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Gender-Based Comparison of Electrical and Mechanical Complication of Inferior Wall Myocardial Infarction with and without Right Ventricular Infarction at Tertiary Care Hospital, Peshawar

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Abstract

Background: Inferior Wall Myocardial Infarction with and without Right Ventricular Infarction, presents significant electrical and mechanical complications. Gender-based differences in these complications remain unclear. This study aimed to evaluate gender- specific variations in IWMI complications among patients aged 40–80 years at LRH and PIC.
Methodology: This study was cross section, and involved all the patients, who had Inferior Wall Myocardial Infarction from July 2024 to December 2024 at Lady Reading Hospital and Peshawar Institute of Cardiology. This study employed 246 participants based on sample size. Data were collected through a questionnaire focusing on demographic, clinical, and angiographic variables. Complications were categorized as mechanical or electrical. Statistical analysis, including Chi-square tests, assessed gender differences in complications and treatment outcomes.
Results: Mechanical complications were the most common, with Regional Wall Motion Abnormality affecting 77.6% of participants, Mitral Regurgitation in 17.1%, and VSR in 0.8%. Electrical complications were less frequent, with Heart Block, including complete Heart Block, observed in 4.9% of patients. Right Ventricular Infarction occurred in 8.1% of Inferior Wall Myocardial Infarction cases. There were not statistically association gender differences at the prevalence of complications or outcomes. Most patients underwent Percutaneous Coronary Intervention, while fewer received CABG or thrombolytic therapy. Dual antiplatelet therapy was the predominant medical intervention.

Conclusion: The study found no significant gender differences in the electrical and mechanical complications of Inferior Wall Myocardial Infarction. The timely Percutaneous Coronary Intervention and management of comorbidities are critical in improving outcomes. The findings support gender-neutral treatment protocols for Inferior Wall Myocardial Infarction but emphasize the need for individualized care and further research to validate these results and assess long-term outcomes across diverse populations.

Introduction

Cardiovascular diseases (CVDs) encompassed a group of disorders affecting the heart and blood vessels, including conditions such as coronary artery disease, stroke, hypertension, and peripheral artery disease. These conditions lead to poor quality of life and severe health complications, such as heart attacks, strokes, heart failure, and arrhythmias, and often result in long-term disability.(1)

Cardiovascular diseases have a major impact on rates of morbidity and death. An estimated 18.6 million fatalities per year are attributed to CVD alone.(2) The Risk factors are alcohol Consumption, Smoking, Dyslipidemia, Hypertension, Diabetes Mellitus, Obesity/BMI, Stress, Gout, Family history, Age, and Gender.(3) In women the prevalence rates of hypertension, diabetes, and obesity as underlying risk factors, which contribute to worse outcomes compared to men.

Coronary artery disease is one of the cardiovascular disease which is the known cause of myocardial infarction, occurs when a large epicardial coronary artery is acutely blocked(4)(5) for longer than 20 to 40 minute, resulting in cardiac cell death.(5) The occlusion is usually thrombotic and due to the rupture or erosion of a plaque formed in the coronary arteries. (6) However the main causes of acute coronary syndrome in men are frequently coronary plaque rupture and occlusion. Furthermore, although smoking is common in both sexes, it seems to predict coronary events more strongly in women.(7) Acute myocardial infarction manifests as chest, neck, jaw, back pain, exhaustion, flushing, lightheadedness, lethargy, visual abnormalities a sense of suffocation, palpitations, and restlessness and Epigastric discomfort are more common in women than in males. (8)(9)(10)(11) There are significant gender-based disparities which affect clinical presentation, comorbidities, and results. Due to social reasons, lack of awareness, and atypical symptoms such weariness, nausea, and dyspnea, women frequently present later than men.

According to a review of epidemiologic research pre-menopausal women are less likely than age-matched men to suffer from cardiovascular diseases. The review emphasized that following menopause, there is a considerable rise in the incidence and severity of cardiovascular diseases. Premenopausal women benefit from some degree of cardio protection from hormonal factors like estrogen, but this benefit wanes after menopause and worsens cardiovascular outcomes., which further affects their clinical trajectory. However, men are more likely than women to exhibit a larger thrombus burden and plaque rupture, indicating clear pathophysiological differences between the sexes (12) and Women frequently exhibit more prominent endothelial dysfunction and inflammatory indicators(12)(8)(7), non- obstructive Cardiovascular diseases, plaque erosion rather than rupture and (8)(7) women also show elevated bleeding risks when receiving anticoagulant and antiplatelet treatments, which calls for cautious dosage modifications.(7)(10) The findings of recent studies highlight the significance of initiatives to raise awareness of women's cardiovascular diseases risk and symptoms.(8)(7) These differences in men's and women's pathophysiology and presentation emphasize the need for tailored care strategies. Improving outcomes requires addressing gender inequities by identifying atypical symptoms early, expanding access to prompt and effective interventions, and customizing treatments for women's particular needs.

