Journal of Pericardiology
Vol.01, No.01
www.jopjournal.com

Clinical Profile and Treatment Outcomes of Patients with Chronic Pericarditis

[1]Dr. Anurag Singh Sikarwar, [2] Dr. Bhanu Pratap Singh Dhakar

[1]Consultant Internal Medicine, Department of Medicine, Devraj Institute of Medical Sciences, Gwalior, Madhya Pradesh, India
[2]Assistant Professor, Department of General Medicine. Chirayu Medical College & Hospital, Bhopal, Madhya Pradesh, India

Abstract

Chronic pericarditis is a persistent inflammatory condition of the pericardium associated with significant morbidity due to recurrence and complications. Understanding its clinical profile and treatment outcomes is essential for improving patient management. To evaluate the clinical characteristics, etiological spectrum, diagnostic findings, and treatment outcomes of patients with chronic pericarditis. This hospital-based observational study included 80 patients diagnosed with chronic pericarditis. Data on demographic characteristics, clinical presentation, laboratory parameters, imaging findings, treatment modalities, and outcomes were collected and analyzed using descriptive and inferential statistics. The mean age of patients was 47.3 ± 13.8 years, with a slight male predominance (52.5%). Chest pain (76.2%) and dyspnea (57.5%) were the most common presenting symptoms. Idiopathic pericarditis was the predominant etiology (42.5%), followed by tuberculous (22.5%) and autoimmune causes (13.7%). Elevated inflammatory markers were observed, with mean ESR of 42.8 ± 15.6 mm/hr and CRP of 18.7 ± 9.4 mg/L. Most patients (65.0%) were managed with NSAIDs and colchicine, while 7.5% required surgical intervention. Clinical improvement was observed in 70.0% of patients, whereas recurrence occurred in 22.5%. Significant associations were noted between inflammatory markers and recurrence ($p < 0.05$). Chronic pericarditis presents with varied etiologies and clinical features but shows favorable outcomes with appropriate medical management. Early diagnosis and monitoring of inflammatory markers are crucial to reduce recurrence and complications.

Keywords: Chronic pericarditis; Etiology; Inflammatory markers; Treatment outcomes; Recurrence

1. Introduction

The pericardium is a fibroserous structure consisting of two layers which surround the heart and the great vessels, which is critical in ensuring the functionality and structural integrity of the heart. It offers mechanical assistance, restricts the undue cardiac motion, and decreases friction in the cardiac cycle. Also, the pericardium plays a role in the ventricular interdependence and acute cardiac dilation in acute volume overload. Any pathological changes in the pericardium may disrupt these functions and result in clinically significant cardiovascular diseases.

Chronic pericarditis refers to inflammation of the pericardium, which is continuous or repetitive over a period of over three months. In contrast to acute pericarditis, which is characterized by acute-onset symptoms, chronic pericarditis may have a long-lasting or recurrent course and patients have recurrent chest pains, dyspnea, and fatigue. Chronic inflammatory process can lead to pericardial thickening, fibrosis, and ultimate constrictive physiology, which severely affects the cardiac filling and cardiac functioning (Collini et al., 2024; Vecchié et al., 2020). Even though the previous background literature has characterized the overall principles of diagnosis and management, current research points to the changes in clinical patterns and response to treatment (Imazio and Gaita, 2015; Imazio and Adler, 2013).

Epidemiological evidence indicates that pericardial diseases constitute a significant proportion of the cardiovascular disorders faced in the clinical practice, but there are differences in the prevalence among various populations. There are age- and sex-related differences, some studies show that it is more common in younger males, others show more balanced distribution based on underlying etiologies (Laufer-Perl et al., 2017). The studies which have been conducted in hospitals have proven that the clinical presentation and prognosis of pericarditis can vary dramatically based on the demographics and geographical factors (Vecchié et al., 2020).

Chronic pericarditis etiology is multifactorial and consists of idiopathic, infectious, autoimmune, and post-cardiac injury. Idiopathic cases still prevail, but infectious etiologies like tuberculosis still play a major role in some areas. The presence of autoimmune processes and systemic inflammatory diseases are also part of the disease development, and they are the result of complex immunological interactions (Cucu et al., 2019; Giordani et al., 2024). Moreover, systemic inflammatory states, such as chronic inflammatory diseases, can also impact the progression of the disease and clinical outcomes, which is why the significance of learning about comorbidities in the management of patients is important (Cioffi et al., 2021).

Clinically, chronic pericarditis is important due to its potential to progress to serious complications. Repeated inflammation may result in repeated hospitalization, extended morbidity and poor quality of life. Among these complications, constrictive pericarditis is one of the most important as it occurs due

to pericardial fibrosis and calcification, which impairs the filling of the ventricles. In severe cases, surgical intervention, especially pericardiectomy, might be necessary. The meta-analytical evidence indicates that surgical management may enhance survival and functional recovery, but poses certain risks and must be carefully selected to patients (Tzani et al., 2021). Moreover, the long-term outcomes are hard to forecast as the recurrence and the development of the diseases differ in patients (Yesilyaprak et al., 2024).

