AC081

Adult Cardiology & Clinical Cardiovascular Medicine • Poster Presentation

# BIOMARKERS (NT-PRO BNP AND D-DIMER) IN PPCM PATIENTS WITH CARDIAC THROMBUS IN MAIDUGURI, NORTHEAST NIGERIA.

**Zakiyyah Zakariyya, Ibrahim Abubakar Galtimari, Jamila Audu Idrisa, Aisha Abubakar Tukur, Ishaq AliYaro, Mustapha Lawan, Abdullahi O. Amali, Abdulfattah Hassan, Sarah Samuel Chabiri, Hajara Asheikh Jarma, Aisha Zannah,1 Mohammad Musa Baba, Charles Oladele Anjorin, Mohammed Abdullahi Talle, Faruk Buba.**

**Stand:** POSTER #AC081 | **Venue:** Poster Exhibition Hall & Gallery - Eko Convention Centre |**Online Ref:** https://nigeriancardiacsociety.com/abstracts/AC081

Background: Peripartum cardiomyopathy (PPCM) is a life-threatening condition associated with increased risk of intra-cardiac thrombus and thromboembolic events. Biomarkers such as D-dimer and N-terminal pro-brain natriuretic peptide (NT-proBNP) may aid in diagnosis, risk stratification, and prognosis.

Objective: To assess the relationship between serum D-dimer and NT-proBNP levels and intra-cardiac thrombus among PPCM patients in Northeast Nigeria.

Methods: A hospital-based cross-sectional study was conducted at the University of Maiduguri Teaching Hospital (UMTH) between April 2022 and December 2023. A total of 101 PPCM patients were recruited. Echocardiography was performed to detect intra-cardiac thrombus, and serum D-dimer and NT-proBNP levels were measured using Enzyme linked immunosorbent assay (ELISA).

Results: Intra-cardiac thrombus was observed in 26.7% of the study participants. The median NT-proBNP was 330 pg/ml (IQR 270–370), while median D-dimer was 205 ng/ml (IQR 105–330). Serum D-dimer was significantly higher in patients with intra-cardiac thrombus [median 360 (330–465) vs 120 (90–270), $p < 0.0001$]. NT-proBNP however did not differ significantly between groups ($p = 0.124$). Logistic regression identified left ventricular ejection fraction (LVEF), tricuspid annular plane systolic excursion (TAPSE), and D-dimer as independent predictors of intra-cardiac thrombus. ROC analysis showed D-dimer >270 ng/ml had excellent diagnostic utility (AUC = 0.92, sensitivity 92.6%, specificity 78.4%) for intra-cardiac thrombus in PPCM.

Conclusion: Elevated D-dimer is a strong independent predictor of intra-cardiac thrombus in PPCM patients, and may therefore serve as a useful biomarker for thrombus screening in PPCM patients in Nigeria. NT-proBNP correlates with structural cardiac changes but not thrombus formation.

**Keywords:** Peripartum Cardiomyopathy, Cardiac thrombus, Biomarkers, D- dimer, NT-ProBNP