Inferior STEMI represents the significant subtype of heart attack affecting the lower

region of the heart. The prevalence of inferior wall myocardial infarction is 40% globally and 20%in Pakistan (4) which is lower than the global prevalence(13) and The association of RV infarction with inferior wall MI is 20-50%. The involvement of the proximal right coronary artery in right ventricular infarction is 95%(14)(15) conducted a study involving 1000 patients diagnosed with acute IWMI to assess the prevalence of RVI and its association with common risk factors. The analysis revealed that patients with risk factors such as smoking and hypertension had a higher likelihood of developing right ventricular infarction. The findings showed that right ventricular infarction occurred in approximately one-third (36%) of the IWMI cases studied. Hypertension was identified as the most significant risk factor for right ventricular infarction. The study emphasized the importance of early identification and management of these risk factors to reduce the prevalence and complications associated right ventricular infarction.(15)

The diagnosis of myocardial infarction is made according to ECG(15)(16), The presence of ST elevation in the inferior leads (II, III, AVF) and Reciprocal ST depressions may be seen in the lateral leads (I, AVL) is the diagnostic of an inferior STEMI.(13) A partial view of the right ventricular free wall infarction may only be visible in leads V1 and potentially V2, particularly in cases where there is ST deviation; nonetheless, a higher ST elevation in lead III than in lead II is typically indicative of right ventricular involvement.(17)(18) Findings in lead V4R is the single most powerful predictor of right ventricular involvement, with V4R having 93% sensitivity and 95% specificity for right ventricle involvement.(19)

After inferior wall myocardial infarction, Electrical complications, such as arrhythmias including atrial fibrillation (13), ventricular tachycardia, and heart block (20) (3proposal) and mechanical complications, such as ventricular septal defect, papillary muscle rupture, and mitral regurgitation, are of particular concern in the patients of inferior wall myocardial infarction, furthermore (19) when combine with right ventricular infarction can lead to a higher frequency and severity of both electrical and mechanical complications.(14) Study show that patients with IWMI had a significant (19%) frequency of total HB.(20) On the other hand, because of their higher cardiac scar burden and ischemic substrate, men are more prone than women to have tachyarrhythmias (2.79% vs. 2.23%).(10)

Generalized strategies for the treatment of acute myocardial infarction includes treatment through medicine and surgical Treatment. Medications like; Analgesics which relieves from pain, Anti-platelets that prevent new clot Formation and stop the growth of existing clots, Thrombolytic drugs which help to dissolve clots, Nitroglycerine to dilate the vessels and improve vessels diameter, Beta-blockers to lessen the blood pressure and relax the heart muscles, ACE inhibitors used to decrease blood pressure and stress on the heart. Surgical Treatment includes the options of minimal invasive technique like PCI with stenting for single Vessel obstruction or CABG technique use for multiple vessel disease.(21)

Highlighted the significance of identifying gender-specific symptoms and risk factors in myocardial infarction in the ACC/AHA guidelines for managing patients with unstable angina and NSTEMI are crucial for ensuring prompt diagnosis and effective treatment of these conditions.(7) Women are unlikely to undergo invasive treatments such coronary angiography and revascularization, even when their risk profiles are comparable or greater.

In a study (22) a 59 female patients between the ages of 35 and 80 were enrolled their mean age was 58.80 ± 9.17 years. Of these, 47 patients (79.7%) were older than 50.3.48 ± 1.53 hours was the average amount of time that passed between the onset of IWMI symptoms and hospital presentation. Thirteen (28.8%) of the individuals were obese, nine (15.3%) had a family history of myocardial infarction, three (5.1%) smoked, 36 (61.0%) had diabetes mellitus, and 46 (78.0%) had hypertension. Furthermore, 43 patients (72.9%) lacked literacy. Eight patients (13.6%) had sinus

bradycardia, seven patients (11.9%) had sinus tachycardia, three patients (5.1%) had atrial fibrillation, and twenty-four patients (40.7%) had total heart block. There were five recorded deaths. Complete heart block and poor in-hospital outcomes were more common in women with AIWMI. When a woman presents with IWMI, she herself seems to be at risk for short-term poor in-hospital outcomes.(22)

The AHA scientific statement that improvements in surgical, catheter-based, and pharmacological reperfusion techniques have improved the prognosis of patients suffering from acute myocardial infarctions in recent decades. Acute myocardial infarction mechanical problems are still a possibility for patients with big infarcts or those who do not obtain prompt revascularization. Acute mitral regurgitation due to papillary muscle rupture, ventricular septal defect, Pseudoaneurysm, and free wall rupture are the most frequent mechanical complications; each complication carries a high risk of suffering, mortality, and hospital resource use. To provide timely recognition, diagnosis, hemodynamic stabilization, and decision support to help patients. (34) Among right ventricular infarct cases of IWMI, the incidence of right ventricular infarction was higher in male patients compared to female patients (35.14% as compared to 46.38%). A study investigated symptom presentation and care-seeking behaviors in 2009 women and 976 men, In-Hospital mortality in right ventricular infarction was considerably higher (9.4%) for patients with inferior STEMI and right ventricular infarction than for those without right ventricular infarction (3.0%). Compared to the non- right ventricular infarction group, 30-day mortality and in-hospital death were more common in the right ventricular infarction group. Nine (60%) of the 15 in-hospital deaths that were recorded were cardiac deaths. (23)

