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Impact of pericarditis on cardiovascular complications and healthcare utilization in patients with inflammatory bowel disease: a National Inpatient Sample study

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Abstract

Background Inflammatory bowel disease (IBD), which affects over 2.3 million people in the USA, involves chronic gut inflammation and can lead to cardiovascular complications, including pericarditis. Whether pericarditis in IBD patients is caused by medication, or by the disease itself, remains unclear. Our study aimed to determine the prevalence of pericarditis in IBD and its impact on cardiac complications, outcomes and resource utilization.

Methods NIS data were obtained for IBD patients from 2016-2020. Outcomes were assessed using multivariate logistic regression, adjusting for demographics, hospital characteristics, comorbidities, and IBD etiology.

Results In our study of 1.52 million IBD patients, 0.6% had pericarditis, of whom a majority were women (54.1%) and white (76.3%), over 65 years old (43.1%), enrolled in Medicare (51.7%), and living in urban areas (96.3%). Adjusting for confounding factors, IBD patients with pericarditis had higher odds of cardiac arrest (adjusted odds ratio [aOR] 2.73, 95% confidence interval [CI] 1.90-3.91), cardiogenic shock (aOR 6.42, 95%CI 4.77-8.64), and ventricular arrhythmia (aOR 2.13, 95%CI 1.63-2.78 (P<0.001 for all).

Conclusions Our study found that pericarditis, though rare at 0.6%, significantly impacts cardiovascular health and healthcare utilization in IBD patients, with higher prevalence of pericarditis in older individuals, females, and those with comorbidities such as diabetes, hypertension or chronic kidney disease highlighting the need for further research to enhance therapeutic approaches and patient care.

Keywords Inflammatory bowel disease, pericarditis, cardiovascular complications, cardiac arrest, cardiogenic shock

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Introduction

Inflammatory bowel disease (IBD) is a chronic disorder, involving inflammation of the gastrointestinal tract, that affects over 2.3 million people in the USA [1]. There are 2 types: Crohn's disease (CD) and ulcerative colitis (UC). IBD is probably a result of interactions between environmental and genetic factors that influence immunological responses within the body. IBD is thought to be caused by an overactive immunological response that disrupts the mucosa, changes the content of gut microbiota, and ultimately stimulates a pathological response in a previously normal mucous system [2]. This disease affects the gastrointestinal tract and

has other extra-intestinal manifestations, such as dermatologic or cardiovascular sequelae, that have been well described in the current literature.

Some of the common cardiac manifestations associated with IBD include ischemic heart disease, heart failure, arrhythmia, myocarditis, and pericarditis [3]. It has been hypothesized that the development of these cardiac manifestations is influenced by chronic systemic inflammation, the release of proinflammatory cytokines, direct cardiac toxicity, or a humoral antibody response to drug therapies used to treat IBD [4]. Existing literature identifies a heightened risk of cardiovascular disease (CVD) in patients experiencing acute IBD flares or persistent IBD activity, in comparison to IBD patients in remission [5]. Among patients with concomitant IBD and CVD, 70% of the comorbidity burden is attributable to pericarditis [6].

In the current literature, there is debate regarding whether pericarditis is an extraintestinal manifestation of IBD, or whether it is induced by drug therapies used to treat IBD. A total of 16 studies suggest that pericarditis primarily arises from complications due to drug therapy, specifically 5-aminosalicylic acid (5-ASA) derivatives such as sulfasalazine, mesalamine and balsalazide, as well as infliximab and azathioprine therapy [7]. Theorized pathological mechanisms for drug-induced pericarditis include humoral antibody responses (against pericardial antigens from 5-ASA exposure) and adverse reactions to azathioprine or infliximab (other drug therapies used to treat IBD) [8]. Studies have reported that cessation of drug therapy can lead to resolution of pericarditis symptoms within 1-2 weeks [9]. New treatments for UC and CD (e.g., tofacitinib, upadacitinib, etrasimod, mirikizumab) have demonstrated a safer cardiovascular profile in IBD patients [10,11]. These newer treatments might reduce the occurrence of adverse cardiac effects, making drug-induced pericarditis a less prevalent issue in the future.

