JOURNAL OF MULTIDISCIPLINARY SCIENTIFIC KNOWLEDGE

Vol. 01, No. 02

A descriptive study of patients with non ST elevated myocardial infarction (NSTEMI) at ibn e sina emergency hospital in 2025

Dr. Mohammad Azim Samim[1], Dr. Mohammad Naim Hammered[2], Dr faridoon Hashmi[3],

Dr Mohammad Hanif Sidiq[4], Dr Nasrat babakarkhilE[5]

Received:- 18/08/2026, Revised:- 24/08/2026, Accepted:- 03/09/2026, Published – 12/09/2026

Abstract

Ischemic Heart Disease (IHD) remains a major cardiovascular problem worldwide. Acute coronary syndrome includes ST-segment-elevation myocardial infarction and unstable angina/non-ST-segment-elevation myocardial infarction (NSTEMI), while stable angina represents another important form of ischemic heart disease. NSTEMI requires timely recognition because delayed diagnosis and treatment may result in adverse clinical outcomes. This descriptive case-series study was conducted in the Emergency Department of Ibn Sina Hospital from January to December 2025. A total of 3,027 patients were admitted to the General Internal Medicine Department, of whom 605 had ischemic heart disease, and 568 had acute coronary syndrome. Among these, 168 patients were diagnosed with NSTEMI and constituted the study population. NSTEMI accounted for 5.57% of all hospitalized patients and 27.7% of patients with ischemic heart disease. The mean age was 62.2 years, with a standard deviation of 21.2 years and a median age of 53 years. Most cases occurred among patients older than 51 years. Females constituted 55% and males 45% of cases. Common associated risk factors included sedentary lifestyle, dyslipidemia, obesity, and smoking. NSTEMI represents an important component of ischemic heart disease among hospitalized patients. Older age and major cardiovascular risk factors were prominent characteristics, emphasizing the importance of early diagnosis, risk-factor control, timely management, and appropriate follow-up.

Keywords: Non-ST-Segment Elevation Myocardial Infarction; Ischemic Heart Disease; acute coronary syndrome; cardiovascular risk factors; myocardial infarction

[1*]Assist.pro. Internal Medicine Specialist and Trainer, Ibn Sina Emergency Hospital, Email: drazimsamim@gmail.com
[2]Pro . Internal Medicine Specialist and Trainer, Ibn Sina Emergency Hospital
[3]Lec, Internal Medicine Specialist and Trainer, Ibn Sina Emergency Hospital
[4]Lac , Internal Medicine Specialist and Trainer, Ibn Sina Emergency Hospital
[5]Lec, Internal Medicine Specialist and Trainer, Ibn Sina Emergency Hospital

Corresponding Author: Dr.Mohammad Azim Samim

Introduction

The cardiovascular system is the main part of the system of the heart and blood vessels, which is responsible for transporting blood around the body. This circulation transports oxygen, nutrients, hormones and other essential materials to tissues, and takes away metabolic wastes from tissues. The heart is the main muscular pump in the cardiovascular system surrounded by the pericardium. It's located behind the sternum and about one-third of its weight is on the right side of the body and two-thirds weight on the left. During the diastole phase the cardiac chambers fill with venous blood while during the systole phase the myocardial contraction pushes the blood into the arterial circulation. The heart beats around 100,000 times a day and is about 12–14 cm long, 6 cm thick and 9 cm wide, weighing on average 280–340 g, depending on sex and body size.

IHD is one of the leading diseases of the cardiovascular system and is a key cause of morbidity and mortality. Acute coronary syndrome is a significant clinical expression of ischemic heart disease (IHD) and encompasses unstable angina, Non-ST-Segment Elevation Myocardial Infarction (NSTEMI) and ST-segment elevation myocardial infarction (STEMI). NSTEMI is characterized by acute myocardial injury associated with evidence of myocardial ischemia in the absence of persistent ST-segment elevation on electrocardiography. The universal definition of myocardial infarction includes a rise and/or fall of cardiac troponin concentration in addition to clinical evidence of acute myocardial ischemia (Thygesen et al., 2018).

NSTEMI is a significant percentage of acute coronary syndrome admissions and should be quickly clinically assessed and appropriately risk stratified. Present European guidelines focus on the need to combine clinical data, electrocardiography, cardiac biomarkers, and validated risk-assessment strategies for management of non-STE patients (Collet et al., 2021). Early recognition is important as patients may have a range of symptoms and may have significant cardiovascular complications with no persistent changes on the initial electrocardiogram (Nadarajah & Gale, 2021).