A retrospective study of 97 participant of acute inferior wall mi (mean age 59 ± 12 years) revealed that mild mitral regurgitation was present in 16.5% of patients, while moderate mitral regurgitation was observed in 12.4%. The presence of mitral regurgitation was associated with the systolic dysfunction of left ventricle and an increased tenting area. In the initial phase of myocardial infarction, mitral regurgitation can significantly worsen outcomes, as it doubles mortality rates and prone to heart failure. (24)

Women also had worse outcomes because they are less likely to obtain timely reperfusion, invasive procedures like PCI, or medicinal therapy guided by guidelines.(10) Targeted treatments are necessary since Black and Hispanic women, in particular, have worse risk factor profiles and higher mortality rates than white women.(10) from the NHANES, which was carried out from 2005 to 2018, That Men revealed considerably higher rates of both all-cause and cardiovascular mortality compared to women, (25) Due to their advanced age at presentation, comorbidities, and delayed treatment commencement, female patients are more likely to have in-hospital mortality and complications.(7) There are significant gender-based disparities of IWMI with and without right ventricular infarction, which affect clinical presentation, comorbidities, and results. While men benefit from prompt therapies but are susceptible to electrical disturbances like tachyarrhythmias, women experience delayed diagnosis, greater death rates, and more severe mechanical problems. Despite the large body of research on IWMI and right ventricular infarction, there are serious gaps in the literature, especially when it comes to gender-based differences in the electrical and mechanical complications linked to IWMI with and without right ventricular infarction in populations like Pakistan. Optimizing results for both genders requires addressing these differences through focused study and Understanding gender-based complications is essential for targeted management strategies. Addressing this gap can lead to better treatment protocols and improved outcomes for both male and female patients, especially in tertiary care settings like Peshawar.

Objective:

1. To determine the frequency of electrical complications among male and female patients following inferior wall myocardial infarction, with and without right ventricular infarction.
2. To determine the frequency of mechanical complications among male and female patients following inferior wall myocardial infarction, with and without right ventricular infarction.
3. Comparing gender-wise clinical outcomes among patients with inferior wall myocardial infarction.

METHODOLOGY

Study Design: This descriptive cross-sectional study was conducted at Lady Reading Hospital (LRH) and Peshawar Institute of Cardiology (PIC) to assess the most common electrical and mechanical complications of IWMI with and without RV infarction. This research aimed to contribute valuable insights to clinical practices in cardiology.

Study Setting and Duration: The study was carried out in the Cardiology Department of LRH and PIC tertiary care hospital. The data collection process spanned over Six months almost, ensuring comprehensive coverage of cases within the defined period. The institution was chosen due to its high patient influx and well-established cardiology facilities.

Study Population: The study targeted patients who underwent IWMI with and without RV infarction. The patients aged 40 to 80 presented with IWMI confirmation via ECG were included. The patients who did not have IWMI and patients who did not give consent for data collection.

Sample Size Calculation: The sample size was calculated using the Open Epi. A sample size of 246 participants was determined based on confidence level (95%) expected prevalence (20%) and margin of error (5%).

Data Collection Procedure: A consecutive sampling method was employed, where every eligible patient meets the inclusion criteria. This approach facilitated comprehensive data collection without the risk of selection bias inherent to random sampling. Ethical approval was obtained from the LRH and PIC ethical review board. Informed consent was secured from all participants prior to their inclusion in the study. Participants were assured of their confidentiality, and data were anonymized to maintain privacy. Data was collected through a pre-structured questionnaire specifically designed for this study. The questionnaire included sections on demographic information, clinical characteristics, angiographic findings, and procedural details.

Data Analysis: The collected data were compiled and reviewed for completeness and accuracy. Statistical analysis was conducted using Statistical package for the social sciences with descriptive statistics used to summarize patient demographics. The chi-square test was applied to analyze the data of electrical complications, mechanical complications, and outcomes. Frequencies and percentages were calculated for categorical variables, and results were presented in tabular and graphical forms to facilitate interpretation.

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RESULTS

This hospital-based descriptive cross-sectional study conducted to assess gender-based differences in electrical and mechanical complications in patients with inferior wall myocardial infarction (MI) aged 40 to 80 years. A total of 246 participants were

included, and the samples were collected from two tertiary care hospitals in district Peshawar, Khyber Pakhtunkhwa, Pakistan

Table 1: Gender distribution

Variable		**Frequency**	**Percentage%**
Gender	Male	161	65.4
	Female	85	34.6

Table 1: The gender distribution of the 246 participants, 161 (65.4%) were male and 85 (34.6%) were female.

Table 1.1: Age and gender base distribution of study population

Age Group (40-80)	**Total (n=246)**	**Male (n=161)**	**Female (n=85)**
40-50	61 (24.8%)	40 (24.8%)	21 (24.7%)
51-60	74 (30.1%)	49 (30.4%)	25 (29.4%)
61-70	64 (26.0%)	42 (26.1%)	22 (25.9%)
71-80	47 (19.1%)	30 (18.6%)	17 (20.0%)

Table 1.1: The age and gender-wise distribution of the study population (n = 246) aged 40–80 years, with the highest proportion in the 51–60-year age group, followed by 61–70, 40–50, and 71–80 years.