In addition to evidence of drug-induced pericarditis, there are also cases of non-drug-induced pericarditis in IBD patients [12]. In these cases, pericarditis occurs either independently of IBD, or concurrently with disease flares [13]. This seems to support it as a cardiac manifestation of IBD and indicates that a greater understanding is required of the pathogenesis of pericarditis in IBD patients.

Currently, there is a paucity of data regarding the prevalence and impact of pericarditis among patients with IBD. Our study aimed to systematically examine the prevalence and impact of pericarditis on outcomes among patients with IBD, using nationally available data from hospitalized patients. We hypothesized that the presence of pericarditis would result in an increased risk of cardiac complications, worse outcomes, and increased resource utilization.

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Materials and methods

Data source

The Healthcare Cost and Utilization Project (HCUP), maintains the National Inpatient Sample (NIS) and is the largest database of inpatient hospital stays in the United States of America. It contains information on 35 million weighted hospitalizations annually. Each hospitalization is de-identified and is maintained in the NIS as a unique entry with 1 primary discharge diagnosis and up to 39 secondary diagnoses during that hospitalization. Each entry carries patient demographics, including age, sex, race, insurance status, primary and secondary procedures (up to 25), hospitalization outcomes, total charges, and length of hospital stay (LOS). Since publicly available de-identified data was used, institutional review board approval was not required for this study [14].

Study population

The International Classification of Diseases 10th Version, Clinical Modification (ICD-10 CM) diagnosis codes were used to identify IBD patients between 2016 and 2020. We excluded cases with missing data on in-hospital mortality, demographics, or age less than 18 years. In total, 1.52 million (1,524,820) cases met the inclusion criteria. This information is presented in Fig. 1.

Study outcomes and variables

The primary study outcome was sudden cardiac arrest during hospitalization compared between 2 groups based on the presence of pericarditis. Secondary outcomes included cardiogenic shock, ventricular arrhythmias, acute kidney

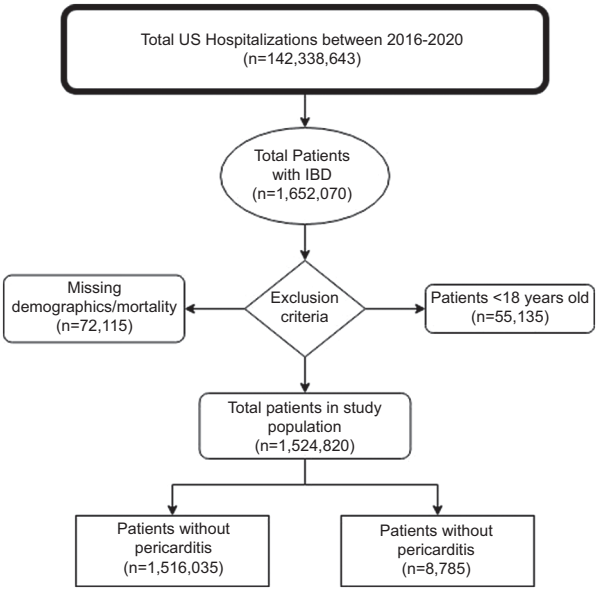

Figure 1 Flow diagram of inclusion criteria
IBD, inflammatory bowel disease

injury, acute respiratory failure, acute congestive heart failure, and resource utilization, as measured by mean LOS and total hospitalization charges. Information was collected on age groups (<44 years, 45-64 years, and >65 years), sex, race, primary insurance, median income, and hospital characteristics (region, size, and rural/urban location). We also collected data on comorbidities such as diabetes, hypertension, hyperlipidemia, smoking, chronic kidney disease, anemia, cancer, systemic lupus erythematosus, rheumatoid arthritis, obstructive sleep apnea, depression, chronic obstructive pulmonary disease, and acute myocardial infarction (AMI). Information was also collected regarding the etiology of IBD: UC or CD. The Charlson Comorbidity Index was used to assess the burden of comorbidities. This is a well-validated index, based on ICD 10-CM codes, that is intended to be used in extensive administrative data to predict mortality and hospital resource use [15].