The age is a significant factor to be considered in the occurrence, clinical presentation and management of NSTEMI. Elderly patients often present with more cardiovascular risk factors, more comorbidities, more atypical symptoms and are more susceptible to complications from treatment. Such factors can complicate the diagnosis and therapeutic decision making for elderly patients (Jimenez-Mendez et al., 2021). Clinical cohorts also have provided evidence that management of older patients with NSTEMI should take into account that in addition to frailty and comorbidity, there are age-related procedural risks, as well as potential benefits to invasive therapy (Kaura et al., 2020).

The prognosis of patients with NSTEMI can be affected by several comorbid conditions. Non-ST-elevation myocardial infarction is a frequent finding in diabetes, and diabetes has been linked to unfavorable clinical outcomes due to its association with extensive atherosclerotic disease and other cardiovascular risk factors (Rasoul et al., 2011). Another significant disease that can contribute to a less favorable prognosis in the setting of an NSTEMI, which can either make diagnostic assessment and treatment more challenging,

is renal impairment, especially after coronary intervention (CI) (Januszek et al., 2024). COPD is also pertinent in acute myocardial infarction. The co-occurrence can have an impact on clinical presentation, treatment, and outcome; there are some differences between clinical presentation, treatment patterns, and outcomes in male and female patients (de-Miguel-Diez et al., 2021). The study results emphasize the need to record key comorbid conditions for the assessment of the hospital population with NSTEMI. Another important consideration in ACS is sex and gender differences. Past registry studies have shown that men and women have different clinical characteristics, treatment patterns, cardiovascular risk profiles, and outcomes after an acute coronary event (Lee et al., 2021). Also, long-term follow-up studies revealed sex-specific differences in mortality following acute myocardial infarction (AMI), reinforcing the need to account for sex when characterizing NSTEMI patients (Kvakkestad et al., 2017).

Considering the clinical importance of NSTEMI and the influence of age, sex, and associated comorbidities, hospital-based descriptive data are valuable for understanding the characteristics of affected patients. Such data can help identify demographic patterns, common comorbid conditions, and the burden of NSTEMI among patients with ischemic heart disease. However, limited local evidence is available regarding the clinical profile of NSTEMI patients admitted to the Internal Medicine Department of Ibn Sina Emergency Hospital. Therefore, the present study was undertaken to describe the demographic and clinical characteristics of NSTEMI patients admitted during 2025.

Study Objectives

- To determine the distribution of NSTEMI among patients with ischemic heart disease and acute coronary syndrome.
- To describe NSTEMI patients according to age, sex, and literacy status.
- To assess the major comorbidities associated with NSTEMI.

2. Literature Review

NSTEMI is one of the main types of acute coronary syndrome associated with age, cardiovascular risk factors and numerous comorbidities. The clinical diagnosis is usually made based on signs and symptoms, electrocardiographic features, cardiac markers, and the cardiovascular risk profile of the patient (Griffin et al. 2008). This is also highlighted in standard internal medicine handbooks, as myocardial infarction often happens with patients having atherosclerotic risk factors and underlying systemic disease (Kasper et al., 2015).

Age is an important determinant of NSTEMI presentation and management. Frailty and chronic conditions, such as renal dysfunction, diabetes, hypertension, and other factors, are also common in older patients, making diagnosis and therapeutic decision-making more complex (Jimenez-Mendez et al., 2021). Treatment strategies should also be personalized in older NSTEMI patients, taking into account the potential for complications and procedural risk (Kaura et al., 2020).

NSTEMI is heavily affected by the presence of comorbidities. Comorbidities such as diabetes, hypertension, chronic kidney disease, and respiratory disorders can complicate treatment and negatively impact outcomes (Felix et al., 2024). Renal impairment is of particular interest as it has been linked to poorer outcomes and might make management of coronary intervention (CI) more difficult (Januszek et al., 2024). COPD might also influence the appearance of myocardial infarction and its outcomes, with gender variations among patients (de-Miguel-Diez et al., 2021).

Also the differences between the sexes are significant in acute myocardial infarction.

There can be a difference between the clinical features, comorbidity, treatment, and prognosis of men and women. Kvakkestad et al (2017) found variations in long term mortality trends following acute myocardial infarction and highlighted the need to account for sex when assessing NSTEMI populations.