Table 1.2: Distribution of comorbidities among the study participants

	Variable	Frequency	Percentage%
Comorbidities	Smoker	35	14.2
	Non-Smoker	211	85.8
	Diabetes	19	7.7
	Hypertension	81	32.9
	CKD or AKI	2	.8
	No	52	21.1
	Other	1	.4

Table 1.2: The distribution of comorbidities, with hypertension being the most common (32.9%, n = 81), followed by smoking (14.2%, n = 35) and diabetes (7.7%, n = 19); CKD/AKI was the least common (0.8%, n = 2), and 21.1% (n = 52) had no reported comorbidities.

Table 1.3: Distributions of electrical complications

	Variable	Frequency	Percentage%
Electrical Complications	Atrial Fibrillation	1	.4
	Ventricular Tachycardia	2	.8
	Heart Block	16	6.5
	No	227	92.3
HB Type	1st Degree Block	2	.8
	2nd Degree Block	2	.8
	3rd degree Heart Block	12	4.9
	No	230	93.5

Table 1.3: The distribution of electrical complications, with heart block being the most common (6.5%, n = 16; 1st-degree 0.8%, 2nd-degree 0.8%, complete 4.9%), ventricular tachycardia in 0.8% (n = 2), atrial fibrillation in 0.4% (n = 1), and the majority (93.5%, n = 230) showing no electrical complications.

Figure 1: Gender-based comparison of electrical complications

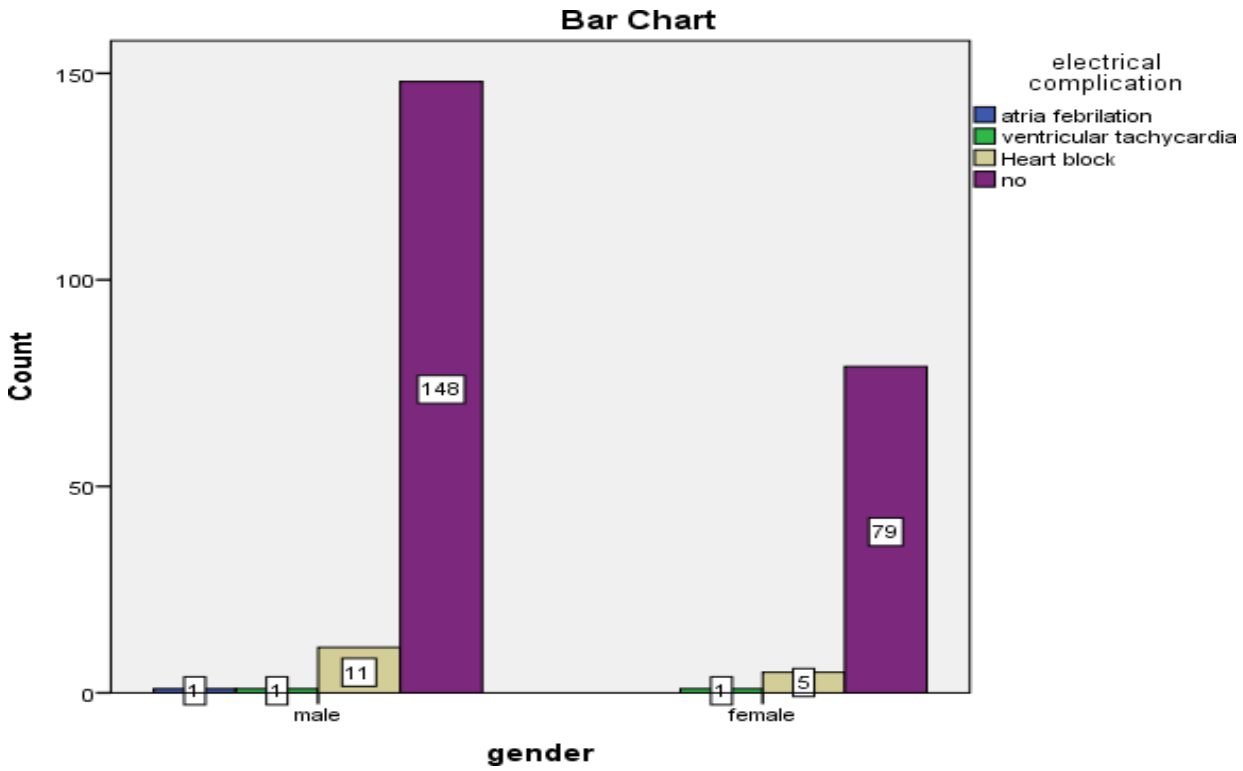

Figure 1: The gender-wise comparison of electrical complications was assessed using the chi-square test, with no statistically significant association between gender and electrical complications ($\chi^2 = 8.222$, df = 3, p = 0.844). The distribution was independent of gender (p > 0.05), based on 246 valid cases, with 50.0% of cells having expected counts <5 (minimum expected count = 3.5).