Statistical analysis

We used the hospital discharge weights provided by the NIS to generate national estimates. Chi-square and independent t-tests were used to compare categorical and continuous variables, respectively. To identify the association between pericarditis and categorical/continuous outcomes, we first performed univariate logistic regression. This was followed by a multivariate logistic regression model that included only those variables that were noted to have P<0.01 on univariate analysis. The confounding variables studied were patient demographics, hospital characteristics, comorbidities, Charlson Comorbidity Index, and etiology of IBD. A 95% confidence interval (CI) was used to report adjusted odds ratios (aOR). A type I error of <0.05 was considered statistically significant. STATA 17.0 (Texas) was used for data analysis.

Results

Patient demographics and hospital characteristics

A total of 1,524,820 hospitalized patients were included in this study. Of these patients, 8785 (0.6%) had pericarditis. The majority of patients with pericarditis were older than 65 years (43.1%), female (54.1%), White (76.3%), and had Medicare insurance (51.7%). A significantly higher proportion of IBD patients with pericarditis resided in urban areas (96.3%) compared to rural areas (3.7%). A complete list of the patient demographics and hospital characteristics included in the study is presented in Table 1.

Patient comorbidities and etiology of IBD

Patients in the pericarditis group had greater prevalence of diabetes, hypertension, hyperlipidemia, chronic kidney disease, anemia, cancer, systemic lupus erythematosus, obstructive sleep apnea, chronic obstructive pulmonary disease, and AMI compared to patients without pericarditis. A comprehensive list of comorbidities is presented in Table 2.

Outcomes (Table 3)

Cardiac arrest

Of the total study population, 0.43% had a cardiac arrest: 1.9% of the IBD patients with pericarditis had cardiac arrest, compared with 0.42% of patients without pericarditis. Information regarding the outcomes is presented in Table 3 and Fig. 2. After adjustment for confounding factors, patients with pericarditis were noted to have statistically significantly higher odds of having cardiac arrest (aOR 2.73, 95%CI 1.90-3.91; P<0.001). The results of the multivariate logistic model are presented in Table 4.

Cardiogenic shock

Cardiogenic shock was present in 0.3% of the total study population: 0.30% of the patients without the presence of pericarditis had cardiogenic shock, compared to 3.60% of patients with pericarditis. Multivariate analysis demonstrated that the presence of pericarditis was associated with higher odds of having cardiogenic shock (aOR 6.42, 95%CI 4.77-8.64; P<0.001).

Ventricular arrhythmia

Of the total study population, 1.11% had ventricular arrhythmia: among patients with pericarditis, 3.80% had ventricular arrhythmia, compared to 1.1% of patients without pericarditis. After adjustment for confounding factors, patients with pericarditis had significantly higher odds of having ventricular arrhythmia (aOR 2.13, 95%CI 1.63-2.78; P<0.001).

Acute congestive heart failure

A total of 3.37% of the study population had acute congestive heart failure (ACHF): among patients without pericarditis, 3.31% had ACHF, compared to 13.90% of patients with pericarditis. After adjustment for confounding factors, patients with pericarditis had statistically significantly higher odds of having ACHF (aOR 2.98, 95%CI 2.52-3.52; P<0.001).

Acute respiratory failure

In the study population, 8.07% of patients had acute respiratory failure: 7.98% of IBD patients without pericarditis had acute respiratory failure, compared to 23.0% of patients with pericarditis. After adjustment for confounding factors, IBD patients with pericarditis had statistically significantly higher odds of having acute respiratory failure (aOR 2.64, 95%CI 2.30-3.02; P<0.001).