In summary, the literature suggests that age, sex, cardiovascular risk factors and comorbid conditions are strong influences of NSTEMI. The factors may differ from one population to another and from one health care institution to another, and this is why hospital-based studies describing the demographic and clinical characteristics of NSTEMI patients in the region are necessary.

2. Methodology

2.1 Study Design

This study was designed as descriptive case series to describe the situation of patients admitted to Internal Medicine Department of Ibn Sina Emergency Hospital during the year 2025 with NSTEMI. Overall, 72,184 patients presented to the ED, with 3,027 patients admitted to the male and female ward. Of those admitted, 605 patients were diagnosed with IHD and 168 of those were diagnosed with NSTEMI. The current study was performed on those NSTEMI patients who presented to Ibn Sina Hospital during the study period. Data were obtained by using the existing data of the patients' medical records and hospital registry books through a retrospective approach.

2.2 Study Population

The study population comprised of all patients with NSTEMI presenting to Ibn Sina Emergency Hospital over the entire study period. The total number of patients in the general population was 72,184 who presented to the ED, and 3,027 patients in the general population who were admitted to the general internal medicine service during the study year. These patients included 605 patients diagnosed with IHD, which constituted the specific population. The Acute Coronary Syndrome (ACS) population was comprised of 351 patients, and the final target population had 168 patients with a diagnosis of NSTEMI.

2.3 Inclusion Criteria

Patients with NSTEMI who had adequate clinical records and investigations were included in the study. Patients referred abroad for advanced investigations and/or procedures for diagnosis of NSTEMI and then brought back to the hospital for follow-up were also included in the study.

2.4 Exclusion Criteria

Patients were excluded from the study if their medical records were incomplete, if they were under the age of 18, or if they did not stay in the hospital. Patients who were referred abroad as decided by the medical team and who did not come back for further follow-up were also not included in the study.

2.5 Study Materials and Data Sources

The present study analysed the medical records of patients who had been discharged. Data gathered from existing records comprised patients' medical history, physical examination, routine laboratory investigations and other investigations documented in medical records. The study materials consisted of complete medical record of patients, routine laboratory investigations, biochemical laboratory investigations,

electrocardiography (ECG), chest X-ray/ radiography, echocardiography, exercise tolerance test (ETT) and other appropriate tests available to individual patients.

2.6 Sampling Method

In the present study, a total population sampling method was adopted, also known as a universal sampling method. Depending on the nature of a study, various sampling methods were selected but in the present study, Universal sampling methods were employed as all the eligible NSTEMI patients identified during the specified study period were considered for the study. Patients with unstable angina who were treated individually based on their clinical status were not represented in the study. Hence, 168 patients with NSTEMI were included, analysed and evaluated during the year of 2025. This sampling method was felt to be more economical than other sampling methods.

2.7 Sample Size

168 patients who met the inclusion criteria and were available for study were included in the final sample of NSTEMI patients. These patients were chosen randomly from all patients who were admitted to the Internal Medicine Department in the study period. Sixty-five of these patients had a diagnosis of IHD with 168 patients diagnosed with NSTEMI making up the final study sample.

3. Results

3.1 Distribution of Patients According to Diagnosis

A total of 72,184 patients visited the OPD/emergency department at Ibn Sina Emergency Hospital during the study period and 3027 patients (4.01%) were admitted to hospital. Of the patients who were admitted 605 patients (20.1%) were diagnosed as having IHD. Among those having IHD, most had Acute Coronary Syndrome (ACS) while a smaller proportion had Stable Angina. A general distribution of the study population according to their diagnosis is given in Table 1.

Table 1. Distribution of Patients According to Diagnostic Category

Diagnostic Category	Number of Patients (n)	Percentage (%)
Patients presenting to OPD/Emergency Department	72,184	100.0
Patients admitted to hospital	3,027	4.19
IHD (IHD)	605	19.99*
Acute Coronary Syndrome (ACS)	568	93.88**
Stable Angina	37	6.12**
Unstable Angina/NSTEMI	358	63.03***

ST-Segment Elevation Myocardial Infarction (STEMI)	210	36.97***
Unstable Angina	189	52.79****
NSTEMI (NSTEMI)	168	46.93****

*Percentage calculated among the 3,027 hospitalized patients.
**Percentage calculated among the 605 patients with IHD.
***Percentage calculated among the 568 patients with ACS.
****Percentage calculated among the 358 patients classified as UA/NSTEMI.

