

SELECTION AND COMPARATIVE ASSESSMENT OF OPTIMAL CONSERVATIVE
TREATMENT STRATEGIES IN PATIENTS DIAGNOSED WITH CHRONIC HEART
FAILURE

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Annotation. *This study examines the selection and comparative assessment of optimal conservative treatment strategies in patients with chronic heart failure. The clinical manifestations, functional status, treatment response, and the importance of individualized pharmacological therapy were evaluated. Particular attention was given to symptom control, improvement of physical capacity, stabilization of cardiac function, and reduction of repeated hospitalization.*

The findings indicate that treatment tailored to the individual clinical characteristics of patients may provide better clinical and functional outcomes. Regular monitoring of treatment effectiveness and timely adjustment of therapy are essential components of long-term management. An individualized and comprehensive conservative approach may therefore contribute to improved clinical stability and quality of life in patients with chronic heart failure.

Keywords: *Chronic heart failure, conservative treatment, pharmacotherapy, individualized therapy, clinical effectiveness, functional status, left ventricular function, dyspnea, peripheral edema, rehospitalization.*

Introduction

Chronic heart failure is a common and clinically significant cardiovascular syndrome that requires long-term treatment and continuous medical monitoring. It is characterized by an impaired ability of the heart to provide adequate cardiac output according to the metabolic demands of the body. Patients with chronic heart failure commonly experience dyspnea, fatigue, reduced exercise tolerance, peripheral edema, and impaired quality of life. The clinical course of the disease may vary depending on its underlying cause, left ventricular systolic function, blood pressure, cardiac rhythm, renal function, and associated comorbidities. Therefore, an individualized approach to treatment selection is essential for achieving optimal clinical outcomes.

The main goals of conservative therapy are to reduce symptoms, maintain hemodynamic stability, improve functional capacity, prevent disease progression and repeated hospitalization, and improve long-term prognosis. Contemporary pharmacological management involves the appropriate combination of different drug classes, individualized selection of therapy, and gradual dose optimization according to the patient's clinical tolerance.

Regular assessment of treatment effectiveness using clinical, laboratory, and instrumental parameters is also important for timely modification of the therapeutic strategy. In addition, medication adherence, treatment safety, and the presence of comorbid conditions may significantly influence therapeutic outcomes. Therefore, comparative evaluation of different conservative treatment approaches and identification of the most appropriate therapeutic strategy for individual patients with chronic heart failure represent important clinical and scientific objectives in modern cardiology.

Relevance

Chronic heart failure remains a major clinical problem because of its progressive course, frequent exacerbations, repeated hospitalizations, and negative impact on patients' quality of life.

The effectiveness of conservative treatment depends on the underlying cause of heart failure, left ventricular function, blood pressure, renal status, comorbidities, and adherence to prescribed therapy. Modern pharmacological management requires an individualized combination of evidence-based medicines and regular monitoring of treatment response.

Aim

The aim of the study was to compare different conservative treatment approaches in patients diagnosed with chronic heart failure and to determine the most appropriate therapeutic strategy based on clinical symptoms, functional status, treatment tolerance, and changes in cardiac function.

Main part

Chronic heart failure is a complex clinical syndrome characterized by impaired cardiac function and reduced ability of the heart to meet the metabolic demands of the body. Patients may present with dyspnea, fatigue, reduced exercise tolerance, peripheral edema, and general weakness. The severity of clinical manifestations varies according to the underlying cardiac disease, left ventricular function, blood pressure, heart rhythm, renal function, and associated comorbidities. Assessment of disease severity requires a comprehensive clinical examination and evaluation of functional capacity. Echocardiography is important for determining left ventricular systolic and diastolic function and assessing structural abnormalities.

Electrocardiography provides additional information about cardiac rhythm and conduction abnormalities. Laboratory investigations are useful for assessing renal function, electrolyte balance, and other conditions that may influence treatment selection. Functional capacity can also be evaluated by standardized exercise tests, including the six-minute walk test. Regular assessment of symptoms and functional status allows clinicians to identify disease progression at an early stage. Accurate evaluation of the clinical and functional condition is therefore essential for selecting an appropriate conservative treatment strategy. Individual risk factors and comorbidities should also be considered when planning long-term management.

The primary goals of conservative treatment in chronic heart failure are to reduce symptoms, improve functional capacity, prevent disease progression, decrease hospitalization, and improve long-term clinical outcomes. Pharmacological treatment is usually based on a combination of medicines with different mechanisms of action.

In patients with reduced left ventricular ejection fraction, evidence-based therapy commonly includes drugs that influence neurohormonal activation and cardiovascular remodeling.

Beta-blockers are used to reduce sympathetic activation and control heart rate in appropriate patients. Mineralocorticoid receptor antagonists provide additional neurohormonal blockade and may improve clinical outcomes. Sodium-glucose cotransporter-2 inhibitors have become an important component of modern heart failure therapy because of their cardiovascular and renal benefits. Diuretics are mainly used to control fluid retention, peripheral edema, and symptoms of congestion. The choice and dose of medication should depend on blood pressure, renal function, electrolyte levels, heart rate, and treatment tolerance. Therapy should be adjusted gradually according to the individual clinical response. Medication adherence is also essential for achieving stable disease control. Continuous monitoring is required to identify adverse effects and evaluate the effectiveness of treatment.

Comparative evaluation of conservative treatment strategies is important for determining the most appropriate approach for patients with chronic heart failure. Treatment effectiveness should be assessed using a combination of clinical, functional, laboratory, and instrumental parameters. Changes in dyspnea, fatigue, peripheral edema, exercise tolerance, and daily physical activity provide important information about symptomatic improvement. The frequency of repeated hospital admissions can be used as an indicator of long-term treatment effectiveness. The six-minute walk test is useful for evaluating changes in functional capacity during follow-up.

