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Association of Elevated Red Cell Distribution Width with Left Ventricular Dysfunction and In-Hospital Outcomes in Acute Coronary Syndrome—A Retrospective Single Centre Study

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Abstract

Background: Red cell distribution width (RDW) is a routinely reported parameter of the complete blood count, has emerged as a potential marker of adverse cardiovascular outcomes. Increasing evidence suggests that elevated RDW reflects underlying inflammation, oxidative stress, and impaired erythropoiesis, all of which contribute to the pathophysiology of acute coronary syndrome (ACS).
Objectives: To evaluate the association of RDW with clinical characteristics, cardiac function, and in-hospital adverse outcomes among patients presenting with ACS.
Methods: This retrospective observational study included 111 patients diagnosed with ACS and admitted to a tertiary care teaching hospital in Rajnandgaon, Chhattisgarh, between June 2025 and December 2025. Patients were categorized according to admission RDW values as normal (≤15%) or elevated (>15%). Demographic variables, cardiovascular risk factors, admission parameters, laboratory findings, echocardiographic characteristics, and in-hospital outcomes were compared between groups using Chi-square or Fisher's exact tests.
Results: Elevated RDW (>15%) was present in 65 patients (58.6%). Higher RDW values were significantly associated with elevated troponin levels (≥1 ng/ml; p=0.003), reduced left ventricular ejection fraction (LVEF <40%; p<0.001), and the occurrence of in-hospital arrhythmia (p<0.001). Admission heart-rate distribution also differed significantly between RDW groups (p=0.034). A trend toward higher RDW among patients with STEMI and NSTEMI compared with unstable angina approached statistical significance (p=0.051). Although six of seven in-hospital deaths occurred in the elevated-RDW group, the association with mortality did not reach statistical significance (p=0.236).
Conclusion: Elevated RDW is associated with greater myocardial injury, impaired left ventricular systolic function, and increased arrhythmic burden in patients with ACS. Given its universal availability and negligible cost, RDW may serve as a useful adjunctive marker for early risk stratification, particularly in resource-constrained settings. Larger prospective studies are required to validate these findings and clarify the unexpected associations observed with certain cardiovascular risk factors.

Keywords:
Acute coronary syndrome; red cell distribution width; arrhythmia; left ventricular ejection fraction; troponin; risk stratification.

ISSN: 0975-3583,0976-2833 VOL 17, ISSUE 7, 2026

INTRODUCTION

Acute coronary syndrome (ACS), comprising ST-elevation myocardial infarction (STEMI), non-ST-elevation myocardial infarction (NSTEMI), and unstable angina, remains a major cause of morbidity and mortality worldwide [1]. Despite significant advances in reperfusion strategies, pharmacotherapy, and intensive cardiac care, ACS continues to account for a substantial burden of cardiovascular deaths, particularly in low- and middle-income countries [2]. In India, the incidence of coronary artery disease has increased steadily over recent decades, with patients often presenting at a younger age and with a high prevalence of cardiovascular risk factors [3].
Early risk stratification is a cornerstone of ACS management [4]. Identifying patients at increased risk of complications allows clinicians to optimize monitoring, guide therapeutic decisions, and prioritize resource utilization [5]. Although established risk assessment tools such as the TIMI and GRACE scores are widely used, there remains considerable interest in readily available laboratory parameters that may provide additional prognostic information without increasing healthcare costs[6,7].

Red cell distribution width (RDW), a routinely reported component of the complete blood count, reflects variation in circulating erythrocyte size [8]. Traditionally used in the evaluation of anemia, RDW has increasingly been recognized as a marker associated with adverse outcomes in a variety of cardiovascular disorders, including heart failure, atrial fibrillation, pulmonary hypertension, and coronary artery disease [9,10]. Because RDW is automatically generated during routine hematological analysis, it represents an attractive biomarker for risk assessment in everyday clinical practice [8].

The biological mechanisms linking elevated RDW with cardiovascular disease are likely multifactorial. Inflammation, oxidative stress, altered iron metabolism, and neurohormonal activation can disrupt normal erythropoiesis, resulting in greater heterogeneity in red blood cell size. These same processes contribute to atherosclerotic progression, myocardial injury, and ventricular remodeling [11]. Consequently, elevated RDW may reflect the overall physiological burden associated with acute cardiovascular illness rather than serving solely as a hematological parameter [11].

Several studies have reported associations between elevated RDW and adverse outcomes in patients with ACS, including increased mortality, major adverse cardiovascular events, and impaired left ventricular function [12,13,14,15,16]. However, the strength of these associations has varied across populations, and data from central India remain limited. Furthermore, the relationship between RDW and conventional cardiovascular risk factors has not been consistently demonstrated, highlighting the need for further evaluation in diverse patient populations.

