



ACUTE KIDNEY INJURY CAUSED BY SNAKEBITES IN PATIENTS ADMITTED TO A REFERENCE TOXICOLOGICAL ASSISTANCE CENTER IN NORTHEAST BRAZIL



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INTRODUCTION

Accidents with venomous snakes are an important problem of Public Health in Brazil. Acute Kidney Injury (AKI) is one of the most important complications of envenomation. Knowledge of factors associated with development of AKI is necessary to improve diagnosis and management.

OBJECTIVE

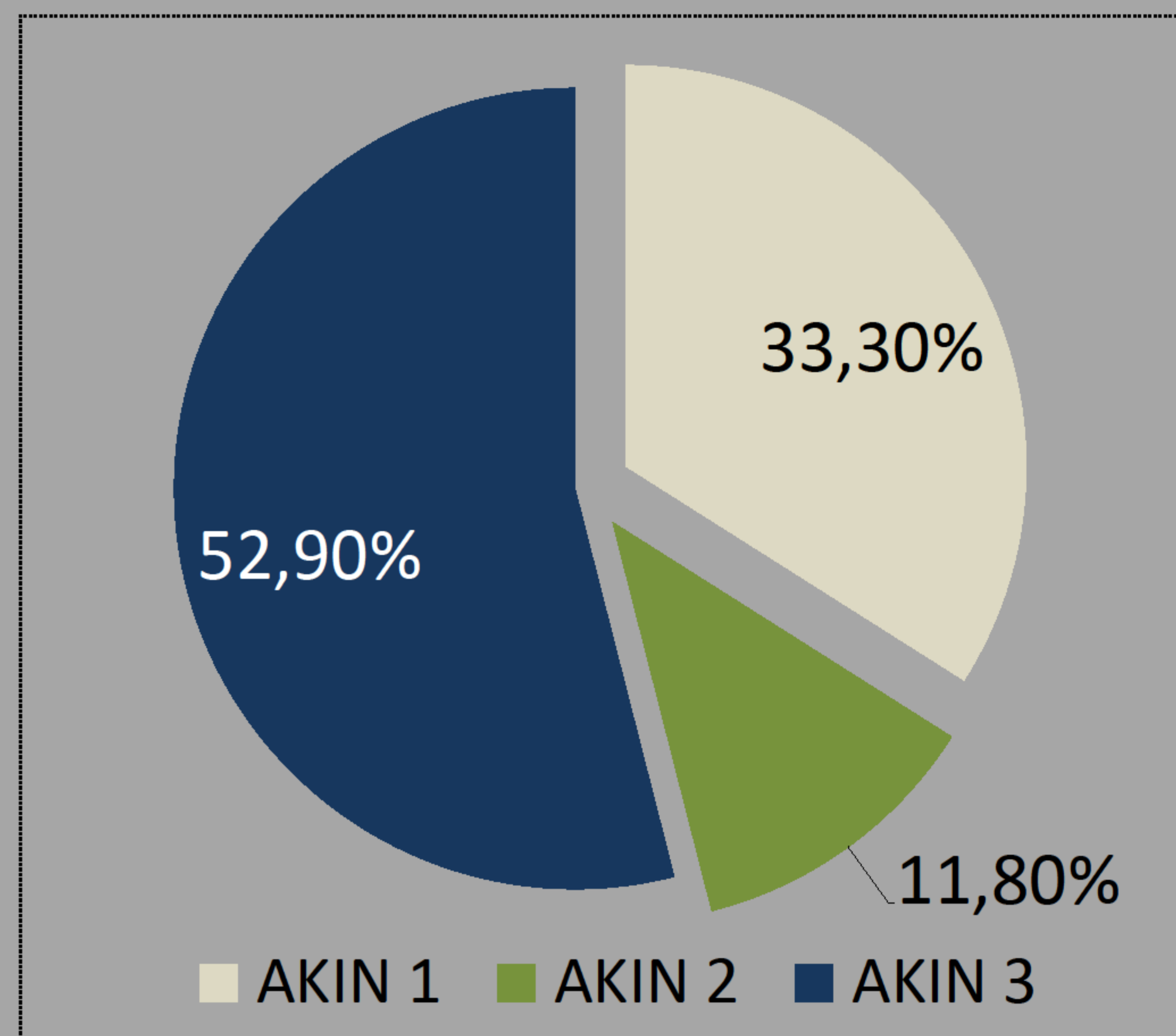
The aim of this study is to investigate snakebite-associated AKI and its related factors.