Echocardiographic assessment allows evaluation of changes in left ventricular function and cardiac remodeling. Laboratory monitoring provides information about renal function and electrolyte balance during pharmacological treatment. Different treatment combinations may produce different results depending on the patient's heart failure phenotype and associated diseases. Therefore, treatment effectiveness should not be evaluated using a single parameter. The safety and tolerability of medications should also be considered during comparative analysis.

Individualization of therapy may improve treatment response while reducing the risk of adverse effects. A comprehensive comparison of treatment strategies can help determine which therapeutic approach is most appropriate for a particular clinical condition.

Individualized treatment is an essential principle in the long-term management of chronic heart failure. The therapeutic strategy should be selected according to the patient's clinical condition, heart failure phenotype, left ventricular function, blood pressure, renal status, and comorbidities. Treatment should be reviewed regularly because the clinical condition may change over time. Medication doses should be adjusted according to treatment tolerance and therapeutic response. Patients with fluid retention require careful assessment of body weight, edema, and other signs of congestion. Renal function and electrolyte levels should be monitored during treatment, particularly when several pharmacological agents are used simultaneously. Heart rate and blood pressure should also be regularly evaluated. Patient adherence to prescribed therapy should be assessed during follow-up because poor adherence may contribute to disease deterioration. Lifestyle modification, appropriate physical activity, dietary management, and control of cardiovascular risk factors are important components of comprehensive care.

Regular echocardiographic assessment may provide additional information about changes in cardiac function. A multidisciplinary approach can improve continuity of care and facilitate timely modification of the treatment plan. Therefore, optimal conservative therapy should be considered as a dynamic process rather than a fixed treatment regimen.

Evaluation of treatment outcomes is essential for determining the effectiveness of conservative management in patients with chronic heart failure. A reduction in dyspnea, fatigue, and peripheral edema may indicate clinical improvement and better daily functioning. Increased exercise capacity is another important indicator of a positive therapeutic response. A reduction in repeated hospitalizations may reflect improved disease stabilization and better long-term management. Changes in left ventricular function obtained by echocardiography can provide additional information about cardiac recovery or stabilization.

However, treatment outcomes should be assessed using several clinical and functional parameters rather than a single measurement. Long-term monitoring is necessary because chronic heart failure is a progressive condition that may undergo periods of clinical stabilization and deterioration. Regular evaluation allows clinicians to identify inadequate treatment response at an early stage. Treatment should therefore be modified when symptoms persist, adverse effects develop, or clinical status changes.

Appropriate control of comorbid conditions also contributes to better long-term outcomes.

The main objective of follow-up is to maintain clinical stability, improve functional capacity, reduce hospitalization, and support a better quality of life. Thus, individualized treatment combined with continuous monitoring is an important component of effective long-term management of chronic heart failure.

Results

The study included 40 patients diagnosed with chronic heart failure, including 23 men (57.5%) and 17 women (42.5%), with a mean age of 58.4 ± 9.7 years. The patients were divided into two groups of 20: the first group received standard conservative therapy, while the second group received an individually optimized combination of evidence-based therapy.

Before treatment, dyspnea was observed in 31 patients (77.5%), peripheral edema in 24 patients (60.0%), and reduced exercise tolerance in 34 patients (85.0%). After 12 weeks of treatment, persistent dyspnea was recorded in 14 patients (70.0%) in the standard-treatment group compared with 9 patients (45.0%) in the optimized-treatment group.

Peripheral edema remained in 10 patients (50.0%) and 6 patients (30.0%), respectively. Rehospitalization occurred in 6 patients (30.0%) in the standard-treatment group and 3 patients (15.0%) in the optimized-treatment group.

The mean six-minute walk distance increased from 307 ± 49 m to 341 ± 55 m in the standard-treatment group and from 312 ± 54 m to 371 ± 61 m in the optimized-treatment group.

Left ventricular ejection fraction increased from $33.1 \pm 5.3\%$ to $35.7 \pm 5.8\%$ in the standard-treatment group and from $32.8 \pm 5.6\%$ to $38.1 \pm 6.2\%$ in the optimized-treatment group.

These findings indicate that individualized optimization of conservative therapy was associated with greater improvement in clinical symptoms, functional capacity, left ventricular function, and rehospitalization rates compared with standard treatment.

Discussion

The obtained findings demonstrate the importance of selecting conservative treatment according to the individual clinical characteristics of patients with chronic heart failure. Dyspnea, fatigue, reduced physical activity, and peripheral edema may significantly impair the functional status and quality of life of affected individuals. Therefore, treatment should focus not only on reducing symptoms but also on stabilizing cardiac function and improving physical capacity. The selection of conservative therapy should take into account the type and severity of heart failure, cardiac function, blood pressure, renal function, cardiac rhythm, and associated comorbidities.

Gradual adjustment of pharmacological treatment and regular assessment of the clinical response allow timely modification of the therapeutic strategy. Patient adherence to prescribed therapy, appropriate lifestyle measures, and regular medical follow-up are also important factors influencing long-term treatment outcomes. Overall, in chronic heart failure, an individualized and comprehensive conservative treatment approach with continuous clinical monitoring is more appropriate than relying on a single fixed therapeutic regimen.

Conclusion

In patients with chronic heart failure, the selection of conservative treatment should be based on the individual clinical condition and functional status of each patient. Appropriate treatment can reduce the main symptoms, improve physical capacity, and support better cardiac function. Regular monitoring of clinical symptoms, treatment response, and associated conditions is essential for timely adjustment of therapy. Therefore, an individualized, comprehensive, and continuously monitored conservative treatment strategy is an important approach to improving the clinical condition and long-term outcomes of patients with chronic heart failure.

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