



AC006

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SEX-RELATED DIFFERENCE IN ECHOCARDIOGRAPHIC PATTERN AMONG ADULT PATIENTS WITH HYPERTENSIVE HEART FAILURE IN A TERTIARY HOSPITAL, NORTHWESTERN NIGERIA.

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Introduction: Hypertensive heart failure (HHF) is a leading cause of cardiovascular morbidity and mortality in sub-Saharan Africa, yet sex-related differences in cardiac remodeling remain underexplored in Northwestern Nigeria. **Methodology:** This study evaluated echocardiographic patterns among adult HHF patients at Aminu Kano Teaching Hospital (AKTH). A hospital-based cross-sectional design recruited 107 patients aged ≥18 years with HHF, diagnosed using Framingham criteria and a history of hypertension. Exclusion criteria included significant valvular and congenital heart disease, or primary cardiomyopathies. Data were analyzed using SPSS, with t- and chi-square tests applied; $p < 0.05$ was considered significant.

Result: The mean age was 61.7 ± 16.2 years; 56% were male. Obesity was more common in females, while smoking and ischemic heart disease predominated in males. Females reported easier fatigability and palpitations. Echocardiography revealed sex-specific differences: males had larger ventricular dimensions and lower ejection fraction, consistent with systolic dysfunction (LVEDD 55.2 ± 6.8 mm vs. 49.6 ± 5.9 mm; LVESD 38.4 ± 5.7 mm vs. 33.1 ± 5.2 mm; LVEF $42.7 \pm 7.5\%$ vs. $49.3 \pm 8.1\%$, all $p < 0.01$). Conversely, females exhibited preserved systolic function but greater diastolic dysfunction, with significantly higher Left Atrial Volume Index (49.8 ± 9.5 mL/m² vs. 42.3 ± 8.7 mL/m², $p < 0.01$).

Conclusion: HHF patients in Northwestern Nigeria demonstrate distinct sex-related echocardiographic patterns: men are predisposed to dilated ventricles and systolic dysfunction, while women more often present with diastolic abnormalities and atrial remodeling. These findings underscore the need for sex-specific diagnostic and therapeutic strategies in HHF management.

Keywords: Hypertensive heart failure; Sex differences; Echocardiography; Left atrial volume index (LAVI); Systolic dysfunction; Diastolic dysfunction; Nigeria.