Table 1.4: Distribution of mechanical complications

	Variable	Frequency	Percentage%
Mechanical complications	VSR	2	.8
	MR	42	17.1
	RWMA (Inferior hypokinetic)	191	77.6
	No	11	4.5
RVI association with IWMI	Yes	20	8.1
	No	226	91.9

Table 1.5: The distribution of mechanical complications, with regional wall motion abnormalities (RWMA) being the most frequent (77.6%, n = 191), followed by mitral regurgitation (17.1%, n = 42) and ventricular septal rupture (0.8%, n = 2), Right ventricular involvement (RVI) was observed in 8.1% (n = 20).

Figure 1.1: Gender-based comparison of mechanical complications

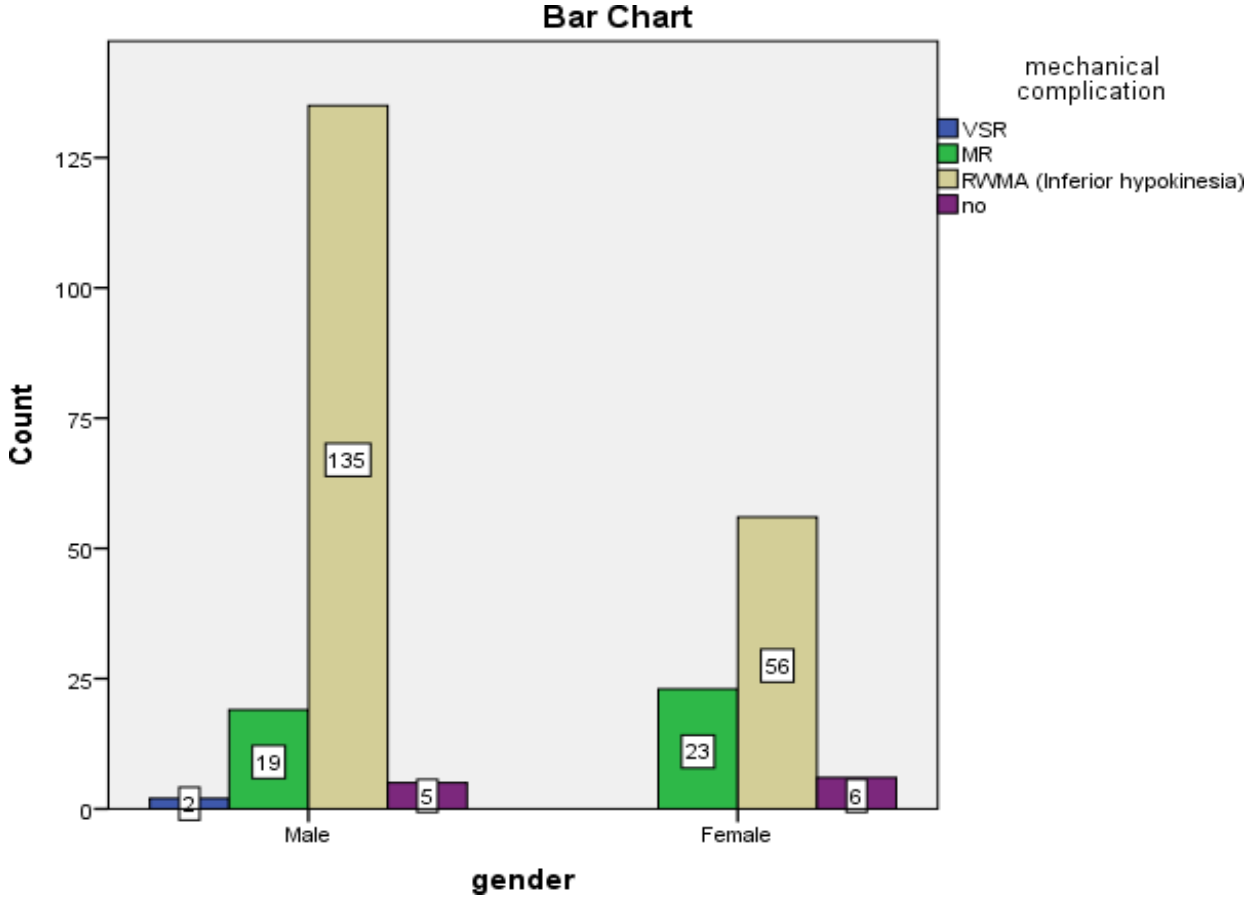

Figure 1.1: The gender-based comparison of mechanical complications; the chi-square test demonstrated no statistically significant association between gender and mechanical complications ($\chi^2 = 8.222$, df = 3, p = 0.844). The distribution was independent of gender ($p > 0.05$), based on 246 valid cases, with 50.0% of cells having expected counts <5 (minimum expected count = 3.5).

