



ChemTech

International Journal of ChemTech Research

CODEN (USA): IJCRGG, ISSN: 0974-4290, ISSN(Online):2455-9555
Vol.12 No.02, pp 58-63, 2019

Correlation of Proportional Pulse Pressure and Cardiac Index in Patients with Acute Heart Failure in Emergency Department of Adam Malik Hospital

Rizki A. Farindani^{*1}, Andika Sitepu¹, Ali N. Nasution¹, Abdullah A. Siregar¹,
Harris Hasan¹, Cut A. Andra¹

¹Departemen Kardiologi dan Kedokteran Vaskular, Universitas Sumatera Utara,
Rumah Sakit Umum Pusat Haji Adam Malik, Medan, Indonesia

Abstract : Background: Clinical condition and physical examination are the most important things to diagnose heart failure. The importance of a physical examination to assess decreased cardiac output and cardiac index has been reduced as a result of the development of sophisticated diagnostic tools. Nowadays, cardiac output can be measured using transthoracic echocardiography. However, echocardiography is not easily available particularly in rural area in Indonesia. Therefore, an easier and more applicable examination through a simple physical examination is needed to assess cardiac index and cardiac output in acute heart failure.

Methods: This is a cross sectional study of 44 acute heart failure patients in emergency department Adam Malik Hospital since April 2018 until September 2018. A routine physical examination, especially blood pressure, was carried out on all patients, then echocardiography was performed to measure stroke volume, cardiac output, and cardiac index. Pearson and spearman was performed to analyze the correlation of porportional pulse pressure and cardiac index.

Results: There was positive correlation between PPP and CI ($r=0.846$, $p<0.001$). Proportional pulse pressure also correlated with CO ($r=0.777$, $p<0.001$), EF ($r=0.608$, $p<0.001$), and SVR ($r= -0.337$, $p=0.025$). The cut off value of PPP $< 27.4\%$ was 95.5% sensitive and 90.1% specific to identify patients with CI < 2.2 .

Conclusion : There was a strong correlation between proportional pulse pressure and cardiac index in patients with acute heart failure.

Keyword : proportional pulse pressure, cardiac index, acute heart failure.

Rizki A. Farindani *et al* / International Journal of ChemTech Research, 2019,12(2): 58-63.

DOI= <http://dx.doi.org/10.20902/IJCTR.2019.120208>