The progress of therapeutic approaches in the recent past has enhanced the treatment of chronic and recurrent pericarditis. The traditional medicines are nonsteroidal anti-inflammatory drugs, colchicine, and corticosteroids and are used to decrease the inflammation and avoid the recurrence. New immunomodulatory therapies have been promising in patients with refractory disease that provide a direct way of altering inflammatory pathways (Ammirati et al., 2022). Newer clinical guidelines promote personalized interventions in relation to the severity of the diseases, etiology, and patient features, thus enhancing the overall clinical results (Arutyunov et al., 2023).

Research objectives

- To evaluate the clinical profile of patients with chronic pericarditis, including demographic characteristics and presenting symptoms
- To analyze the etiological and diagnostic patterns, including laboratory parameters and echocardiographic findings
- To assess the treatment modalities and clinical outcomes, including symptom improvement, recurrence, and complications

2. Materials and Methods

2.1 Study Design

The study was carried out as a hospital based observational study which was to assess the clinical profile and treatment outcome of patients with chronic pericarditis. The research was retrospective with the use of routine collected clinical data, to provide a real-world picture of the disease patterns and management practice.

2.2 Study Setting and Duration

The research was conducted in the Department of Cardiology of a tertiary care hospital where patients with suspected or confirmed pericardial diseases are screened regularly with the help of clinical, laboratory, and imaging methods. The hospital has a wide range of patients and offers an appropriate environment to measure the differences in clinical presentation and treatment outcomes. The research was carried out in the course of 12-24 months, which is a long period to evaluate the patient and

provide treatment and follow-up to measure the clinical outcomes.

2.3 Study Population

A total of 80 patients diagnosed with chronic pericarditis were included in the study. Clinical presentation, laboratory tests, and imaging results, especially echocardiography, were taken into account to establish the diagnosis. The patients who were included had to be meeting the given criteria and possessing full medical records.

2.4 Inclusion and Exclusion Criteria

In the study, adult patients aged 18 years and older with a diagnosis of chronic pericarditis were eligible to participate in the study; the term chronic pericarditis was used to describe a situation in which there was inflammation of the pericardium and the symptoms lasted beyond three months. The patients needed to be provided with full clinical, laboratory, and imaging data in order to be evaluated correctly. The patients who had acute pericarditis, incomplete medical history, or having severe comorbidity that would have a significant impact on clinical outcomes were not included in the study.

2.5 Data Collection

A structured data collection format was used to collect data on patient records. Such data as demographics (age, sex), clinical (chest pain, dyspnea, fatigue, length of symptoms) were also recorded. Etiological factors were divided into idiopathic, infectious (including tuberculosis), autoimmune, post-cardiac injury and other causes. Diagnostic testing involved the use of echocardiographic measurements of pericardial effusion, pericardial thickness and characteristics indicative of constrictive physiology. Electrocardiographic results were also recorded and further imaging examinations done as per the availability like chest X-ray or any other form of imaging.

2.6 Treatment Details

All patients were treated in accordance with conventional clinical practice. Nonsteroidal anti-inflammatory drugs (NSAIDs), colchicine, and corticosteroids were also used to treat inflammation and prevent recurrence by using medical management. Surgery, in form of pericardiectomy or other procedures was done in select cases with advanced disease or complications like constrictive pericarditis.

2.7 Outcome Measures

The clinical symptomatic improvement after the treatment, the recurrence of pericarditis during the follow-up, and the occurrence of complications such as constrictive pericarditis were the key outcomes that were measured in this study. Mortality where appropriate were also noted. These outcomes were evaluated to determine the effectiveness of different treatment approaches and the

overall disease progression.

2.8 Statistical Analysis

The data were keyed into and analyzed using Microsoft Excel. Continuous variables were reported in mean standard deviation and categorical variables were reported in frequencies and percentages. Where necessary, inferential statistical analysis was done. The Chi-square test was employed to evaluate the relationships between categorical variables and the independent t-test was employed to compare the means of the groups. The correlation analysis was performed to assess the relationships between clinical and laboratory parameters. The regression analysis was conducted as well to determine the predictors of treatment results and recurrence. P-value less than 0.05 was deemed to be statistically significant.

2.9 Ethical Approval

The research was carried out in line with the set ethical guidelines and principles of conducting medical research by using human subjects. Anonymity of all personal identifiers ensured that patient confidentiality and data privacy was highly respected during the study. Since this research was an observational study of routinely collected clinical data, informed consent was received according to the institutional guidelines.

3. Results

3.1 Baseline Demographic Characteristics

The current study involved 80 patients who had chronic pericarditis. The age distribution was wide with the range of 19 to 76 years with the mean age of 47.3/13.8 years showing that chronic pericarditis is a disease of a wide adult population. A considerable percentage of patients was found to be concentrated in the middle-aged (30-60 years) age group implying that there is a greater burden of disease in the economically active (30-60 years) age group. The gender distribution was slightly biased towards males with 42 males (52.5) and 38 females (47.5), giving a total of almost equal number of males and females. This fairly equal distribution suggests that chronic pericarditis is not highly gender-biased in this cohort, but a slight bias in favor of males was noted.

Table 1. Baseline Demographic Characteristics

Variable	Value
Total patients	80
Age (years), mean ± SD	47.3 ± 13.8
Age range	19–76
Male	42 (52.5%)
Female	38 (47.5%)

The patients age distribution showed a large spread with the middle age group being concentrated.

The study population had a slight male preponderance. The graphical representation of age and gender distribution is shown in Figure 1.