Table 1.6: The intervention strategies and medication use

	Variable	Frequency	Percentage%
Intervention	PCI	208	84.6
	CABG	10	4.1
	No	15	6.1
	PCI + SK+	13	5.3
Medication	Dual anti-platelet	237	96.3
	No	4	1.6
	anti-platelet + statin	5	2.0

Table 1.6: The intervention strategies and medication use, with PCI being the most common procedure (84.6%, n = 208), followed by PCI + SK (5.3%, n = 13) and CABG (4.1%, n = 10); no intervention was performed in 6.1% (n = 15). Regarding medications, most patients received dual antiplatelet therapy (96.3%, n = 237), 2.0% (n = 5) received antiplatelet plus statin, and 1.6% (n = 4) received no antiplatelet therapy.

Table 1.7: The outcomes of the study population

	Variable	Frequency	Percentage%
Outcomes	Recovered	216	87.8
	Ongoing Treatment	25	10.2
	Deceased	5	2.0

Table 1.7: shows the outcomes of the study population. Most patients recovered (87.8%, n = 216).

Ongoing treatment was required in 10.2% of cases (n = 25), while mortality was observed in 2.0% of patients (n = 5).

Figure 1.2: Gender base comparison of outcomes

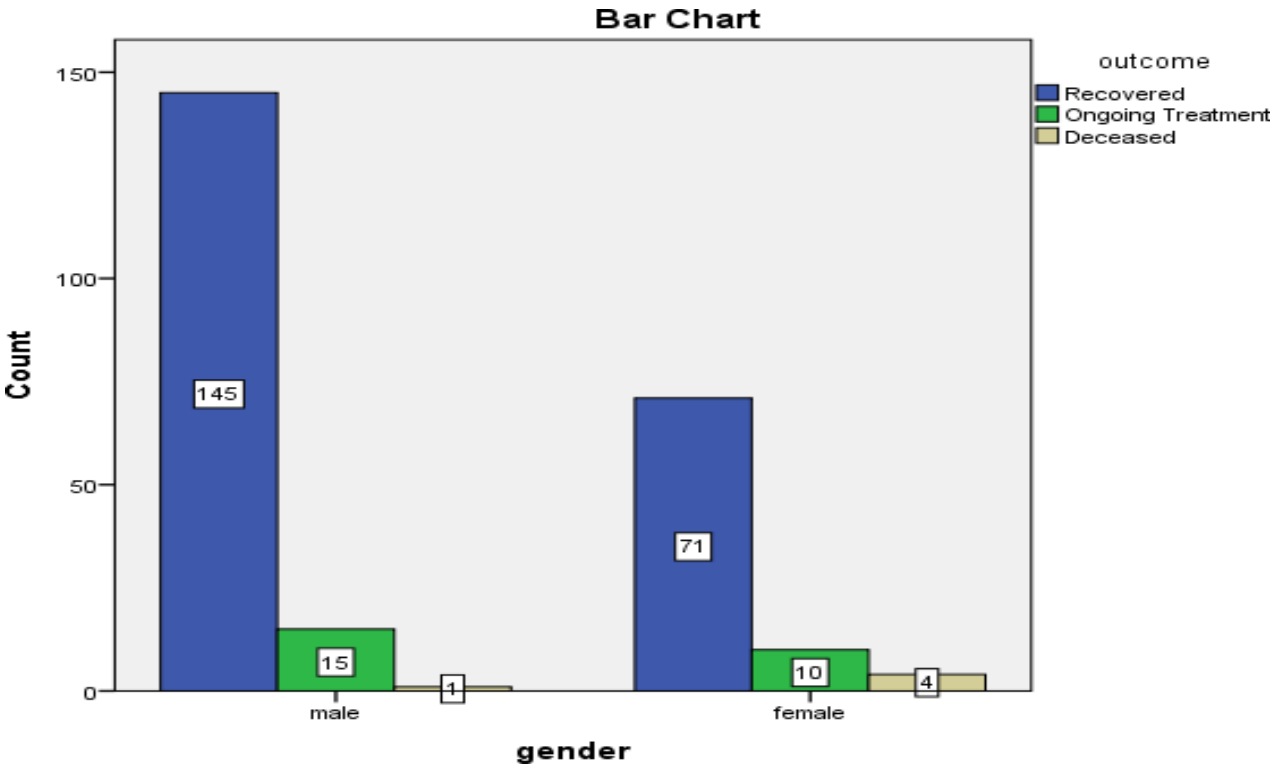

Figure 1.2: The gender-wise comparison of patient outcomes. The chi-square test demonstrated no statistically significant association between gender and outcomes (χ^2 = 5.165, df = 2, p = 0.076). Although the p-value was close to 0.05, it did not reach statistical significance, indicating that outcomes were not strongly dependent on gender. A total of 246 valid cases were analyzed, with 33.3% of cells having expected counts <5 and a minimum expected count of 1.73. Males showed higher recovery rates than females.

