tight Glycemic Control BG 80-110 mg/dl
- 2- Diabetics with Conventional Glycemic Control BG 111-180 mg/dl
- 3- Uncontrolled Diabetics BG more than 180 mg/dl (3)

Patients with blood glucose maintained between 80-110 mg/dl were included in the first category, Patients with Blood glucose maintained between 111-180 mg/dl were included in the second category and the third one was with uncontrolled diabetic patients having Blood Glucose more than 180 mg/dl.

Above mentioned patients were distributed as follows;

| Total No. of Patients | Patients with Tight Glycemic Control | Patients with Conventional Glycemic control | Uncontrolled Diabetic Patients | Non-Diabetic Patients |
|-----------------------|--------------------------------------|---|--------------------------------|-----------------------|
| 120 | 20 | 15 | 25 | 60 |

In order to consider the severity of sepsis, SOFA Score was calculated for each patient and patients were placed in three categories depending upon the cause of sepsis which includes;

- 1- Sepsis due to Urinary tract infection (UTI)
- 2- Sepsis due to Lower Respiratory Tract Infection (LRTI)
- 3- Sepsis due to Wound infection

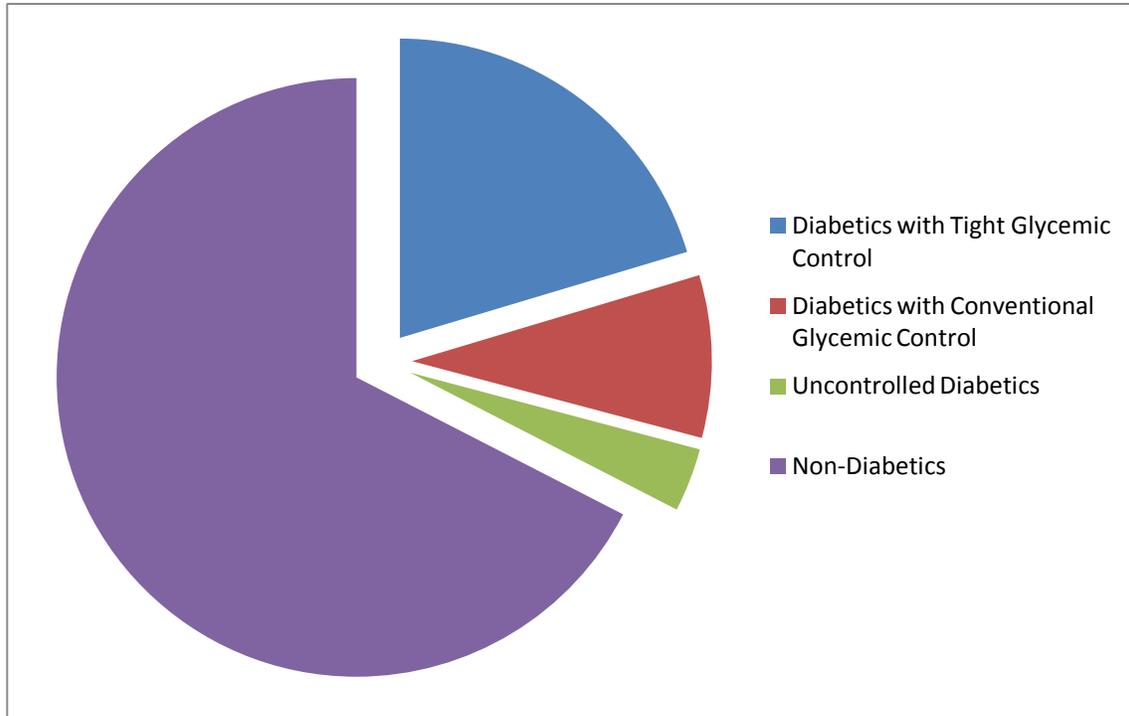
Questionnaire was formulated and data was calculated and analyzed afterwards.

RESULTS:

One-month follow-up showed that total number of patients who survived were 72 irrespective of their diabetes status. Out of these 72 patients who survived 51 were non-diabetic and 21 patients were Diabetic.

| Total Survived | No. of non-diabetics survived | No. of Diabetics Survived |
|----------------|-------------------------------|---------------------------|
| 72 | 51 | 21 |

Distribution of Diabetics and non-diabetics who survived out of total survived was as follows;



Diabetics with Tight Glycemic Control;

12 out of total 20 Diabetics with Tight Glycemic Control lived more than One Month. So One Month Survival rate came out to be 60% for Diabetics with tight glycemic control and this is the best percentage for survival among Diabetics

Diabetics with Conventional Glycemic Control;

5 out of total 15 patients with Conventional Glycemic Control lived more than one month and this percentage came out to be 33.33%.

Uncontrolled Diabetics;

2 out of total 25 lived more than one month and this percentage was 08% and is the worst One Month Survival rate percentage overall.

Non-diabetics;

53 out of Total 60 Non-diabetics survived more than One month and the percentage kept at 88%.

Highlighting the prospect, it is found that survival of patients without Diabetes was 70% of Survived and 42.5% of Total patients who visited.

DISCUSSION:

It is already well established now that Diabetics are not only more prone to infections but it is also difficult for diabetic patients to get their infections resolved.

Among the diabetic's patients with Tight glycemic control were more likely to survive throughout the first month as compared to the other two types of patients with diabetes. Patients with uncontrolled diabetes were less likely to survive more than one month as compared to all other patients with the same SOFA score which was evaluated to assess the degree of sepsis in patients. It is therefore strongly recommended to keep Blood Glucose levels between 80-110 mg/dl which fairly increases the Survival rate

and consequently decreases the mortality rate for one month of the patients.

CONCLUSION:

From the above mentioned facts and figures and from the detailed discussion it is evident that having SOFA score adjusted Survival rate is far better in Non-Diabetic Patients.

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