Table 1 Patient demographics were stratified by the presence of pericarditis

Variables	Absence of pericarditis n (%)	Presence of pericarditis n (%)	P-value
Age categories			<0.001
18-44	516,025 (34)	2055 (23.4)	
45-65	483,640 (31.90)	2940 (33.5)	
>65	516,370 (34.1)	3790 (43.1)	
Sex			0.06
Male	661,125 (43.6)	4035 (45.9)	
Female	854,910 (56.4)	4750 (54.1)	
Race			0.02
White	1,195,325 (78.9)	6705 (76.3)	
African American	170,020 (11.2)	1175 (13.4)	
Hispanic	92,585 (6.1)	530 (6)	
Asian/Pacific Islander	18,235 (1.2)	155 (1.8)	
Native American	5640 (0.37)	35 (0.39)	
Other	34,230 (2.3)	185 (2.1)	
Insurance			<0.001
Medicare	650,780 (42.9)	4540 (51.7)	
Medicaid	223,685 (14.8)	815 (9.3)	
Private	543,695 (35.9)	2955 (33.6)	
Uninsured	53,540 (3.5)	210 (2.4)	
Income			0.02
Lowest quartile	373,350 (24.6)	1900 (21.6)	
Second quartile	387,755 (25.6)	2280 (26)	
Third quartile	390,295 (25.7)	2290 (26.1)	
Highest quartile	364,635 (24.1)	2315 (26.4)	
Hospital characteristics			
Region of hospital			0.003
Northeast	333,110 (22)	1905 (21.7)	
Midwest	365,315 (24.1)	2130 (24.3)	
South	563,195 (37.2)	3000 (34.2)	
West	254,415 (16.8)	1750 (19.9)	
Teaching status of the hospitals			<0.001
Non-teaching hospitals	401,925 (26.5)	1690 (19.2)	
Teaching hospitals	1,114,110 (73.5)	7095 (80.8)	
Location			<0.001
Rural	107,080 (7.1)	325 (3.7)	
Urban	1,408,955 (92.9)	8460 (96.3)	
Hospital size (beds)			0.0001
Small	303,970 (20.1)	1425 (16.2)	
Medium	423,245 (27.9)	2395 (27.3)	
Large	788,820 (52)	4965 (56.5)	
Charlson comorbidity index			<0.001
0	662,440 (43.7)	1925 (21.9)	
1	311,815 (20.6)	1585 (18)	
2	198,670 (13.1)	1455 (16.5)	
3 or more	343,110 (22.6)	3820 (43.5)	

Length of hospital stay

Our study yielded a mean length of stay of 5.32 days for patients without pericarditis, compared to 9.51 days for patients with pericarditis. Information regarding resource utilization can be seen in Fig. 3. After adjustment for confounding factors, patients with pericarditis had a statistically significantly longer LOS (adjusted coefficient 3.50, 95%CI 2.89-4.12; P<0.001).

Total hospitalization charges

Patients without pericarditis had a mean total charge of $57,809, compared to a mean total charge of $149,013 for patients with pericarditis. After adjustment for confounding factors, the multivariate analysis revealed that patients with pericarditis had statistically significant higher total hospitalization charges (adjusted coefficient 78,820, 95%CI 63,708-92,930; P<0.001).

Table 2 Comorbidities and etiology among patients with inflammatory bowel disease (IBD), stratified by the presence of pericarditis