DISCUSSION

In a cohort drawn from two Peshawar tertiary care hospitals, this study thoroughly assessed the gender-based variations in the electrical and mechanical consequences of IWMI, with and without RVI. The results are placed in the context of previous research to draw attention to both similarities and differences. Of the participants in this study, 161 (65.4%) were men and 85 (34.6%) were women. Researchers found

that 7.7% of participants had diabetes, 32.9 percent had hypertension, 37 percent had diabetes plus hypertension, and 14.2% smoked. This is consistent with findings by Rahid Ullah et al. that found 87 (58%) of the participants were male and 63 (42%), with a higher prevalence of diabetes (42.7%) and hypertension (74%), and 30% smoked. The lower outcomes and higher in- hospital mortality seen in female patients may be explained by these comorbidities. In this study RVI association with inferior wall mi were 20(8.1%) and Hassam et al had 1000 participants out of this 360(36%) had RVMI and 640(64%) had without RVI. RWMA was the most common mechanical problem (77.6%), with electrical issues being less common. VSR occurred in 0.8% of cases and MR in 17.1%, mostly in females. These results are consistent with 16.5% to 28% MR rates reported by Sung-Jin Hong et al. This study's findings that women have more severe mechanical outcomes are supported by Patel et al.'s documentation of higher mechanical complications in women (33.75%) compared to men (27.75%).

Electrical complications were relatively rare in this study with no significance difference, AF observed in 0.4% and VT in 0.8% of participants. HB was more common, at present in 6.5%, with complete HB accounting for 4.9%. Ghulam Kubra et al., who reported higher rates of complete HB (40.7%), sinus bradycardia, 7 (11.9%) had sinus tachycardia, 3 (5.1%) had AF in women with IWMI. Women with an acute IWMI had higher rates of complete HB and adverse outcomes. Female with IWMI could be at risk for short-term in-hospital poor outcomes. Zia Ullah et al study Enrolled males (59%) and females (41%) in study, Results showed that 19% patients had complete HB while 81% were without it. PCI was the most common intervention in this study (84.6%). Despite this, women had worse outcomes, with higher ongoing treatment rates and mortality compared to men. Patel et al. similarly reported longer door-to-balloon times and delayed interventions in women, contributing to their higher in-hospital mortality rates (9.9% vs. 4.9%). This study found that 87.8% of participants recovered, 10.2% were undergoing treatment, and 2% died. The lower mortality rates observed may reflect improved management strategies compared to earlier literature, but gender disparities remain evident because Mehta et al. reported one-year mortality rates of 26% in women versus 19% in men, underscoring the long-term challenges in Managing female patients with IWMI.

This study's key insights are the lack of statistically significant gender-based differences in the incidence of complications and outcomes. This suggests that the pathophysiological mechanisms underlying IWMI and its complications are similar in males and females, at least within the studied age group and population. These results challenge the common perception that gender plays a pivotal role in the manifestation and outcomes of IWMI, at least in this specific setting. However, it is essential to acknowledge that other studies have found gender-related differences in myocardial infarction presentation, complications, and management, possibly due to variations in biological, hormonal, and sociocultural factors. We suggesting that Enhanced awareness of atypical symptoms in women could reduce diagnostic delays. Efforts to minimize gender-based disparities in interventions like PCI could improve outcomes in female patients. Aggressive management of hypertension and diabetes, particularly in women, may mitigate complications.

CONCLUSION

This hospital-based descriptive cross-sectional study evaluated gender-based differences in electrical and mechanical complications among patients aged 40–80 years with inferior wall myocardial infarction (IWMI). The study population showed a male predominance, with most patients belonging to the 51–60-year age group. Hypertension combined with diabetes were the most common comorbidities.

Electrical complications were relatively uncommon, with heart block being the most frequently observed abnormality, while atrial fibrillation and ventricular tachycardia were rare. Mechanical complications were more prevalent, particularly regional wall motion abnormalities, followed by mitral regurgitation, whereas ventricular septal rupture was infrequent. Right ventricular involvement was observed in a small proportion of patients. Gender-wise comparison revealed no statistically significant association between gender and electrical complications, mechanical complications, or clinical outcomes. Although males demonstrated a higher recovery rate, this difference did not reach statistical significance. Most patients underwent percutaneous coronary intervention (PCI) and received dual antiplatelet therapy, and overall outcomes were favorable, with a high recovery rate and low mortality. These findings suggest that while inferior wall myocardial infarction is associated with notable mechanical complications, gender does not appear to significantly influence the occurrence of complications or overall outcomes in this study population

