



The impact of diabetes on the frequency of vascular access complications in patients on haemodialysis

Evgeniya Volodina¹, Tatyana Glushenkova², Maria Teresa Parisotto³

¹Fresenius Medical Care, Fresenius NephroCare Dialysis Centre, Saratov – Russia

²Fresenius Medical Care, Fresenius NephroCare Dialysis Centre, Ulyanovsk – Russia

³Fresenius Medical Care, Nursing Care Coordination, Bad Homburg – Germany

Introduction

Diabetes is one of the main causes of end-stage renal diseases. This is a very serious disease affecting all body systems. Diabetic angiopathy complicates vascular access (VA) maturation, due to narrowing of blood vessels and increased thrombosis risk. Stenosis and thrombosis are observed more frequently in this group of dialysis patients.

Objective

To determine the effect of diabetes on the development of VA complications.

Methods

226 patients, who receive treatment for more than 12 months, were divided into 2 groups: Group 1 with 192 non-diabetics patients and group 2 with 34 diabetics.

The groups were compared by age, treatment duration, blood flow, Kt /V, VA survival, and number of VA complications over the past 12 months. In addition patients were compared by their body mass index and smoking status.

Results

Results didn't show any differences in both groups in terms of age, gender, and Kt /V.

In group 1, the survival of the VA was correlated with the treatment duration period: 76,6 (± 51,7) months and 77,74 (± 55,3) months. This may indicate the long-term and adequate VA functioning.

As compared to group 1, more VA cannulation problems (32.35% versus 5.2%) and a higher number of complications (29.4% versus 6.25%) were observed in group 2. Survival of the VA was 37,83 (± 28,2) months and treatment duration 49,73 (± 32,03) months.

As a result, there were more hospitalisations and revision procedures. Patients of the group 2 had a higher body mass index (BMI), but included less smokers than group 1.

Results

The study showed that diabetes seems to increase the risk of VA complications. Nurses should pay special attention to these patients to be able to detect the first signs of complications. Moreover, it is very important to educate patients regularly on following topics: Compliance with a low-carb diet, control of glucose and cholesterol level, regular physical exercises, smoking cessation. This can help to ensure well-functioning VA.

References

1. Handbook of Dialysis, John Daugirdas, Peter G. Blake, Todd S. Ing, 2006.
2. KDOQI Vascular Access Guidelines, 2006.

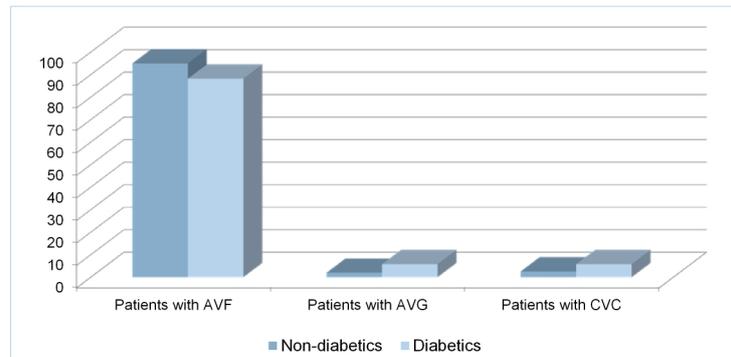


Figure 1: Dialysis Centre Saratov: Vascular Access distribution in 2016

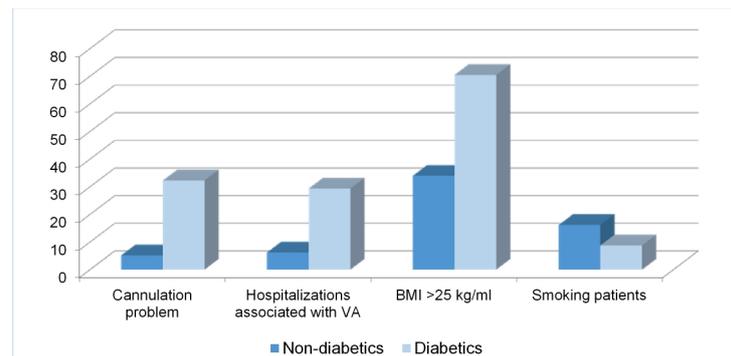


Figure 2: Descriptive statistics

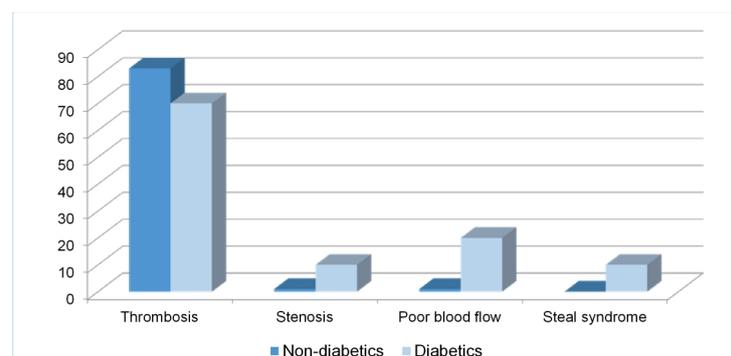


Figure 3: Vascular Access-related hospitalisations