Acute coronary syndrome was the most common diagnostic category for patients with IHD as detailed in Table 1. The unstable angina/NSTEMI category included a larger percentage of patients than the STEMI category in the ACS group, and the NSTEMI category was a significant percentage of those classified in the non-ST-segment elevation spectrum.

3.2 Distribution of NSTEMI Patients According to Sex

A total of 168 patients were diagnosed with NSTEMI, with 89 (51%) men and 79 (49%) women. Overall, there was a relatively even sex distribution, with a slight male predominance over female patients.

3.3 Distribution of NSTEMI Patients According to Literacy Status

There were 168 NSTEMI patients, of which 73 patients (44%) were literate and 95 patients (56%) were illiterate. Therefore, patients who were unable to read or write made up a greater proportion of the participants in the study.

3.4 Combined Distribution According to Sex and Literacy Status

The demographic factors of sex and literacy status were evaluated as important factors of the population of NSTEMI patients. Nearly balanced distribution was observed with regard to sex but a more distinguishable difference emerged in terms of literacy status. Table 2 shows the summary of the combined demographic distribution.

Table 2. Distribution of NSTEMI Patients According to Sex and Literacy Status

Characteristic	Category	Frequency (n)	Percentage (%)
Sex	Male	89	51
	Female	79	49
Literacy Status	Literate	73	44
	Illiterate	95	56

As shown in Table 2, the males and females were well represented in the study. In contrast, the literacy distribution had more patients who were illiterate than literate.

3.5 Distribution of NSTEMI Patients According to Age

The age distribution of 168 patients with NSTEMI revealed that the highest frequency was seen in the group of 51-65 years (69/168 (41.8%)). Patients aged >81 years followed, with 43 patients (25.8%) and 66-80 years with 40 patients (23.9%). For the younger age groups of children, 8 patients (5.0%) were in the 20–35 age group, while 6 patients (3.5%) were in the age group 36–50 years. The detailed age distribution is shown in Table 3.

Table 3. Age Distribution of Patients with NSTEMI

Age Group (Years)	Frequency (n)	Percentage (%)
20–35	8	5.0
36–50	6	3.5
51–65	69	41.8
66–80	40	23.9
>81	43	25.8

Table 3 shows that NSTEMI was mainly seen in middle-aged and elderly people. The younger age groups had a small number of cases; people older than 50 years made up the bulk of the study population.

3.6 Distribution of NSTEMI Patients According to Comorbidities

Medical comorbidities were assessed, and a significant degree of comorbidities was observed among patients with NSTEMI. The most common comorbidity (80% of patients) was hypertension. 63% had diabetes mellitus, and 51% had a chronic obstructive pulmonary disease (COPD) diagnosis. The proportion of people with renal failure was 22% of the study population. The distribution of the major comorbidities is summarized in Table 4.

Table 4. Major Comorbidities Among Patients with NSTEMI

Comorbidity	Prevalence (%)
Hypertension	80
Diabetes Mellitus	63
Chronic Obstructive Pulmonary Disease (COPD)	51
Renal Failure	22

Table 4 shows that hypertension was the most common associated condition, followed by diabetes mellitus and COPD. Among the patients assessed, renal failure was comparatively less common but was an important associated disorder.

3.7 Overall Distribution of Acute Coronary Diagnoses

Out of 605 patients diagnosed with IHD, 568 patients (94%) were diagnosed with ACS and 37 patients (6%) were diagnosed with Stable Angina. Of the 568 ACS patients, 358 were in Unstable Angina/NSTEMI and 210 were STEMI patients. Of all the 358 patients with UA/NSTEMI, 189 patients had been diagnosed with Unstable Angina and 168 patients with NSTEMI.

3.8 Summary of Major Findings

Concluding, the findings showed that NSTEMI was a significant contributor to the burden of acute coronary diseases at Ibn Sina Emergency Hospital over the period of the study. Males accounted for 51% and females for 49% among 168 NSTEMI patients and 56% of patients were illiterate while 44% were literate. Patients over 81 years old and 66-80 years old were the second largest groups (23.7% and 23.2% respectively). The most common comorbidities were hypertension (80%), diabetes mellitus (63%), COPD (51%) and renal failure (22%).