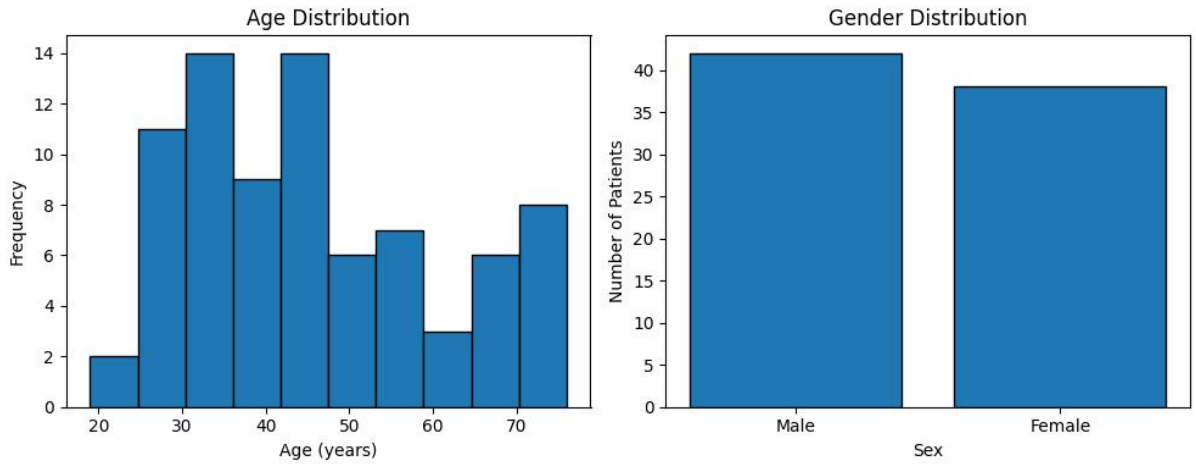

Figure 1. Age and gender distribution of patients with chronic pericarditis

The age and gender distribution of patients with chronic pericarditis were shown in figure 1. Most of the patients were focused in the middle-aged population with a little male preponderance, which was in line with the overall demographic of the study population.

3.2 Clinical Characteristics

In this study, the clinical picture of chronic pericarditis included a leading role of cardinal symptoms of pericardial inflammation (Table 2). Chest pains were the most common symptom, reported among 61 patients (76.2), as it is at the center of the disease manifestation. Dyspnea frequently accompanies chest pain, and was reported in 46 patients (57.5%), indicating the effects of pericardial involvement on respiratory and cardiac filling capabilities. Also, 38 patients (47.5%) experienced fatigue, which reflects the chronic and systemic disease. Less common symptoms were fever (30.0%), and palpitations (23.7%), which could indicate some underlying inflammatory or hemodynamic alterations. The average time of symptoms before diagnosis was 11.6 ± 4.2 months, which proves that the disease was chronic in this cohort and shows the possibility of delayed diagnosis, or the presence of the symptoms despite the treatment.

Table 2. Clinical Presentation

Symptoms	Frequency (%)
Chest pain	61 (76.2%)
Dyspnea	46 (57.5%)
Fatigue	38 (47.5%)
Fever	24 (30.0%)
Palpitations	19 (23.7%)

3.3 Etiological Profile

Etiological factors (Table 3) showed that idiopathic pericarditis was the most common cause, with 34 of the patients (42.5) showing this, which suggests that a large proportion of cases cannot be attributed to a distinct underlying cause. This was succeeded by tuberculous pericarditis, which was seen in 18 patients (22.5%), indicating still the relevance of the infectious etiologies in some population. Autoimmune reasons were identified in 11 patients (13.7%), which demonstrates the importance of the systemic inflammatory and immune-mediated processes in the pathogenesis of chronic pericarditis. Other minor etiologies were post-cardiac injury (7.5%), uremic etiology (6.2%), and malignancy-associated etiology (3.7%), or post-infectious etiology (3.7%).

Table 3. Etiological Distribution

Etiology	Frequency (%)
Idiopathic	34 (42.5%)
Tuberculous	18 (22.5%)
Autoimmune	11 (13.7%)
Post-cardiac injury	6 (7.5%)
Uremic	5 (6.2%)
Malignancy-associated	3 (3.7%)
Post-infectious	3 (3.7%)

Etiological distribution of chronic pericarditis showed that the largest proportion was idiopathic cases, then tuberculous, and autoimmune causes. Other causal agents like post-cardiac, uremic and malignancy-related pericarditis were less commonly found. Figure 2 shows the distribution of etiological factors.