The present study was undertaken to assess the association between RDW and clinical outcomes among patients admitted with ACS at a tertiary care centre in Chhattisgarh, India. We evaluated the relationship of RDW with demographic characteristics, cardiovascular risk factors, biochemical markers of myocardial injury, left ventricular ejection fraction, and in-hospital adverse events. By examining these associations in a central Indian cohort, we sought to

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determine whether RDW could serve as a simple and clinically useful marker of disease severity and short-term prognosis in patients with ACS.

METHODS

Study Design

This was a single-centre retrospective observational study based on review of patient records.

Study Setting

The study was conducted using records from the Department of Pathology, in collaboration with the Department of Medicine, at Bharat Ratna Late Shri Atal Bihari Vajpayee Memorial Medical College, Rajnandgaon, Chhattisgarh, India — a tertiary care teaching hospital serving a predominantly central Indian population.

Study Period

Records of patients admitted between June 2025 and December 2025 were reviewed and analyzed.

Study Population

The study population comprised all patients admitted with a diagnosis of acute coronary syndrome (ACS) during the study period whose case records, including demographic data, risk factor profile, complete blood count (including RDW), cardiac biomarkers, and echocardiographic findings, were retrievable and complete in the Medical Records Department (MRD).

Sample Size

A total of 111 patients met eligibility criteria and were included in the final analysis, identified by consecutive sampling of all eligible ACS admissions during the study period. No formal a priori sample-size calculation was performed because of the retrospective design.

Eligibility Criteria

Inclusion Criteria

- Age >18 years
- Confirmed diagnosis of ACS (STEMI, NSTEMI, or unstable angina) based on clinical presentation, electrocardiographic findings, and elevated cardiac biomarkers (troponin I/T, CK-MB) and/or regional wall motion abnormalities on echocardiography
- Complete admission CBC report with RDW value available

Exclusion Criteria

- Anemia (hemoglobin <13.0 g/dL in men and <12.0 g/dL in women, according to WHO diagnostic criteria)
- Prior percutaneous coronary intervention (PCI) or coronary artery bypass grafting (CABG)
- Known valvular heart disease
- Hematological disorders
- Chronic kidney disease or chronic liver disease
- Recent blood transfusion
- Incomplete or missing records

Data Collection

Data were retrospectively extracted from case sheets, laboratory reports, and discharge summaries archived in the MRD, and entered into a structured, anonymized spreadsheet. Variables collected included demographic details (age, sex), cardiovascular risk factors (hypertension, diabetes mellitus, dyslipidemia, smoking, alcohol use, family history of premature

ISSN: 0975-3583,0976-2833 VOL 17, ISSUE 7, 2026

coronary artery disease, obesity defined as BMI >30 kg/m²), admission vital parameters (heart rate, systolic and diastolic blood pressure), ACS subtype, troponin levels, transthoracic echocardiographic left ventricular ejection fraction (LVEF), and in-hospital clinical outcomes.

Laboratory Methods / RDW Measurement

RDW was measured as part of the routine admission complete blood count using the Beckman Coulter DxH 500 automated hematology analyzer, and expressed as a percentage (RDW-CV). For analysis, patients were dichotomized into normal RDW (≤15%) and elevated RDW (>15%) groups, consistent with the analyzer reference range and cut-offs commonly applied in the literature [16].

Outcome Definitions

ACS subtype (STEMI, NSTEMI, unstable angina) was classified according to standard electrocardiographic and biomarker criteria.

In-hospital MACE were defined as follows (non-mutually exclusive):

- **Arrhythmia**: any new-onset atrial or ventricular arrhythmia during admission, including atrial fibrillation, ventricular tachycardia, ventricular fibrillation, or significant conduction disturbance.
- **Acute Heart Failure**: clinical heart failure corresponding to Killip class ≥II.
- **Stroke/TIA**: new focal neurological deficit during admission, confirmed clinically and/or radiologically where performed.
- **Mechanical complications**: structural complications of myocardial infarction (e.g., papillary muscle dysfunction/mitral regurgitation, ventricular septal rupture, free wall rupture) as documented.
- **In-hospital mortality**: death from any cause during the index admission.

Statistical Analysis

Statistical analyses were performed using IBM SPSS Statistics for Windows, Version 31.0 (IBM Corp., Armonk, NY, USA). Continuous variables are expressed as mean ± SD. Categorical variables as frequencies and percentages. The RDW ≤15% and >15% groups were compared using the chi-square test, with Fisher's exact test applied where expected cell frequencies were <5. A p-value <0.05 was considered statistically significant.