4. Discussion

The current study aims to present a descriptive overview of the patients admitted to Ibn Sina Emergency Hospital during 2025 with the diagnosis of NSTEMI. In patients who were evaluated for IHD, acute coronary syndrome was the predominant clinical group and NSTEMI accounted for an important number of patients in the unstable angina/NSTEMI spectrum. This trend is similar to that which is observed with the known clinical prevalence of non-ST-segment elevation acute coronary syndromes in hospitalised cardiac patients. In the standard literature dealing with the cardiovascular disease, NSTEMI is considered as one of the most frequent forms of acute coronary ischemia and it frequently develops in patients with cardiovascular risk factors and associated systemic diseases (Griffin et al., 2008; Kasper et al., 2015). Likewise, the clinical therapeutic approach highlights the need to take a holistic perspective of acute coronary syndrome, as the presentation, diagnosis, and treatment of NSTEMI can differ significantly among patients (De Vito 2014).

In the present study, the sex distribution was almost equal with 51 % male and 49 % female in NSTEMI patients. While there was a slight predominance of males, the numbers involved were relatively low, suggesting that NSTEMI had a significant effect on both sexes in this population. From previous large-scale studies, sex-specific differences in presentation and clinical management of NSTeACS have been shown to be important. Blomkalns et al. (2005) reported that there are important differences between women and men in both baseline characteristics and the diagnostic evaluation and treatment of NSTEMI populations, which should be taken into account when interpreting populations of NSTEMI. The apparently even distribution in this study might therefore be due to local demographic patterns, variations in the exposure to cardiovascular risk factors or hospital use.

Another significant characteristic of the study population was age. The age group 51-65 year olds had the largest proportion of patients, with significant numbers of patients also observed in the age group of 66 years or over. The opposite was true in the younger adult age group, when relatively fewer cases of NSTEMI occurred. This pattern fits the known association between increasing age and myocardial infarction.This pattern is consistent with the known relationship between increasing age and myocardial infarction. However, myocardial infarction may occur at a younger age, especially when there are modifiable cardiovascular risk factors. The authors of the study, Yandrapalli et al (2019), found that smoking, hypertension, dyslipidaemia, diabetes and obesity are often preventable risk factors in young adults with a first myocardial infarction. Moreover, Madala et al. (2008) showed an earlier onset of first NSTEMI when obesity was present, which suggests that excess body weight could contribute to an earlier shift of cardiovascular events to younger age groups. The results here highlight the need for risk factor prevention throughout the adult life.

The present study also revealed a high prevalence of comorbid conditions. The most common associated disease was hypertension, followed by diabetes mellitus, COPD and

renal failure. Clinically these conditions are important, as cardiovascular risk factors and systemic comorbidities could impact on disease severity and prognosis in NSTEMI patients. Traditional cardiovascular risk factors have been demonstrated to be very relevant in patients with NSTEMI and can be part of risk stratification of these patients, as described by Roe et al. (2007). The results of the present study are consistent with this general evidence, especially when considering the prevalence of hypertension and diabetes in the study population.

NSTEMI may be further complicated by the presence of multiple chronic diseases. Felix et al. (2024) noted that comorbidities may have an impact on therapy selection, hospital outcomes, and prognosis in patients with NSTEMI. Impaired renal function was a significant subset of patients in the present study and is of special concern as it may complicate treatment and raise cardiovascular risk. COPD can also be a source of clinical vulnerability by impairing respiratory function, inducing systemic inflammation, and sharing symptoms of vulnerability such as dyspnea.COPD can also result in overlapping symptoms of clinical vulnerability such as dyspnea, respiratory function impairment, and systemic inflammation. Hence, these observed comorbidities indicate that a significant proportion of patients accessing Ibn Sina Emergency Hospital with NSTEMI will need treatment beyond the acute coronary event.

Another interesting observation was that a greater percentage of patients were illiterate as compared to literate. Literacy is not a direct biological risk factor for NSTEMI but could affect awareness of health, identification of symptoms, seeking preventative medical care, access to treatment and timely attendance at hospital. This finding in the local context may be reflective of the broader socioeconomic and educational context. However, the interpretations of cause and effect in relation to literacy in the present study should be made with caution as the present study was descriptive and did not directly examine socioeconomic pathways.