Comorbidities	Absence of pericarditis n (%)	Presence of pericarditis n (%)	P-value
Diabetes	274,235 (18.1)	2080 (23.7)	<0.001
Hypertension	685,925 (45.2)	5085 (57.9)	<0.001
Hyperlipidemia	340,045 (22.4)	2685 (30.6)	<0.001
Smoking	594,260 (39.2)	3025 (34.4)	<0.001
Chronic kidney disease	206,125 (13.6)	2315 (26.4)	<0.001
Anemia	167,600 (11.1)	1295 (14.7)	<0.001
Cancer	79,235 (5.2)	810 (9.2)	<0.001
Systemic lupus erythematosus	15,445 (1)	195 (2.2)	<0.001
Rheumatoid arthritis	54,480 (3.6)	420 (4.8)	0.008
Obstructive sleep apnea	111,595 (7.4)	925 (10.5)	<0.001
Depression	285,375 (18.8)	1570 (17.9)	0.315
Chronic obstructive pulmonary disease	325,525 (21.5)	2320 (26.4)	<0.001
Acute myocardial infarction	30,610 (2)	635 (7.2)	<0.001
Etiology of IBD			
Ulcerative colitis	578,105 (38.1)	3925 (44.7)	<0.001
Crohn's disease	945,225 (62.4)	4900 (55.8)	<0.001

Table 3 Cardiac outcomes and resource utilization for patients, stratified by presence of pericarditis

Outcomes	Without pericarditis (%)	With pericarditis (%)	P-value
Cardiac arrest	6325 (0.4)	165 (1.9)	<0.001
Cardiogenic shock	4265 (0.3)	315 (3.6)	<0.001
Ventricular arrhythmia	16,585 (1.1)	330 (3.8)	<0.001
Acute congestive heart failure	50,115 (3.3)	1220 (13.9)	<0.001
Acute respiratory failure	121,030 (8)	2020 (23)	<0.001
Resource utilization			
Mean length of stay (days)	5.32	9.51	<0.001
Mean hospitalization charges ($)	57,809	149,013	<0.001

Discussion

Our study utilized NIS data and found the prevalence of pericarditis among patients with IBD to be 0.5%. This is higher than in the study by Bernstein *et al*, who reported the prevalence of acute pericarditis in UC to be 0.23%. This was also supported by a large population-based retrospective study from the United States by Mitchell *et al*, which observed incidence rates for pericarditis of 0.23% and 0.18% in UC and CD, respectively [3,16]. The higher incidence can be attributed to the inclusion of only hospitalized patients in our analysis. The incidence of pericarditis among patients with IBD is also higher than the incidence of pericarditis in the general population: patients with CD are nearly twice as likely to develop pericarditis (prevalence ratio [PR] 1.96, 95%CI 1.38-2.78) and over 3 times more likely with frequent healthcare interactions (PR 3.07, 95%CI 1.39-6.78) [16]. In our study, the majority of the patients with pericarditis had CD, rather than UC. Although the absolute number of cases with CD was higher, the incidence of pericarditis in CD was lower compared to UC. This is in agreement with previous literature that also reported a higher incidence of pericarditis in UC compared to CD [16]. Our study noted that, although the prevalence of pericarditis in CD is lower, its presence is associated with worse cardiovascular outcomes and greater resource utilization.

Our study also noted the incidence of pericarditis to be higher in females, people of White ethnicity, and those with comorbidities such as diabetes, hypertension, hyperlipidemia and chronic kidney disease. This was in contrast to another study by Mertz *et al*, which observed a stronger association of pericarditis and IBD in males as compared to females. Bernstein *et al* further stratified IBD into UC and CD and presented prevalence ratios [16]. Bernstein *et al* observed that the PR of pericarditis was highest in males with CD (PR 4.99, 95%CI 2.02-12.34) and statistically insignificant in females with CD. In the UC population, the prevalence of pericarditis was significantly higher in females as compared to males (PR 3.99, 95%CI 1.25-12.72 vs. 2.94, 95%CI 1.08-

