Journal of the Medical Association of Thailand, Vol 96, No 2

The Relationship between Plasma NT-proBNP Level and Pacing Mode in the Patient with Implanted Permanent Pacemaker

Charn Sriratanasathavorn, Satchana Pumprueg, Warangkna Boonyapisit, Burin Kaosa-ad BEd, Charuwan Kangkagate

Abstract

Background and Objective: Plasma BNP is current one of the prognostic markers for cardiovascular disease including congestive heart failure. The objective of the present study was to evaluate the level of plasma NT-proBNP in patients who have had permanent pacemaker implantation.
Material and Method: The clinical characteristics and the plasma NT-proBNP level were recorded and obtained from 284 patients with implanted permanent pacemaker followed-up at the Pacemaker Clinic, Siriraj Hospital. The factors associated with abnormal NT-proBNP level were analyzed.
Results: Among 284 patients who participated in the present study, 140 patients had NT-proBNP in normal range (level of < 300 pg/ml). 68 patients had NT-proBNP level between 300 to 900 pg/m/ and 76 patients had NT-proBNP level > 900 pg/ml. There were significant correlations between log NT proBNP with patient's age, left ventricular ejection fraction and serum creatinine level with age and serum creatinine showing positive correlation and left ventricular ejection fraction having a negative correlation. From multiple regression analysis, three factors were associated with high NT-proBNP level: older age, serum creatinine level and ventricular based pacing. The patients with ventricular based pacing mode had higher NTproBNP level than patients with atrial based pacing mode even after being adjusted for age and serum creatinine adjusted.
Conclusion: In the patient with permanent pacemaker, three factors are associated with high NT-proBNP level. These are older age, serum creatinine level, and ventricular based pacemaker.

Keywords: Brain natriuretic peptide, Pacemaker, NT-ProBNP, Ventricular-based pacing

Full Text: PDF

The Medical Association of Thailand
Address: 4th Floor, Royal Golden Jubilee Building, 2 Soi Soonvijai, New Petchburi Road, Bangkok 10310, Thailand
Telephone: 0-2716-6102, 0-2716-6962 press 0 Fax: 0-2314-6305
E-mail: jmedassocthai@yahoo.com, math@loxinfo.co.th