REFERENCES

1. Ummah MS. No 主観的健康感を中心とした在宅高齢者における 健康関連指標に関する共分散構造分析 Title [Internet]. Vol. 11, Sustainability (Switzerland). 2019. 1–14 p. Available from: http://scioteca.caf.com/bitstream/handle/123456789/1091/RED2017-Eng-8ene.pdf?sequence=12&isAllowed=y%0Ahttp://dx.doi.org/10.1016/j.regsciurbeco.2008.06.005%0Ahttps://www.researchgate.net/publication/305320484_SISTEM_PEMBETUNGAN_TERPUSAT_STRATEGI_MELESTARI
2. Ullah R, Ali J, Bilal A, Jan DA, Rahim A, Sajjad W. Frequency of Right Ventricular Infarction in Patients With Acute Inferior Wall Myocardial Infarction Presenting At a Tertiary Care Hospital, Peshawar. Pakistan Hear J. 2023;56(2):163–6.
3. Rathore V. Risk Factors of Acute Myocardial Infarction: A Review. Eurasian J Med Investig. 2018;2(1):1–7.
4. Yasir Imran M, Fahr Hayat M, Khizer M, Irshad H, Qureshi H. Topographic patterns of Myocardial Infarction in Pakistani Population. Vol. 12.
5. Zuber M, Shabi MM, N P, S SP, Biju L. Pathophysiological Approach of Myocardial Infarction: A Review. Cross Curr Int J Med Biosci. 2024;6(03):54–65.
6. Dhamoon NOA. Myocardial Infarction - StatPearls - NCBI Bookshelf [Internet]. 2021. Available from: https://www.ncbi.nlm.nih.gov/books/NBK537076/
7. Anderson JL, Adams CD, Antman EM, Bridges CR, Califf RM, Casey DE, et al. ACC/AHA 2007 Guidelines for the Management of Patients With Unstable Angina/Non-ST-Elevation Myocardial Infarction. A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines (Writing Committee to Revise th. J Am Coll Cardiol. 2007;50(7).
8. Rodriguez T. How Do Myocardial Infarction Symptoms Differ Between Women and Men? 2023;(Mi):4–8.
9. Gloria Kang GJ, Ewing-Nelson SR, Mackey L, Schlitt JT, Marathe A, Abbas KM SS. 乳鼠心肌提取 HHS Public Access. Physiol Behav. 2018;176(1):139–48.
10. Mehta LS, Beckie TM, DeVon HA, Grines CL, Krumholz HM, Johnson MN, et al. Acute Myocardial Infarction in Women : A Scientific Statement from the American Heart Association. Vol. 133, Circulation. 2016. 916–947 p.
11. Imran MY, Shah ZH, Hayat MF, Hayat MK, Qureshi IH. Topographic patterns of myocardial infarction in Pakistani population. Pakistan J Med Heal Sci. 2018;12(2):592–4.
12. Iorga A, Cunningham CM, Moazeni S, Ruffenach G, Umar S, Eghbali M. The protective role of estrogen and estrogen receptors in cardiovascular disease and the controversial use of estrogen therapy. Biol Sex Differ. 2017;8(1):33.

13. Akramova EG, Savelyev AA, Khamitova RY, Vlasova E V. Comprehensive assessment of the outcomes of inferior wall myocardial infarction according to echocardiography in patients after percutaneous coronary intervention. Russ J Cardiol. 2023;28(7).
14. Siddiquei DM, Hussain DS, Ahmed DS. Frequency and Outcome of Right Ventricular Infarct; Patients With Inferior Wall Myocardial Infarction During Hospital Stay. Prof Med J. 2016;23(10):1288–92.
15. Ali H, Sarfraz S, Fawad M, Shafique Z. Frequency of Right Ventricular Infarction in Inferior Wall Myocardial Infarction. Cureus. 2020;12(5):5–9.
16. Reddy K. Recent advances in the diagnosis and treatment of acute myocardial infarction. World J Cardiol. 2015;7(5):243.
17. Nägele MP, Flammer AJ. Heart Failure After Right Ventricular Myocardial Infarction. Curr Heart Fail Rep [Internet]. 2022;19(6):375–85. Available from: https://doi.org/10.1007/s11897-022-00577-8
18. Albulushi A, Giannopoulos A, Kafkas N, Dragasis S, Pavlides G, Chatzizisis YS. Acute right ventricular myocardial infarction. Expert Rev Cardiovasc Ther. 2018;16(7):455–64.
19. Ali H, Sarfraz S, Fawad M, Shafique Z. Frequency of Right Ventricular Infarction in Inferior Wall Myocardial Infarction. Cureus. 2020 May 22;
20. Ullah Z, Khan I, Khan W, Khan MA. Frequency of Complete Heart Block in Patients with Acute Inferior Wall Myocardial Infarction. Pakistan J Med Heal Sci. 2022 May 26;16(5):89–90.
21. Gelfand E V., Cannon CP. Myocardial infarction: Contemporary management strategies. J Intern Med. 2007;262(1):59–77.
22. Kubra G, Saghir T, Rasheed S, Hassan FR, Ali A, Abbas S. In-Hospital Outcomes of Female Patients With Inferior Wall Myocardial Infarction. Cureus. 2021;13(2):11–6.
23. Noguchi M, Sakakura K, Akashi N, Adachi Y, Watanabe Y, Taniguchi Y, et al. The comparison of clinical outcomes between inferior ST-elevation myocardial infarction with right ventricular infarction versus without right ventricular infarction. Int Heart J. 2019;60(3):560–8.
24. Hong SJ, Kim SA, Hur J, Rhee SJ, Shim CY, Kim JS, et al. Mechanism of mitral regurgitation in the acute phase of inferior wall myocardial infarction: Reduced closing force as a consequence of left ventricular systolic dysfunction in the presence of tethering as a determinant of mitral regurgitation. Circ J. 2011;75(3):619–25.
25. Lv Y, Cao X, Yu K, Pu J, Tang Z, Wei N, et al. Gender differences in all-cause and cardiovascular mortality among US adults: from NHANES 2005–2018. Front Cardiovasc Med. 2024;11(February):1–11.