SUMMARY

Despite the development of medicine, mortality due to acute kidney injury remains unacceptably high. Most of the data regarding AKI come from intensive care and cardiac intensive care units. In the available literature, there are few studies analyzing the profile of patients and hospitalizations due to AKI in nephrology departments. The aim of this study was to determine the etiology and course of AKI, including in-hospital mortality and its risk factors in patients hospitalized in the reference nephrology department.

It was a retrospective analysis of medical documentation of all patients hospitalized during one year (January 1 - December 31) in the I Department of Nephrology and Transplantation with Dialysis Unit in Bialystok in order to identify patients who met criteria for diagnosis of acute kidney injury. AKI was recognized based on the KDIGO definition. The analysis took into account demographic data, comorbidity, course of hospitalization, including in-hospital mortality and laboratory tests results.

Out of 1255 hospitalizations, 253 cases fulfilled the criteria for AKI diagnosis. The vast majority were community-acquired AKI with pre-renal background. Patients were most often admitted to the hospital in the advanced, 3rd stage of AKI. An exceptional population were renal transplant patients in whom renal AKI was most commonly observed and the disease was diagnosed in 1st stage. More than half of the AKI hospitalization concerned patients with a history of chronic kidney disease.

In-hospital mortality among AKI patients was 12%. In univariate analysis, the risk of death was higher in the elderly patients ($p = 0.002$), with chronic heart failure ($p < 0.001$), cardiovascular disease ($p < 0.001$), active malignancy ($p = 0.03$), increasing level of urea ($p = 0.004$), lower pH ($p = 0.03$), elevated white blood cells count ($p = 0.02$), lower albumin concentration ($p = 0.04$) and requiring renal replacement therapy ($p = 0.02$). In the multivariate analysis, the independent risk factors for death during hospitalization were: cardiovascular disease and active malignancy, increasing 20 times (95%, CI 3.37-123.75) and 8 times (95%, CI 2.03- 28.72) risk of death, respectively. Advanced age, higher white blood cells count and lower albumin concentration were also predictive of death.

For the first time, cardiovascular disease has been shown to be the main risk factor for death in patients with AKI hospitalized in the reference nephrology center. In the light of the results, there is a need to increased diagnostic vigilance and therapeutic actions to improve prognosis in groups at increased risk of death in the course of acute kidney injury.