The overall results also have prognostic implications. Population-based studies have demonstrated that there is variation in outcomes following myocardial infarction based on patient characteristics, infarction type, burden of disease and the healthcare context. It has been shown that acute myocardial infarction (AMI) short-term outcomes vary among national healthcare systems suggesting that patient-level as well as system-level factors may contribute to this variation (Chung et al., 2014). Likewise, Darling et al. (2013) found that survival after discharge is different for the STEMI and NSTEMI populations, highlighting the need for continued follow-up post-acute discharge.

Overall, the study indicated that the most common age group affected by NSTEMI at Ibn Sina Emergency Hospital was middle aged and elderly people, and that hypertension, diabetes, COPD and renal failure were commonly associated with NSTEMI. The local population of patients is also nearly equally distributed by sex and has a high percentage of limited literacy. These results highlight the importance of early detection of risk factors, management of chronic comorbidities, early diagnosis and long-term care. However, because of the retrospective case-series design and use of existing hospital records, the interpretation of the results as causal is limited, and may be influenced by incomplete documentation. Larger and standardized clinical variables studies in the future would help identify the determinants of presentation, management, and outcomes of the NSTEMI patients in this setting.

5. Conclusion

NSTEMI is an important type of IHD (IHD) and is clinically significant due to the risk of complications and poor outcomes if it is not diagnosed and/or managed appropriately.

This descriptive case-series study aimed to assess the patients admitted to the Internal Medicine Department of Ibn Sina Emergency Hospital during the study period (January to December 2025) who had NSTEMI. In the study, 168 patients were included with the diagnosis of NSTEMI. In the Internal Medicine Department, 605 patients were admitted with IHD, and many of these patients were admitted with Acute Coronary Syndrome. The prevalence of NSTEMI was higher in older age groups, especially those older than 51 years, suggesting the increasing disease burden with age. The study also showed that NSTEMI was seen in males and females and was often associated with significant other cardiovascular risk factors. In conclusion, the results of the study support the conclusion that NSTEMI is an important subcategory of ischemic and acute coronary disease in the hospitalized population. The importance of early recognition, prompt diagnostic evaluation, timely treatment, management of associated co-morbidities and regular follow-up cannot be overemphasised in the management of patients with NSTEMI in order to minimise complications and achieve good clinical outcomes.

References

1. Blomkalns, A. L., Chen, A. Y., Hochman, J. S., Peterson, E. D., Trynosky, K., Diercks, D. B., ... & Crusade Investigators. (2005). Gender disparities in the diagnosis and treatment of non–ST-segment elevation acute coronary syndromes: large-scale observations from the CRUSADE (Can Rapid Risk Stratification of Unstable Angina Patients Suppress Adverse Outcomes With Early Implementation of the American College of Cardiology/American Heart Association Guidelines) national quality improvement initiative. Journal of the American College of Cardiology, 45(6), 832-837.
2. Chung, S. C., Gedeborg, R., Nicholas, O., James, S., Jeppsson, A., Wolfe, C., ... & Hemingway, H. (2014). Acute myocardial infarction: a comparison of short-term survival in national outcome registries in Sweden and the UK. The Lancet, 383(9925), 1305-1312.
3. Collet, J. P., Thiele, H., Barbato, E., Barthélémy, O., Bauersachs, J., Bhatt, D. L., ... & Karia, N. (2021). 2020 ESC Guidelines for the management of acute coronary syndromes in patients presenting without persistent ST-segment elevation: The Task Force for the management of acute coronary syndromes in patients presenting without persistent ST-segment elevation of the European Society of Cardiology (ESC). European heart journal, 42(14), 1289-1367.
4. Darling, C. E., Fisher, K. A., McManus, D. D., Coles, A. H., Spencer, F. A., Gore, J. M., & Goldberg, R. J. (2013). Survival after hospital discharge for ST-segment elevation and non-ST-segment elevation acute myocardial infarction: a population-based study. Clinical epidemiology, 229-236.
5. De Vito, E. L. (2014). The Washington manual of medical therapeutics. Medicina (Buenos Aires), 74(3), 269-269.
6. de-Miguel-Diez, J., Jiménez-García, R., Hernandez-Barrera, V., Ji, Z., de Miguel-Yanes, J. M., López-Herranz, M., & López-de-Andrés, A. (2021). Sex differences in the effects of COPD on incidence and outcomes of patients hospitalized with ST and non-ST elevation myocardial infarction: a population-based matched-pair analysis in Spain (2016–2018). Journal of Clinical Medicine, 10(4), 652.
7. Felix, B., Aldoohan, F., Kadirage, H. U., Sajeev, S. K., Kayani, M., Saeed, M. A. I. H., ... & Sajeev Jr, S. K. (2024). Assessment of the impact of comorbidities on outcomes in Non-ST elevation myocardial infarction (NSTEMI) patients: A narrative review. Cureus, 16(7).

