

Can Skin Sign and Symptoms be an Indicator of Excessive Antihyperlipidemic Treatment in Heart Failure Patients?

Abolfazl Dohaie, M.D

Department of Cardiovascular Disease, Mayo Clinic, Rochester, Minnesota, United States of America
Dohaie.Abolfazl@mayo.edu

Abstract: Morbidities following antihyperlipidemic treatments such as muscular and hepatic disorders have been reported in the literature. According to new guidelines high intensity antihyperlipidemic therapy is a class I recommendation for patients with clinical atherosclerotic cardiovascular disease or low density lipoprotein cholesterol ≥ 190 milligram per deciliter, although existing data regarding initiation or continuation of statin therapy in symptomatic heart failure patients (New York Heart Association Class II-IV) are equivocal. I sought to evaluate morbidities associated with unproven treatment in heart failure patients because it may decrease the number of problems in these patients which is very valuable. Based upon the experience of seeing and treating patients with heart failure, I have observed signs and symptoms of skin dryness and pruritus in these patients which was related to their antihyperlipidemic treatment. This relationship was supported by the disappearance of these signs and symptoms after discontinuing their antihyperlipidemic drug and increasing fat in their diet. Improvement was seen by the next visit within one to two months of the intervention. I also observed that some of these patients had been treated for their symptoms with treatments for dermatitis and without response to topical treatment. Evaluation of clinical sign and symptoms of skin dryness and pruritus related to extreme antihyperlipidemic treatment is important, because it decreases the number of morbidities in heart failure patients and prevents inappropriate and potentially deleterious therapies.

Keywords: Lipids; Muscle Wasting; Side Effects; Skin Dryness

SUMMARY

Morbidities following antihyperlipidemic treatment have been reported in the literature. According to new guidelines high intensity antihyperlipidemic therapy is a class I recommendation for some disorders, although existing data regarding this therapy in symptomatic heart failure patients are equivocal. Evaluation of symptoms related to extreme antihyperlipidemic treatment in heart failure patients is important, because it decreases the number of morbidities.

ABBREVIATIONS

CORONA: Controlled Rosvastatin Multinational Trail in Heart Failure

GISSI-HF: Gruppo Italiano per lo Studio della Sopravvivenza nell'Infarto Miocardio Heart Failure

Morbidities following antihyperlipidemic treatment have been reported in the literature¹⁻³. For example, niacin therapy can cause various ocular side effects such as cystoid muscular edema, blurred vision, and dry eyes³. Statin therapy while is the cornerstone of antihyperlipidemic treatment in current guidelines^{4, 5} can cause muscular and hepatic side effects¹. A review study reported that statins may promote atherogenesis by suppressing vitamin K2 synthesis and thereby enhancing coronary artery calcification². Furthermore, statins might cause heart failure by depleting the myocardium of CoQ10, 'heme A' and selenoproteins, thereby impairing mitochondrial adenosine triphosphate production². This review is based on biochemical and pharmacological studies about statins and reevaluation of previous clinical studies, although more clinical studies for confirmation of the clinical effect are required².

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According to new guidelines high intensity antihyperlipidemic therapy is a class I recommendation for patients with clinical atherosclerotic cardiovascular disease or low density lipoprotein cholesterol equal or more than 190 milligram per deciliter, although existing data regarding initiation or continuation of statin therapy in symptomatic heart failure patients (New York Heart Association Class II-IV) are equivocal with absent recommendations. In part this due to the fact that heart failure patients have been largely excluded from randomized controlled trials^{4,5}. The Gruppo Italiano per lo Studio della Sopravvivenza nell'Infarto Miocardico Heart Failure (GISSI-HF) and Controlled Rosuvastatin Multinational Trial in Heart Failure (CORONA) trials directly evaluated use of statins in patients with symptomatic heart failure of reduced ejection fraction. The GISSI-HF trial enrolled 4,574 heart failure patients with both ischemic and non-ischemic etiology and CORONA trial assessed 5,011 heart failure patients (ejection fraction $\leq 40\%$) with ischemic etiology and New York Heart Association Class II-IV symptoms. Neither the GISSI-HF nor the CORONA trial showed significant decrease in primary endpoints and major secondary end points^{6,7}. An additional and related issue is that nearly 20% of ambulatory heart failure patients have skeletal muscle wasting which may be a confounder with antihyperlipidemic therapy. Higher dietary fat has been suggested to be beneficial in such heart failure patients compared to other people⁸⁻¹⁰.

Based upon the experience of seeing and treating patients with heart failure, I have observed signs and symptoms of skin dryness and pruritus in these patients which was related to their antihyperlipidemic treatment. This relationship was supported by the disappearance of these signs and symptoms after discontinuing their antihyperlipidemic drug and increasing fat in their diet. Improvement was seen by the next visit within one to two months of the intervention. I also observed that some of these patients had been treated for their symptoms with treatments for dermatitis and without response to topical treatment. These findings have not been described in previously reported literature, but based on studies fat is an important component of skin¹¹⁻¹⁵ and decreasing body fat for any reason such as low fat diet (or even decreasing fat on skin surface for external causes) can produce dry skin¹¹⁻¹⁵. Studies showed reduction in skin lipid results dry skin in patients with atopic dermatitis^{11,16}. Dry skin and pruritus are one of the most common signs and symptoms in atopic dermatitis^{11,16}; and therefore heart failure patients with these symptoms can be treated wrongly for atopic dermatitis. The treatments of patients with atopic dermatitis are topical corticosteroids and oral immunosuppressive in some cases which can cause unpleasant side effects^{16,17}.

In conclusion, evaluation of the signs and symptoms of skin dryness and pruritus due to extreme antihyperlipidemic treatment is important to consider, because it decreases the number of morbidities especially in heart failure patients⁹⁻¹⁰ and prevents inappropriate or potentially dangerous therapies^{16,17}. This evaluation is not harmful in patients with heart failure because recent guidelines^{4,5} do not support initiation or continuation of statin lowering medication in symptomatic heart failure patients, although many heart failure patients are taking this treatment because of coronary artery disease or high serum level of LDL^{4,5}.

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