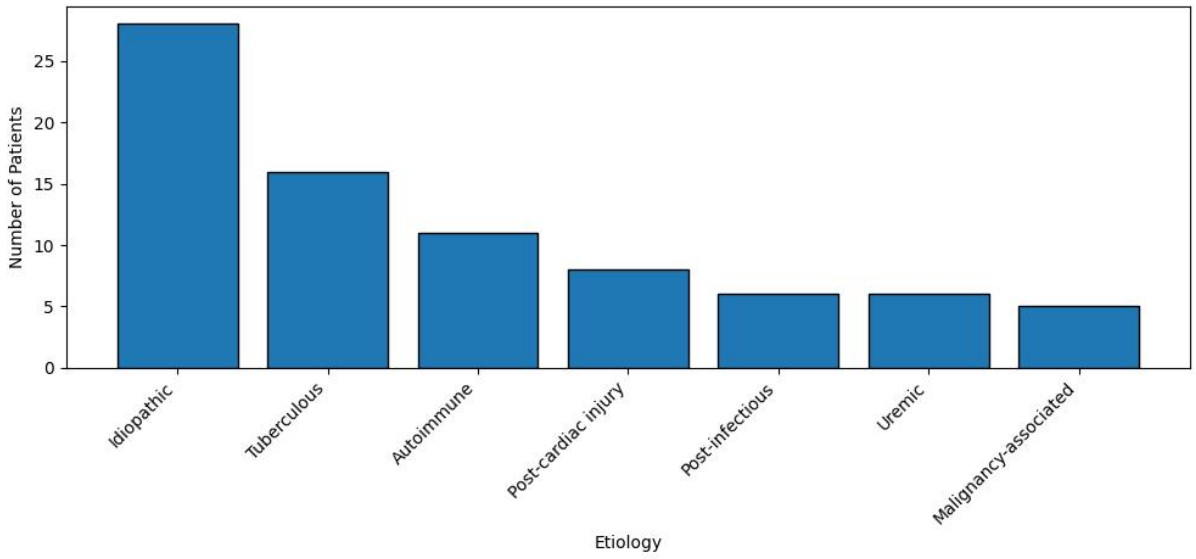

Figure 2. Etiological distribution of chronic pericarditis among the study population

Figure 2 revealed idiopathic pericarditis to be the most common etiology followed by infectious etiology mainly tuberculosis and other etiological groupings played smaller roles.

3.4 Diagnostic Findings

Echocardiographic analysis showed a range of pericardial involvement. A frequent finding was pericardial effusion, mild in 45.0% of the patients, moderate in 35.0% and severe in 20.0%. These results suggest that the accumulation of fluid is a common expression of chronic inflammation of the pericardium. Additionally, constrictive physiological characteristics were manifested in a quarter of the patients, indicating the development of advanced disease in a group of patients. The average pericardial thickness was 4.6 +/-1.5 mm which is in line with the chronic inflammatory alterations and fibrosis. Most patients had inflammatory markers which indicated that there was still systemic inflammation. The average ESR was 42.8 +/-15.6 mm/hr and average CRP was 18.7 +/- 9.4 mg/L, which showed an average level of inflammatory activity throughout the cohort (Table 4).

Table 4. Diagnostic Parameters

Parameter	Mean ± SD
ESR (mm/hr)	42.8 ± 15.6
CRP (mg/L)	18.7 ± 9.4
Pericardial thickness (mm)	4.6 ± 1.5

Laboratory assessment showed that most of the patients had high levels of inflammatory markers which indicated the persistence of pericardial inflammation. Figure 3 shows the distribution of erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) levels in the study population.

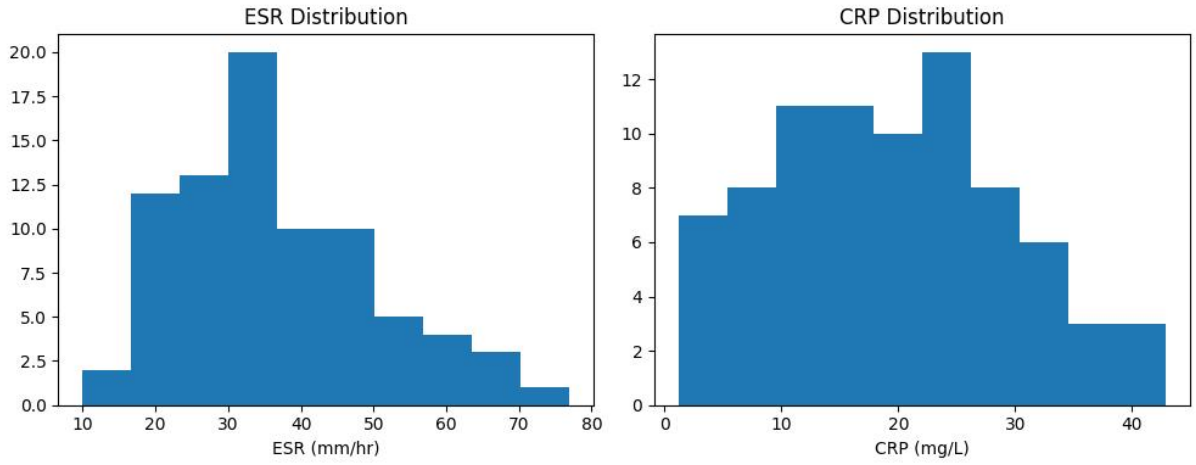

Figure 3. Distribution of inflammatory markers (ESR and CRP) among patients with chronic pericarditis

Figure 3 showed that the distribution of ESR and CRP values were broad with a preponderance of moderate to high values, which is the evidence of active inflammatory processes in chronic pericarditis patients.

3.5 Treatment Patterns

Most patients were treated in a conservative way using medical therapy which is the current standard clinical practice. The most commonly used regimen was NSAIDs in combination with colchicine, which was used in 52 patients (65.0%), which suggests that it is at the center of managing inflammation. In 20.0% of patients, corticosteroids were necessary, which is usually in patients with persistent or severe symptoms. A reduced number (7.5%) were given advanced or combination treatments, and surgical resection (pericardiectomy) was done on 6 patients (7.5) and most of them were constrictive physiology or refractory disease.