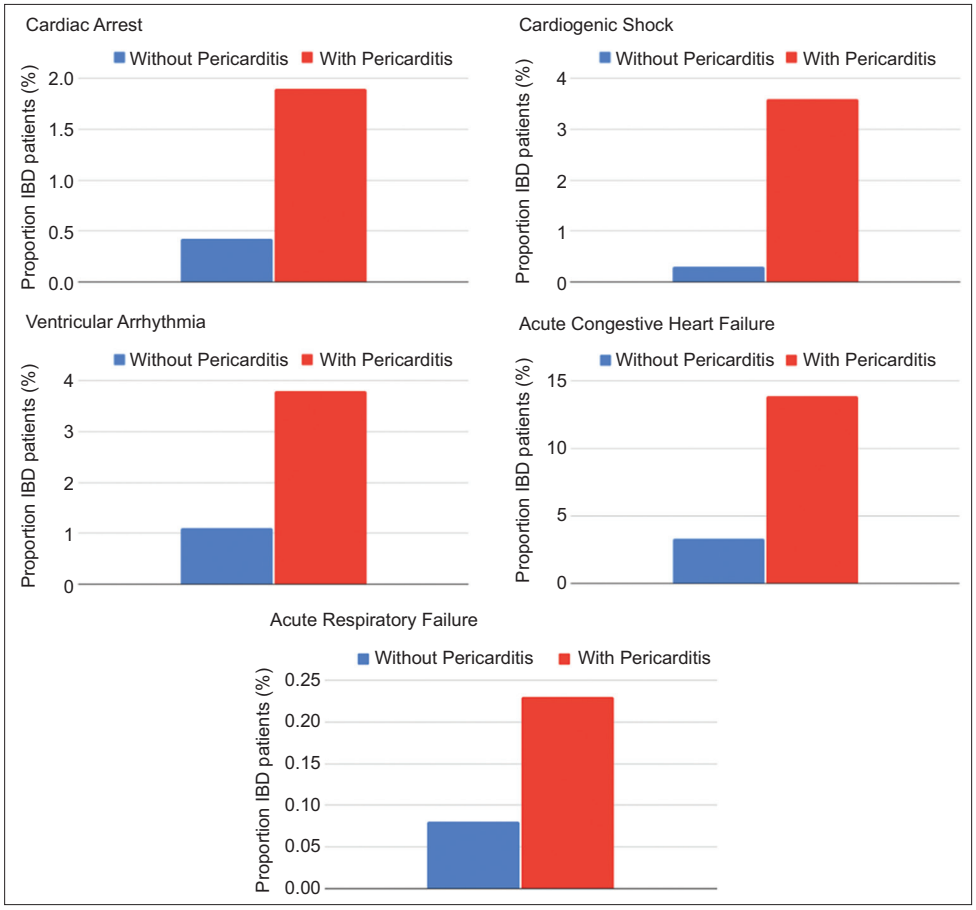

Figure 2 Cardiac outcomes of patients with inflammatory bowel disease, stratified by presence of pericarditis
IBD, inflammatory bowel disease

Table 4 Multivariate logistic model results identify the association between pericarditis and various cardiac complications

Variables	aOR	95% CI	P-value
Cardiac arrest	2.73	1.90-3.91	<0.001
Cardiogenic shock	6.42	4.77-8.64	<0.001
Ventricular arrhythmia	2.13	1.63-2.78	<0.001
Acute congestive heart failure	2.98	2.52-3.52	<0.001
Acute respiratory failure	2.64	2.30-3.02	<0.001
	Adj. coeff.	95% CI	P-value
Length of stay	3.50	2.89-4.12	<0.001
Total hospitalization charges	78,820	63,708-92,930	<0.001

aOR, adjusted odds ratio; CI, confidence interval; Adj. coeff., adjusted coefficient

