

## Cerebrovascular Accidents in Hemodialysis Patient

Fjona Nasto

American Hospital, Tirana, Albania

**E**nd Stage Renal disease (ESRD) is associated with an increased risk of cerebrovascular accidents with significant morbidity and mortality. Stroke is the third most common cause of cardiovascular disease death in patients on hemodialysis. The incidence of both ischemic and hemorrhagic stroke in patients on hemodialysis is 10 times greater than in general population. The increased stroke risk in dialysis patients may reflect the increased prevalence of traditional stroke risk factors such as age, hypertension, diabetes mellitus and dyslipidemia, but there are also risk factors due to the uremic syndrome and to the dialysis process, which may predispose patients on dialysis to either ischemic or hemorrhagic strokes. The aim of our study is to determine the prevalence and the risk factors of stroke in the patients who undergo frequent hemodialysis in American Hospital.

We conducted a retrospective, qualitative and descriptive study which involved 1732 patients treated frequently 3 times a week in the hemodialysis center in American Hospital during November 2008 – December 2019. From the analysed data, 69 patients experienced a cerebrovascular event during this period. We compared the data with a control group of 70 patients without stroke. There were 69 patients that experienced a stroke event with a mean age 57.6 years. 32 patients were females (47%), and 37 patients were males (53%). 22 patients (32%) were younger than 55 years old and 47 patients (68

%) were older than 55 years. The mean age of the control group is 53.69 years. The vascular access in 21 patients was AVF (30.4 %) and 48 had a central venous catheter (69.6%). In the patients of the control group there were 52 FAV (74.3 %), 1 GAV (1.4 %) and 17 (24.3 %) central venous catheter. The average of hemoglobin range in the group with stroke was 9.3 g/dl compared to 11.04 g/dl of the control group.

### Conclusions

The prevalence of stroke among hemodialysis patients in our center resulted 3.98%. The patients with stroke tended to be older, with lower hemoglobin values and the central venous catheter represented the vascular access in the majority of the patients (69.6%). Vascular access may increase stroke risk by affecting cerebral hemodynamics. After analyzing the collected data we reached the conclusion that 97 % of patients had arterial hypertension and 92 % of them have more than two antihypertensive drugs in therapy. Diabetes mellitus that is an important risk factor for cerebrovascular accidents is present in 50.7 % of the patients with stroke. Dialysis patients have high fatality and poor outcomes, so their families may need better education about stroke symptoms and take them faster to the hospital, because time is brain.

**Key Words:** Cerebro-vascular accidents, hemodialysis , risk factors