DEVELOPMENT OF A CLINICAL TRIAL PROTOCOL FOR THE USE OF A DUAL GIP/GLP-1 RECEPTOR AGONIST IN PATIENTS WITH HEART FAILURE WITH PRESERVED EJECTION FRACTION

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Background: The high prevalence of heart failure with preserved ejection fraction (HFpEF) in patients with metabolic dysfunction emphasizes the urgent need for novel therapeutic strategies [1]. Dual agonists of the glucose-dependent insulinotropic polypeptide (GIP) and glucagon-like peptide-1 (GLP-1) receptors have demonstrated promising cardiometabolic effects in both preclinical and clinical settings [2]. This thesis is focused on the development of a structured clinical trial protocol to evaluate the efficacy and safety of dual GIP/GLP-1 receptor agonist therapy in patients with HFpEF in Kazakhstan.

Objective: To develop a scientifically valid and ethically approved protocol to assess the effects of dual GIP/GLP-1 receptor agonists on cardiac function, metabolic control, and quality of life in HFpEF patients.

Materials and Methods: This is a non-randomized, prospective, controlled clinical trial involving 120 patients with HFpEF (EF ≥45%) and type 2 diabetes. Participants will be assigned to two groups: 60 patients will receive four dose levels of a dual GIP/GLP-1 receptor agonist, and 60 will receive standard therapy. The intervention includes weekly subcutaneous injections for 40 weeks, with dose escalation every four weeks. The primary endpoint is change in NT-proBNP levels. Secondary endpoints include changes in body weight, glycemic control, and quality of life. Ethical approval was obtained from the Local Bioethics Committee of "National Laboratory Astana". All study documentation and insurance are completed, along with official authorization from the Ministry of Health of the Republic of Kazakhstan for the importation of the investigational medicinal product (a dual GIP/GLP-1 receptor agonist).

Results: It is hypothesized that dual GIP/GLP-1 receptor agonist therapy will lead to significant improvements in cardiac biomarkers, functional status, and metabolic parameters compared to placebo, with a favorable safety profile.

Conclusion: This protocol establishes a comprehensive clinical framework to assess the dual metabolic and cardiac effects of GIP/GLP-1 receptor agonists in patients with HFpEF and could inform future therapeutic strategies for this challenging patient group.

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