Table 5. Treatment Modalities

Treatment	Frequency (%)
NSAIDs + Colchicine	52 (65.0%)
Steroids	16 (20.0%)
Combination therapy	6 (7.5%)
Surgery	6 (7.5%)

Most of the patients received conservative medical management, with the most common combination being nonsteroidal anti-inflammatory drugs and colchicine. The rate of patients who had to receive corticosteroids, anti-tubercular therapy, or interventional measures was lower depending on the underlying etiology and the severity of the disease. Figure 4 shows the distribution of modalities of treatment.

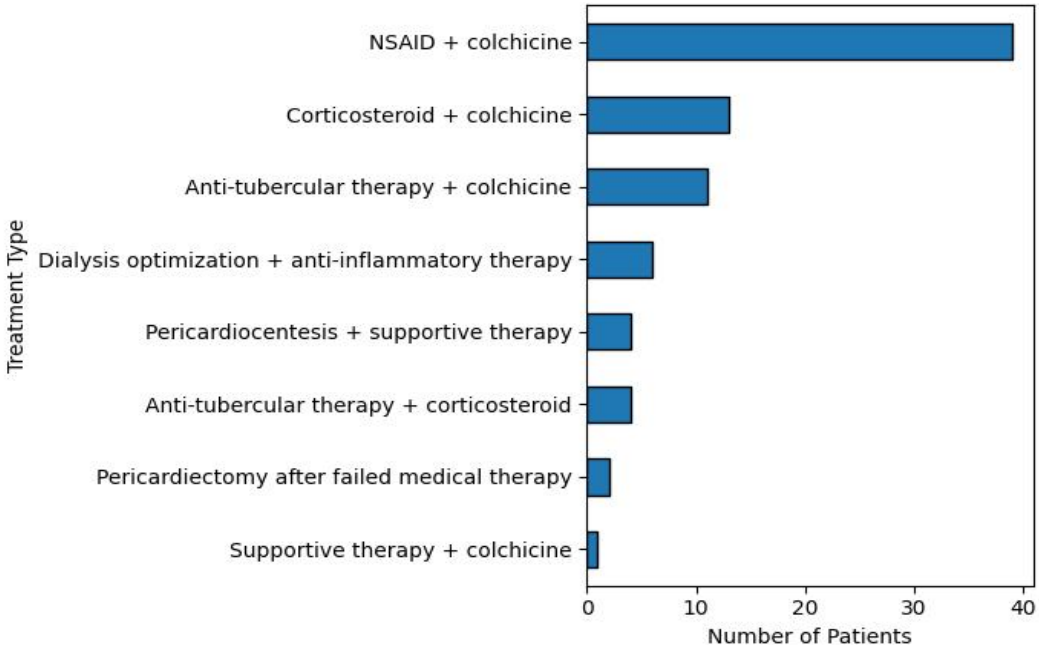

Figure 4. Distribution of treatment modalities among patients with chronic pericarditis

Figure 4 showed that NSAIDs and colchicine were the most commonly used treatment modalities, whereas other options, such as corticosteroids-based regimens, anti-tubercular treatment, and surgical or interventional treatment were used by a relatively smaller proportion of patients.

3.6 Clinical Outcomes

By 3-month follow-up, most patients (70.0%) had shown a significant clinical improvement, which is a positive response to treatment. But still, 20.0 percent of patients still reported persistent symptoms, implying that they were not fully resolved in a subgroup. There was recurrence of 22.5 percent after 6 months of therapy acting as an indication of the relapsing nature of chronic pericarditis. In 12.5% cases, complications were found such as progression to constrictive pericarditis and no mortality was reported in the course of the study.

Table 6. Clinical Outcomes

Outcome	Frequency (%)
Improved	56 (70.0%)
Persistent symptoms	16 (20.0%)
Recurrence	18 (22.5%)
Complications	10 (12.5%)
Mortality	0 (0%)

Most patients showed clinical improvement after treatment at 3-month follow-up. Some percentage of the patients responded partially whereas a smaller percentage of patients experienced recurrent symptoms or had to be continued to be managed after undergoing surgery. The distribution of clinical

outcomes is presented in Figure 5.

