Epidemiology of Target Organ damages and the long term effect of Non-adherence to clinical
practice guidelines in patients with hypertension: A Retrospective Cohort Study.

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Abstract

Background: Hypertension (HTN) is deemed the major cause of morbidity and mortality due to its untoward effect on target organs. There was limited published data on the epidemiology of target organ damages (TODs) and the effect of non-adherence to practice guidelines in developing
countries. This study focused on the epidemiology of TODs and the long term effect of nonadherence to clinical guidelines on hypertensive patients attending referral hospital, north Ethiopia.

Methods: An open level retrospective cohort study has been employed on eligible patients registered to cardiac clinic of Gondar university hospital. Patients were retrospectively followed for a mean period of 78 months. Data was entered to and analyzed by SPSS software for windows
version 21. A person-time method was applied to calculate the incidence rate of TODs. Multivariate Cox regression was conducted to test associating factors of TOD. Kaplan analysis was done to evaluate the long term effect of nonadherence to practice guidelines on TOD. P-value
was set at 0.05 with 95% confidence interval.

Results: Of the total number of 612 patients examined, the overall prevalence of hypertensive target organ damages was 40.3% while high proportion of TOD occurred at diagnosis (22.2%). the presence of comorbidities [COR=1.073[1.01-1.437], [AOR= [1.196[1.174-1.637] and nonadherence to clinical practice guidelines [COR=1.537[1.167-2.024], AOR=1.636[1.189-2.251]
were found to be predicting factors for TOD. In addition, patients with seven years duration of hypertension were nearly three times more likely to develop complications COR: 2.951[2.651-5.535], AOR:[2.974 [2.631-7.072]. The most prevalent form of TOD were of heart failure (12.2), ischemic heart disease (8.3%), followed by hypertensive urgency (6.4), whereas the least prevalent
TODs include atrial fibrillation (0.9%), retinopathy (0.9%) and sexual dysfunction (0.67%). According to Kaplan mire analysis Patients who were initiated with appropriate medication tended
to develop TOD very late as compared to those who receive medication without the standard

treatment guideline: Log Rank [11.975*(p=0.01)]*.
Conclusion: More than forty percent of patients acquired target organ damage which is more significant. Heart failure is the most common form of TOD in hypertensive patients. Factors such as presence of comorbidities, non-adherence to practice guidelines and long standing hypertension
were correlated with the incidence of target organ damages. Appropriate management of hypertension and modification of triggering factors is essential to prevent complications.
Key words: inappropriate prescription, target organ damage, retrospective cohort study, Ethiopia.