8. Griffin, B. P., Topol, E. J., Nair, D., & Ashley, K. (Eds.). (2008). Manual of cardiovascular medicine. Lippincott Williams & Wilkins.
9. Januszek, R., Bujak, K., Kasprzycki, K., Gąsior, M., & Bartuś, S. (2024). Prognosis of patients with renal failure one year following NSTEMI treated with percutaneous coronary intervention. Hellenic Journal of Cardiology, 76, 48-57.
10. Jimenez-Mendez, C., Diez-Villanueva, P., & Alfonso, F. (2021). Non-ST segment elevation myocardial infarction in the elderly. Reviews in Cardiovascular Medicine, 22(3), 779-786.
11. Kasper, D., Fauci, A., Hauser, S., Longo, D., Jameson, J., & Loscalzo, J. (2015). Harrison's principles of internal medicine, 19e (Vol. 1, No. 2). New York, NY, USA:: Mcgraw-hill.
12. Kaura, A., Sterne, J. A., Trickey, A., Abbott, S., Mulla, A., Glampson, B., ... & Mayet, J. (2020). Invasive versus non-invasive management of older patients with non-ST elevation myocardial infarction (SENIOR-NSTEMI): a cohort study based on routine clinical data. The Lancet, 396(10251), 623-634.
13. Kvakkestad, K. M., Wang Fagerland, M., Eritsland, J., & Halvorsen, S. (2017). Gender differences in all-cause, cardiovascular and cancer mortality during long-term follow-up after acute myocardial infarction; a prospective cohort study. BMC Cardiovascular Disorders, 17(1), 75.
14. Lee, C. Y., Liu, K. T., Lu, H. T., Mohd Ali, R., Fong, A. Y. Y., & Wan Ahmad, W. A. (2021). Sex and gender differences in presentation, treatment and outcomes in acute coronary syndrome, a 10 year study from a multi-ethnic Asian population: The Malaysian National Cardiovascular Disease Database—Acute Coronary Syndrome (NCVD-ACS) registry. PloS one, 16(2), e0246474.
15. Madala, M. C., Franklin, B. A., Chen, A. Y., Berman, A. D., Roe, M. T., Peterson, E. D., ... & CRUSADE Investigators. (2008). Obesity and age of first non–ST-segment elevation myocardial infarction. Journal of the American College of Cardiology, 52(12), 979-985.
16. Nadarajah, R., & Gale, C. (2021). The management of acute coronary syndromes in patients presenting without persistent ST-segment elevation: key points from the ESC 2020 Clinical Practice Guidelines for the general and emergency physician. Clinical Medicine, 21(2), e206-e211.
17. Rasoul, S., Ottervanger, J. P., Timmer, J. R., Yokota, S., de Boer, M. J., van't Hof, A. W., & Zwolle Myocardial Infarction Study Group. (2011). Impact of diabetes on outcome in patients with non-ST-elevation myocardial infarction. European Journal of Internal Medicine, 22(1), 89-92.
18. Roe, M. T., Halabi, A. R., Mehta, R. H., Chen, A. Y., Newby, L. K., Harrington, R. A., ... & Peterson, E. D. (2007). Documented traditional cardiovascular risk factors and mortality in non–ST-segment elevation myocardial infarction. American heart journal, 153(4), 507-514.
19. Thygesen, K., Alpert, J. S., Jaffe, A. S., Chaitman, B. R., Bax, J. J., Morrow, D. A., ... & Executive Group on behalf of the Joint European Society of Cardiology (ESC)/American College of Cardiology (ACC)/American Heart Association (AHA)/World Heart Federation (WHF) Task Force for the Universal Definition of Myocardial Infarction. (2018). Fourth universal definition of myocardial infarction (2018). Circulation, 138(20), e618-e651.
20. Yandrapalli, S., Nabors, C., Goyal, A., Aronow, W. S., & Frishman, W. H. (2019). Modifiable risk factors in young adults with first myocardial infarction. Journal of the American College of Cardiology, 73(5), 573-584.