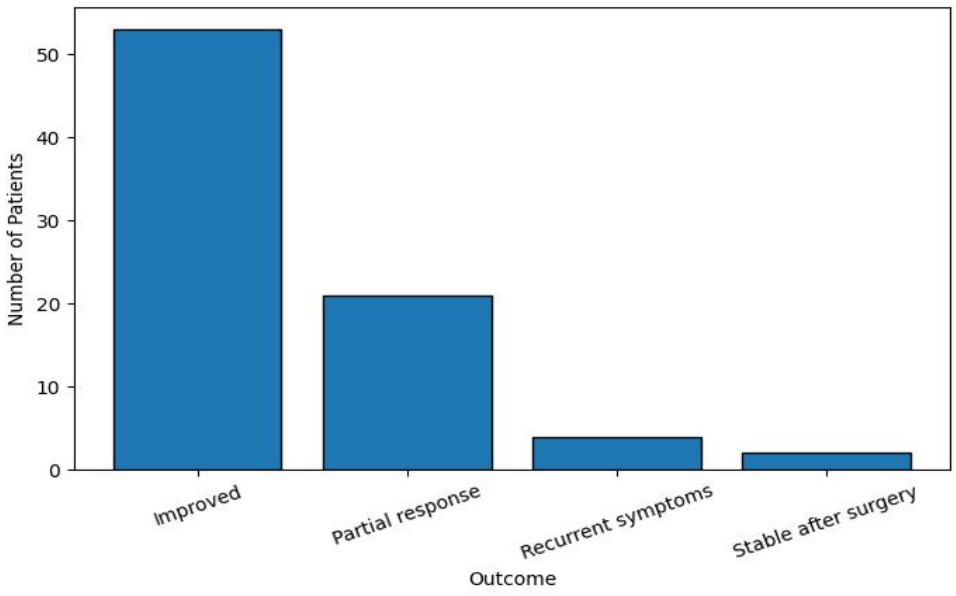

Figure 5. Clinical outcomes at 3-month follow-up among patients with chronic pericarditis

Figure 6 demonstrated that the majority of patients made clinical improvement, with a smaller percentage showing partial response or recurrence, which showed the variability of the response to treatment in patients with chronic pericarditis.

3.7 Inferential Analysis

Statistical analysis revealed that patients who had recurrence had a high level of CRP and ESR, which showed a strong relationship between inflammatory load and disease recurrence. Chi-square analysis also indicated that the etiology and recurrence were significantly correlated, indicating that some etiological subgroups might be at a greater risk. Correlation analysis indicated a moderate positive correlation between ESR and CRP, which confirmed their complementary nature as inflammatory factors. The CRP levels and pericardial thickness were found as independent predictors of recurrence through logistic regression analysis. Table 7 summarizes the results of the inferential analysis.

Table 7. Summary of Inferential Analysis

Variable	Test Used	Statistic	p-value
Age vs Recurrence	t-test	t = 0.87	0.38
ESR vs Recurrence	t-test	t = 2.24	0.026
CRP vs Recurrence	t-test	t = 2.41	0.018
Pericardial thickness vs Recurrence	t-test	t = 2.67	0.009
Etiology vs Recurrence	Chi-square	$\chi^2 = 12.67$	0.048
Constrictive physiology vs Recurrence	Chi-square	$\chi^2 = 14.85$	0.002
ESR vs CRP	Correlation	r = 0.62	<0.001
CRP (predictor of recurrence)	Regression	OR = 1.08	0.012

The analysis revealed that inflammatory markers such as ESR and CRP had a significant association with recurrence ($p < 0.05$). There was also a significant relationship between pericardial thickness and recurrence implying its role in the severity of the disease. Among categorical variables the etiology and the existence of constrictive physiology was significantly related with recurrence. Correlation analysis showed that there existed a moderate positive relationship between ESR and CRP ($r = 0.62$, $p < 0.001$). Moreover, regression analysis has also shown CRP to be an independent predictor of recurrence.

4. Discussion

The current paper entails an elaborate analysis of the clinical features, etiology, diagnostic approach, management plan, and prognosis of chronic pericarditis. The results have shown that the condition is mostly common among middle-aged people with a slight predominance of males, and the condition is characterised by symptoms like chest pain and dyspnea. The most common was idiopathic etiology, then infectious etiology and autoimmune etiology, and a majority of the patients responded successfully to medical therapy, but recurrence and complications were evident in some. These findings agree with modern knowledge of pericardial diseases, highlighting the heterogeneity of the disease and the changeable course of the disease. The latest consensus statements highlight the fact that chronic pericarditis is usually a chronic inflammatory condition with different etiologies that influence prognosis and treatment outcome (Imazio et al., 2025). The importance of the interaction between clinical, laboratory and imaging findings in arriving at the right diagnosis and treatment was also established in previous clinical constructs (Khandaker et al., 2010).

The fact that the cases in this study mainly represent idiopathic cases is consistent with the existing literature where a notable percentage of cases do not have a clear identifiable cause, which is often assumed to be viral or immune-mediated. Infectious etiologies, especially tuberculosis, are still applicable in some groups of people, and it is indicative of the epidemiological patterns in the region. The fact that symptoms like chest pain and dyspnea persisted in this study is very well-documented in pericardial disease and is evidence of continued inflammation and dysfunction of the heart. Most patients had high levels of inflammatory markers, ESR, and CRP as they are considered indicators of disease activity. Recent reviews focus on the fact that these biomarkers can be used in both diagnosis and monitoring response to treatment, as well as to predict recurrence (Özlek et al., 2025). This is further supported by the association between increased inflammatory levels of markers, and recurrence, which is found in this study.

Echocardiographic results showed to have differing amounts of pericardial effusion and elevated pericardial thickness with some patients exhibiting characteristics of constrictive physiology. The consequences of chronic inflammation may include fibrosis and stiffening of the pericardium, which leads to poor ventricular filling. Modern imaging methods, such as multimodality imaging, have greatly enhanced the process of detecting and characterizing constrictive pericarditis (Alajaji et al.,

2018; Klein et al., 2024). The clinical value of constrictive pericarditis is that it may lead to severe hemodynamic impairment, which has been emphasized in recent research (Gillombardo & Hoit, 2024; Welch, 2018).

