

Impact of Malnutrition in Cardiac Failure in Comparison with Elevated Blood Pressure Variation

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DESCRIPTION

The rising number of people suffering from Heart Failure (HF) is referred to as the "heart failure pandemic." The number of HF patients in Japan is anticipated to increase to around 1.3 million by 2030. Increased in-hospital and post-discharge mortality has been attributed to the high readmission rates brought on by HF. To boost the prognosis, readmission rates for HF must be decreased. However, despite improvements in therapeutic techniques, HF readmissions have not decreased. One explanation is that the pathophysiology of HF also involves vascular function. Renal function and endothelial nitric oxide synthase have a role in the interlink between anemia and impaired vascular function. Anemia affects many HF patients. Anemia in HF is associated with severe symptoms, an increased risk of HF mortality, or both. All HF varieties, including HF with reduced Ejection Fraction (EF) (HFrEF) and HF with intact EF (HFpEF), should take note of these findings. Additionally, blood arteries frequently dilate and widen in time with heart contraction and mild changes in Blood Pressure (BP). Therefore, the range of BP swings is increased when vascular function is compromised. Additionally, BP variability is related to the prognosis for heart failure. Brain Natriuretic Peptide (BNP) and NHYA tests were used to gauge the severity of HF. Patients with and without Major Adverse Cardiovascular Events (MACE) did not significantly differ in either the increased or the preserved CAVI groups. The individuals of this study, however, had higher proportions of patients with NHYA III and higher BNP readings compared to those of other investigations, indicating that patients with more severe HF have been included. Furthermore, no appreciable variations in CS categorization or HFpEF proportions were seen, and the kind of HF was the same in MACE patients and non-MACE patients. In terms of the CS

classification, almost half of the study participants were CS1, fewer than half were CS2, and the remaining participants were CS3. In this study, there was no difference in BP between patients with and without MACE in the increased CAVI group; however, in the preserved CAVI group, the diastolic and mean BPs of patients with MACE were considerably lower than those of patients without MACE. Additionally, although there was no statistically significant difference, the CAVI of patients with MACE was slightly higher than that of patients without MACE, which may be due to arteriosclerosis. Individuals with MACE had significantly higher in-hospital blood pressure than individuals in the group with elevated CAVI who did not have MACE. BPV has been shown to raise the risk of cardiovascular problems in both diabetes mellitus and hypertension, including the risk of Heart Failure (HF). Anemia is present in many HF patients. In the Asian registry, in which our hospital also took part, anemia was recorded in one-third to more than half of the Asian patients with HF. Anemia have been linked to a worsened HF prognosis, and this study's findings corroborate those findings. In addition, anemia had a stronger correlation with the prognosis for HF than BPV. Reduced renal function brought on by HF, commonly known as cardio renal anemia syndrome, frequently results in anemia. Erythropoiesis-Stimulating Agents (ESAs) are anticipated to improve Hb because this anemia is accompanied with a decrease in erythropoietin production. An important surrogate marker for assessing the prognosis of HF is anemia. However, as previously said, neither iron nor ESAs enhance the prognosis of HF; as a result, it might be challenging to develop an effective treatment target for anemia in HF. Additionally, hypoxia-inducible factor prolyl hydroxylase, a novel therapeutic drug for the treatment of anemia, has been shown to improve BNP in HF patients. These novel therapeutic drugs may open up new pathways for the treatment of anemia in HF patients.

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