7.95) [16]. Despite noting a higher female prevalence, our study did not stratify prevalence rates of pericarditis in UC and CD based on sex, and the result was insignificant [16,17]. Our study also noted a lower incidence of tobacco use among patients with pericarditis than those without. This is in contrast with the literature that has reported smoking to be a risk factor for IBD [1]. In our study, we observed a significant prevalence of comorbidities among IBD patients, particularly those with pericarditis, which aligns with previous research indicating that comorbidities are common in IBD patients. For instance, diabetes was present in 23.7% of IBD patients with pericarditis compared to 18.1% without, while hypertension affected 57.9% of IBD patients with pericarditis compared to 45.2% without. Similarly, chronic kidney disease was more prevalent among IBD patients with pericarditis (26.4% vs. 13.6%, P<0.001). These findings are consistent with a previous Swiss study by Carolin *et al*, which reported a high prevalence of comorbidities in IBD patients, and a Finnish study by Johanna *et al*, highlighting cardiovascular disorders and chronic hypertension as common comorbidities, as evidenced by Mosli *et al* [18]. There was a higher incidence of pericarditis among patients with rheumatoid arthritis and systemic lupus erythematosus. Despite their insignificance, a higher preponderance for females and a significant association with Caucasians and other autoimmune disorders lends credence to the hypothesis that pericarditis is an extra-intestinal manifestation with an autoimmune component, as autoimmune disorders disproportionately present in Caucasians and females. This may also indicate that the presence of 2 immune conditions

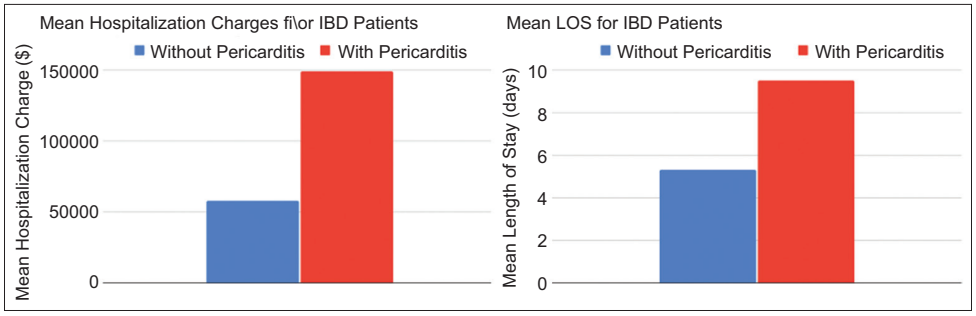

Figure 3 Resource utilization of patients with inflammatory bowel disease, stratified by presence of pericarditis
IBD, inflammatory bowel disease; LOS, length of hospital stay

can lead to an increased risk of pericarditis among patients with IBD.

Previous studies have reported mixed results regarding the relationship between IBD and ischemic heart disease [3]. The elevated levels of C-reactive protein and proinflammatory cytokines observed in IBD patients may contribute to endothelial and platelet dysfunction, serving as precursors to atherosclerosis. The timing of ischemic heart disease risk elevation reported in studies, notably within the first 3-12 months post-diagnosis, or during periods of IBD flares or persistent activity, has suggested a potential impact of IBD on the heart. The pathogenesis of pericarditis within the context of IBD is complex, and appears to be multifactorial. Alterations in immune regulatory mechanisms and dysregulated inflammatory pathways have been reported to play a role in its pathogenesis. Furthermore, drug therapies, notably infliximab and azathioprine, have been associated with drug-induced pericarditis in this population, with symptom resolution often observed upon discontinuation of these medications alongside corticosteroid administration [19]. Despite reports of drug-induced pericarditis, the precise pathophysiological mechanism remains elusive, with suggested hypotheses ranging from hypersensitivity reactions to direct inflammatory damage [9]. Our study did not assess the etiology of pericarditis, which is a limitation of the database.

The incidence of AMI was higher among patients with pericarditis compared to patients without pericarditis. We were unable to ascertain if pericarditis occurred before, or as a result of AMI; accordingly, we adjusted for AMI to assess the impact of pericarditis on cardiovascular outcomes. Our study noted, that even after adjustment for confounding factors, patients with pericarditis had a higher incidence of ventricular arrhythmias and sudden cardiac arrest. Previous studies have noted that patients with IBD have a higher risk of developing arrhythmias, compared to the control population. A recent study by Sun *et al* reported the risk of development of arrhythmias to be higher among patients with IBD [20]. Our study noted that the presence of pericarditis further increases the risk of ventricular arrhythmias by 113%, suggesting a need for heightened surveillance and earlier intervention. Ventricular arrhythmias are a risk factor for sudden cardiac death, and this might have contributed to the greater incidence of sudden cardiac death among this high-risk group.