The patterns of management seen in this research are in line with the existing clinical guidelines. Nonsteroidal anti-inflammatory drugs and colchicine continued to be the mainstay of treatment of most patients. This practice is also supported by practical clinical advice, the main idea in which is the need to treat with anti-inflammatory treatment in the management of symptoms and prevention (Imazio et al., 2017). The use of corticosteroids was applicable in cases of choice, especially those with unresponsive symptoms or with an autoimmune etiology. Not a big number of patients needed surgical treatment, primarily as pericardiectomy in the case of constrictive disease. Surgery is typically reserved to the severe cases and has been proven to positively affect the outcomes, but is associated with procedural risks and must be chosen carefully (Chowdhury and Sankhyan, 2023). The development of complications in some patients is evidence of the progressive nature of chronic inflammatory processes in the pericardium and the necessity to intervene in a timely manner.

The fact that this study has a recurrence rate indicates that chronic pericarditis is relapsing in nature. Incomplete resolution of the underlying cause coupled with persistent inflammation leads to recurrence, thus posing a major clinical challenge. The recent changes in the therapeutic methods, including anti-inflammatory and immunomodulatory agents blocking particular pathways, have been found to be helpful in preventing recurrence and improving long-term outcomes (Lazarou et al., 2024). Also, the pathophysiological mechanisms, such as inflammatory and molecular pathways, can also be better understood, which can further improve treatment methods (Cremer et al., 2016; den Hoogen et al., 2015).

Although it is indirectly connected with pericardial disease, the general principles of cardiovascular management dictate that early diagnosis and timely intervention can contribute to improved patient outcomes, and the same case applies to chronic pericarditis (Saha & Soliman-Aboumarie, 2025). Early disease identification and choice of treatment is important in terms of prevention of complications such as constrictive pericarditis and frequent episodes. There are a number of clinical implications of this study. It is also suggested that extensive assessment, such as clinical examination, laboratory tests, and imaging, in the diagnosis and treatment of chronic pericarditis is crucial. Inflammatory markers use can be used to assess the disease activity and aid in treatment decisions. In addition, it is possible that better results would be achieved through early treatment of patients at risk of recurrence or development of constrictive disease.

However, the study has certain limitations. The sample is quite small and the study is single-centric, so it may not be as reflective of the features of the population as a whole. The study is also limited by its observational nature to make the causal inference. Despite these shortcomings, the research is

useful in the context of the real-life data of clinical profile and treatment of chronic pericarditis. The strong point of this study is that it evaluates various factors about the disease such as clinical presentation, etiology, diagnostic results, treatment pattern and outcome among others. The proposed type of an integrated approach enhances the clinical relevance of the findings and assists in gaining a better insight into chronic pericarditis in practice.

Growth research should be the next generation research that can be conducted on large multicenter studies to validate these findings and determine regional variation of disease patterns. Additional research on new biomarkers and specific therapies could enhance diagnosis and decrease relapse. Imaging and molecular research innovations will probably play a key role in improving the accuracy of diagnosis and tailored treatment schedules to patients with chronic pericardial diseases.

5. Conclusion

In conclusion, the existing findings have revealed the heterogeneity of chronic pericarditis in relation to the clinical presentations and etiologic factors, especially in terms of affecting middle-aged people more often along with a predominance of males. The findings confirm that the prevalence etiology includes idiopathic pericarditis followed by infection-related pericarditis and autoimmunity-related pericarditis. The common manifestations of the disease are associated with chest pain and dyspnea, while higher levels of inflammatory markers (ESR and CRP) are an indication of its persistence. Positive responses to traditional medication have been observed for most patients, particularly for NSAIDs and colchicine. However, there were cases where some patients developed recurrence or progression to other conditions, such as constrictive pericarditis, indicating that it is important to manage these patients carefully by offering them personalized management plans. This study reinforces the importance of diagnosing the condition early and evaluating and treating them for better patient outcomes. The frequent monitoring of inflammatory indicators and images may assist in anticipating the occurrence of the illness and making decisions regarding treatment. Although there are certain disadvantages, this study can provide useful data for managing chronic pericarditis effectively. Future studies on bigger sample sizes and alternative treatment strategies will help improve knowledge and patient outcomes.

6. References

1. Alajaji, W., Xu, B., Sripariwuth, A., Menon, V., Kumar, A., Schleicher, M., ... & Klein, A. L. (2018). Noninvasive multimodality imaging for the diagnosis of constrictive pericarditis: a contemporary review. Circulation: Cardiovascular Imaging, 11(11), e007878.
2. Ammirati, E., Bizzi, E., Veronese, G., Groh, M., Van de Heyning, C. M., Lehtonen, J., ... & Brucato, A. (2022). Immunomodulating therapies in acute myocarditis and recurrent/acute pericarditis. Frontiers in medicine, 9, 838564.
3. Arutyunov, G. P., Paleev, F. N., Tarlovskaya, E. I., Moiseeva, O. M., Arutyunov, A. G., Koziolova, N. A., ... & Irtyuga, O. B. (2023). Pericarditis. Clinical Guidelines 2022. Russian Journal of Cardiology, 28(3), 5398.