MATERIALS AND METHODS

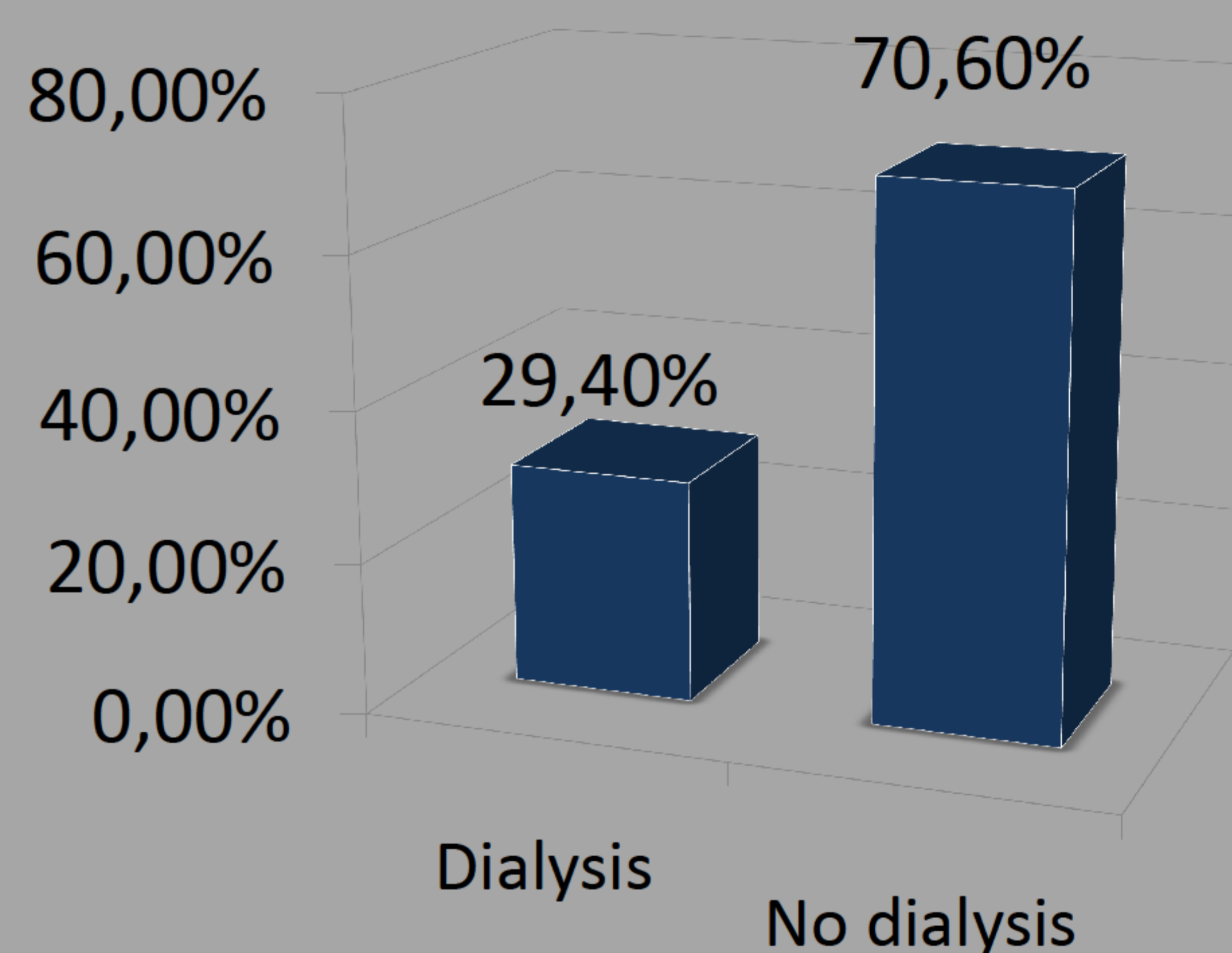
This is a study conducted on all patients bitten by venomous serpents admitted to the Toxicological Assistance Center at Institute Dr. José Frota, Fortaleza city, Brazil, in the period from January, 2002 to June 2015. Patients were divided in two groups: AKI and non-AKI (control group), using the AKIN criteria. Clinical and laboratory characteristics recorded at admission and during hospital stay (when hospitalization was required) were reviewed. Statistical analysis was performed with SPSS program v. 20, and p value < 0.05 was considered significant.

RESULTS

A total of 320 patients were admitted in the study period, all of them from Ceará state, Brazil. The AKI group (n=51) had according to AKIN classification: AKIN 1 (33.3%); AKIN 2 (11.8%) and AKIN 3 (52.9%), as shown in graphic 1. Dialysis was required for 15 patients (29.4%), as shown in graphic 2. Four patients died, of which two had AKI. They had a mean age of 27 ± 25.5 years, 41 (80.4%) were male, 47 (92.2%) lived in rural area, 12 (23.5%) had neurological symptoms, 32 (62.7%) had local lesion, 7 (13.7%) had diplopia, and 8 (15.7%) had myalgia. These aspects were not statistically significant different from non-AKI group ($p > 0.05$). Patients in the non-AKI group (n=269) had a mean age of 33.8 ± 20.7 years, 227 (84.4%) were male, 225 (83.6%) lived in rural areas, 37 (13.8%) had neurological symptoms, 198 (73.6%) had local lesion, 28 (10.4%) had diplopia, and 27 (10%) had myalgia. The following characteristics were significantly different between the two groups: serum potassium levels ($p=0.0001$), serum sodium ($p=0.0001$), hemoglobin ($p=0.0001$), hematocrit ($p=0.0001$), time between accident and medical assistance ($p=0.0001$), and hemorrhagic symptoms ($p=0.04$). The main snake responsible for the snakebites in both groups was *Bothrops sp.*



Graphic 1 - Stage of acute kidney injury of the 51 patients who developed it, according to AKIN classification



Graphic 2 - Amount of patients with AKI who required dialysis

CONCLUSION

Snakebites occur predominately in rural areas in Brazil and mainly affects young people. AKI is a frequent complication and further studies to identify early indicators of AKI are required.



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