Our study further noted that the presence of pericarditis was associated with an increased risk of heart failure and respiratory failure. Furthermore, patients with pericarditis or myocarditis as a manifestation of IBD, which could be attributable to drug use versus autoimmune etiology, were noted to have a very high likelihood of developing cardiogenic shock [21,22]. These conditions require invasive interventions, such as mechanical ventilation and pressor use. We believe this might have contributed to the increased resource utilization seen in patients with pericarditis compared to other groups.

The complex interplay between IBD and cardiovascular health underscores the critical need for a comprehensive care approach. Although cardiovascular manifestations are infrequent in IBD patients compared to the general population, their potential impact necessitates vigilant monitoring and proactive management. By focusing on prevention, early detection, and effective control of both IBD and associated cardiovascular risk factors, healthcare providers can significantly improve patient outcomes and quality of life [23].

Our study had some limitations. The nature of the database meant that only hospitalized patients were included in the analysis. We could not assess the therapy the patients were taking, which is a significant limitation of the study. Furthermore, we were not able to follow the patients longitudinally, and thus readmissions could not be assessed. Although this study focused on data between 2016 and 2020, it is important to acknowledge that the arrival of COVID-19 has been a significant factor in cardiac complications and hospitalizations, particularly in high-risk individuals. However, this factor was not considered in our study, since the data collection period ended before the onset of the pandemic. A study by Diaz *et al* underscores significant findings regarding myocarditis and pericarditis post-COVID-19 vaccination, with myocarditis primarily affecting younger males shortly after the second dose, while pericarditis is more common among older individuals and can occur after either dose [24]. In comparison, pericarditis in IBD patients often affects a younger demographic and is linked to disease activity or medication side effects. Both contexts highlight the critical need for ongoing surveillance and research to understand the mechanisms and risk factors, ultimately enhancing management and patient outcomes for vaccine-related and IBD-associated pericarditis [24].

Another limitation of this study is that pediatric cases were not investigated. The comorbidities associated with pericarditis in the pediatric IBD population could differ significantly from those in adults, potentially involving different pathophysiological mechanisms and requiring unique management strategies. Future studies should aim to include pediatric populations to provide a comprehensive understanding of the impact of pericarditis across all age groups with IBD. Despite these limitations, our study's strength arises from its large sample size and the exclusion of regional bias.

In summary, while pericarditis in IBD remains a relatively rare occurrence in comparison to other extraintestinal manifestations of IBD, its identification is of paramount importance, given its potential for adverse outcomes. Future research aiming to delineate the intricate relationship between pericarditis and IBD will be beneficial in developing targeted therapies, mitigating cardiac risks, and optimizing patient outcomes.

Summary Box

What is already known:

- Inflammatory bowel disease (IBD) is associated with various extra-intestinal manifestations, including cardiovascular complications such as pericarditis
- Pericarditis in IBD patients can result either from the disease itself, or as an adverse effect of drug therapies such as 5-aminosalicylic acid derivatives, infliximab, and azathioprine
- Existing studies have reported a higher prevalence of cardiovascular diseases in IBD patients, particularly during disease flares or persistent IBD activity

What the new findings are:

- This study found that pericarditis affects 0.6% of hospitalized IBD patients, with a significant impact on cardiovascular health and healthcare utilization
- IBD patients with pericarditis have higher odds of severe cardiac complications, including cardiac arrest, cardiogenic shock, ventricular arrhythmia, and acute congestive heart failure
- Pericarditis prevalence is notably higher in older individuals, females, and those with comorbidities such as diabetes, hypertension, hyperlipidemia, and chronic kidney disease
- The study highlights the need for enhanced monitoring and targeted research to better understand and manage pericarditis in IBD patients, aiming to improve therapeutic approaches and patient care

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