Abstract

Background: Hypertension is a key contributor of metabolic diseases like insulin resistance. Both insulin resistance and hypertension can be seen as a cause effect relationship.

Methods; It was a cross-sectional study done in the hypertension clinic at Mbarara Regional Referral Hospital. We included patients with hypertension that were above 18 years and excluded those with a known secondary cause of hypertension, known patients with diabetes and those with chronic kidney disease with an eGFR <60mls/min/1.73m2. Patients were systematically selected that is every second patient in the register. The prevalence was determine using simple proportion. Logistic regression model was fitted to determine the factors associated with insulin resistance and those with a p-value of <0.05 with a 95% confidence interval were considered significant.

Results: We screened 450 patients and enrolled 213 patients with hypertension. Female gender had the highest number of 165 (77.8%) of the total population. The overall mean age of the study was 57±11 years. Out of 213, 48 (23%) patients had insulin Resistance defined by HOMA-IR >2.5. Male gender had adjusted odds ratios (aOR)=3.41 p=0.034 (C.I: 1.10-10.57), abdominal obesity aOR=2.24, p=0.030 (C.I: 1.29-9.34) and Impaired fasting glucose aOR=20.18, p=<0.001 (C.I: 8.22-49.52) were statistically significant.

Conclusion: There is a high prevalence of insulin resistance among patients with hypertension and abdominal obesity defined by waist circumference, male gender and impaired fasting glucose were independently associated with insulin resistance among patients with hypertension. We recommend longitudinal studies.

KEY WORDS: Hypertension, Insulin resistance, HOMA-IR, obesity, impaired fasting glucose