4. Chowdhury, U. K., & Sankhyan, L. K. (2023). Surgical Treatment of Chronic Constrictive Pericarditis. Springer.
5. Cioffi, G., Viapiana, O., Tarantini, L., Orsolini, G., Idolazzi, L., Sonographer, F. O., ... & Giollo, A. (2021). Clinical profile and outcome of patients with chronic inflammatory arthritis and metabolic syndrome. Internal and Emergency Medicine, 16(4), 863-874.
6. Collini, V., Siega Vignut, L., Angriman, F., Braidotti, G., De Biasio, M., & Imazio, M. (2024). Age-stratified patterns in clinical presentation, treatment and outcomes in acute pericarditis: a retrospective cohort study. Heart, 110(18), 1139-1144.
7. Cremer, P. C., Kumar, A., Kontzias, A., Tan, C. D., Rodriguez, E. R., Imazio, M., & Klein, A. L. (2016). Complicated pericarditis: understanding risk factors and pathophysiology to inform imaging and treatment. Journal of the American College of Cardiology, 68(21), 2311-2328.
8. Cucu, I. A., Chifiriuc, M. C., & Chifiriuc, C. (2019). Etiology and incidence of infectious diseases of the heart. An update. Romanian Archives of Microbiology & Immunology, 78(1).
9. den Hoogen, P. V., den Akker, F. V., Deddens, J. C., & Sluijter, J. P. (2015). Heart failure in chronic myocarditis: a role for microRNAs?. Current genomics, 16(2), 88-94.
10. Gillombardo, C. B., & Hoit, B. D. (2024). Constrictive pericarditis in the new millennium. Journal of cardiology, 83(4), 219-227.
11. Giordani, A. S., Bocaj, I., Vicenzetto, C., Baritussio, A., Gregori, D., Scognamiglio, F., ... & Caforio, A. L. P. (2024). Aetiology, treatment and outcomes of pericarditis: long-term data from a longitudinal retrospective single-centre cohort. Journal of Clinical Medicine, 13(22), 6900.
12. Imazio, M., & Adler, Y. (2013). Management of pericardial effusion. European heart journal, 34(16), 1186-1197.
13. Imazio, M., & Gaita, F. (2015). Diagnosis and treatment of pericarditis. Heart, 101(14), 1159-1168.
14. Imazio, M., Collini, V., Aimo, A., Autore, C., Bauce, B., Biagini, E., ... & Sinagra, G. (2025). Update on the diagnosis and treatment of pericardial diseases: a position paper of the Italian Society of Cardiology in collaboration with the study group on cardiomyopathies and pericardial diseases. Journal of Cardiovascular Medicine, 26(1), 29-37.
15. Imazio, M., Gaido, L., Battaglia, A., & Gaita, F. (2017). Contemporary management of pericardial effusion: practical aspects for clinical practice. Postgraduate medicine, 129(2), 178-186.
16. Khandaker, M. H., Espinosa, R. E., Nishimura, R. A., Sinak, L. J., Hayes, S. N., Melduni, R. M., & Oh, J. K. (2010, June). Pericardial disease: diagnosis and management. In Mayo Clinic Proceedings (Vol. 85, No. 6, pp. 572-593). Elsevier.
17. Klein, A. L., Wang, T. K. M., Cremer, P. C., Abbate, A., Adler, Y., Asher, C., ... & Imazio, M. (2024). Pericardial diseases: international position statement on new concepts and advances in multimodality cardiac imaging. Cardiovascular Imaging, 17(8), 937-988.
18. Laufer-Perl, M., Havakuk, O., Shacham, Y., Steinvil, A., Letourneau-Shesaf, S., Chorin, E., ... & Arbel, Y. (2017). Sex-based differences in prevalence and clinical presentation among pericarditis and myopericarditis patients. The American Journal of Emergency Medicine, 35(2), 201-205.
19. Lazarou, E., Koutsianas, C., Vlachakis, P. K., Theofilis, P., Vassilopoulos, D., Tsioufis, C., ... & Tousoulis, D. (2024). Novel treatments in refractory recurrent pericarditis. Pharmaceuticals, 17(8), 1069.
20. Özlek, B., Tanık, V. O., & Barutçu, S. (2025). Inflammatory biomarkers in pericarditis: a comprehensive clinical review. Biomarkers in Medicine, 19(21), 1093-1106.
21. Saha, T., & Soliman-Aboumarie, H. (2025). Review of Current Management of Myocardial Infarction. Journal of Clinical Medicine, 14(17), 6241.
22. Tzani, A., Doulamis, I. P., Tzoumas, A., Avgerinos, D. V., Koudoumas, D., Siasos, G., ... &

Kampaktsis, P. N. (2021). Meta-analysis of population characteristics and outcomes of patients undergoing pericardiectomy for constrictive pericarditis. The American journal of cardiology, 146, 120-127.

23. Vecchié, A., Chiabrando, J. G., Dell, M. S., Bonaventura, A., Mauro, A. G., Wohlford, G., ... & Abbate, A. (2020). Clinical presentation and outcomes of acute pericarditis in a large urban hospital in the United States of America. Chest, 158(6), 2556-2567.
24. Welch, T. D. (2018). Constrictive pericarditis: diagnosis, management and clinical outcomes. Heart, 104(9), 725-731.
25. Yesilyaprak, A., Kumar, A. K., Agrawal, A., Furqan, M. M., Verma, B. R., Syed, A. B., ... & Klein, A. L. (2024). Predicting long-term clinical outcomes of patients with recurrent pericarditis. Journal of the American College of Cardiology, 84(13), 1193-1204.