GROWTH DIFFERENTIATION FACTOR 15 AS A BIOMARKER IN PATIENTS WITH CHRONIC HEART FAILURE DUE TO CORONARY ARTERY DISEASE

Thesis submitted for partial fulfillment of the M.D. degree in

Cardiology

By

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(M.Sc.)

Faculty of medicine-Fayoum University

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Summary

Heart failure (HF) is a major health problem because it is common, costly and has a high rate of morbid events and high rate of mortality.

In this study we investigated the potential role of growth differentiation factor 15 (GDF-15) in patients with heart failure due to coronary artery disease which is by far the most prevalent cause of heart failure.

The study reviewed the literature regarding the different and changing definitions of heart failure and global burden of the HF which is considered one of the greatest challenges in cardiovascular medicine field nowadays.

In chapter II we reviewed the international guidelines stance in the diagnosis and management of chronic heart failure

Our study investigated in chapter III the interplay between HF and CAD in the pathophysiological process, and how CAD contributes in the development of heart failure via multiple pathways.

In chapter IV we studied the growing use of biomarkers and its role in HF with a synopsis on the GDF-15.

Our study included 79 patients who are referred for coronary angiography and included patients with a proven clinical diagnosis of HF in group I with non HF patients in the comparator group, all patients underwent detailed clinical history taking, general and cardiac examination. Conventional echocardiography was done to establish and sub classify the HF into HFrEF and HFpEF.Blood samples were collected and analyzed for GDF15 levels.

The study found that the GDF-15 levels were higher among patients diagnosed with heart failure due to CAD. It was also found that higher GDF-15 were associated with worse functional status. These results were also confirmed in several recent studies.

We concluded that GDF-15 can be a promising independent biomarker in this subset of patients and may play a role in the future in the diagnosis, prognosis and risk stratification of HF.