RESULTS

A total of 111 patients with acute coronary syndrome (ACS) were included in the study. Elevated RDW (>15%) was observed in 65 patients (58.6%), while 46 patients (41.4%) had RDW ≤15%. The majority of patients were between 50 and 69 years of age (72.1%). Male patients constituted 80.2% of the study population. No significant association was observed between sex and RDW category (p=0.16) **(Table 1).**

Among cardiovascular risk factors, obesity (33.3%), hypertension (28.8%), diabetes mellitus (24.3%), and smoking (22.5%) were the most frequently observed comorbidities. Hypertension, diabetes mellitus, dyslipidaemia, smoking, obesity, and family history of coronary artery disease showed no significant association with RDW status (all p>0.05). Alcohol use was significantly

ISSN: 0975-3583,0976-2833 VOL 17, ISSUE 7, 2026

more common among patients with elevated RDW than among those with normal RDW (26.2% vs 8.7%, p=0.026) **(Table 2).**

At presentation, 79.3% of patients had a heart rate below 90 beats/min, 75.7% had systolic blood pressure below 140 mmHg, and 72.1% had diastolic blood pressure below 90 mmHg. Heart-rate distribution differed significantly between RDW groups (p=0.034), whereas systolic and diastolic blood pressure categories showed no significant association with RDW (p=0.693 and p=0.478, respectively) **(Table 3).**

NSTEMI was the most common ACS subtype, accounting for 60.4% of cases, followed by STEMI (34.2%) and unstable angina (5.4%). Elevated RDW was more frequently observed in patients with STEMI and NSTEMI than in those with unstable angina; however, this association did not reach statistical significance (p=0.051) **(Table 3).**

Troponin levels ≥1 ng/ml were observed in 78 patients (70.3%). Elevated RDW was significantly more common among patients with troponin levels ≥1 ng/ml than among those with lower values (76.9% vs 15.2%; p=0.003) **(Table 3).**

Echocardiographic evaluation demonstrated a significant association between RDW and left ventricular systolic function. Among patients with LVEF <40%, 78.3% had elevated RDW compared with 44.6% of those with LVEF ≥40% (p<0.001). The proportion of patients with elevated RDW increased progressively with worsening LVEF category **(Table 4).**

In-hospital adverse cardiac events are summarized in **Table 5.** Arrhythmia was the most frequent event, occurring in 55 patients (49.5%), followed by acute heart failure in 46 patients (41.4%). A significant association was observed between elevated RDW and in-hospital arrhythmia. Arrhythmia occurred in 69.2% of patients with RDW >15% compared with 21.7% of those with RDW ≤15% (p<0.001). Acute heart failure (p=0.074) and stroke/TIA (p=0.080) showed non-significant trends toward association with RDW status. Mechanical complications were not associated with RDW (p=1.000). Although six of seven deaths occurred in patients with elevated RDW, the association between RDW and in-hospital mortality was not statistically significant (p=0.236).

Overall, elevated RDW was significantly associated with elevated troponin levels, reduced left ventricular ejection fraction, and in-hospital arrhythmia. No significant associations were observed with hypertension, diabetes mellitus, dyslipidaemia, smoking, obesity, blood pressure parameters, mechanical complications, or mortality.

Table 1. Baseline Demographic Characteristics According to RDW Category

Variable	Total (n=111)	RDW ≤15% (n=46)	RDW >15% (n=65)	p-value
Age <40 years	2 (1.8)	2 (4.3)	0 (0.0)	—
Age 40–49 years	12 (10.8)	7 (15.2)	5 (7.7)	—
Age 50–59 years	43 (38.7)	15 (32.6)	28 (43.1)	—
Age 60–69 years	37 (33.3)	15 (32.6)	22 (33.8)	—

ISSN: 0975-3583,0976-2833 VOL 17, ISSUE 7, 2026

Variable	Total (n=111)	RDW ≤15% (n=46)	RDW >15% (n=65)	p-value
Age 70–79 years	16 (14.4)	7 (15.2)	9 (13.8)	—
Age ≥80 years	1 (0.9)	0 (0.0)	1 (1.5)	—
Male	89 (80.2)	34 (73.9)	55 (84.6)	0.160
Female	22 (19.8)	12 (26.1)	10 (15.4)	

Table 2. Cardiovascular Risk Factors According to RDW Category

Risk Factor	Total (n=111)	RDW ≤15% (n=46)	RDW >15% (n=65)	p-value
Hypertension	32 (28.8)	10 (21.7)	22 (33.8)	0.240
Diabetes mellitus	27 (24.3)	8 (17.4)	19 (29.2)	0.227
Dyslipidaemia	17 (15.3)	4 (8.7)	13 (20.0)	0.173
Smoking	25 (22.5)	7 (15.2)	18 (27.7)	0.187
Alcohol use	21 (18.9)	4 (8.7)	17 (26.2)	0.026
Family history of Coronary artery disease	11 (9.9)	6 (13.0)	5 (7.7)	0.521
Obesity (BMI >30 kg/m²)	37 (33.3)	14 (30.4)	23 (35.4)	0.733

Table 3. Admission Characteristics, ACS Type, and Laboratory Findings According to RDW Category

Variable	Category	Total (n=111)	RDW ≤15% (n=46)	RDW >15% (n=65)	p-value
Heart rate	<90 bpm	88 (79.3)	31 (67.4)	57 (87.7)	0.034
	90–110 bpm	20 (18.0)	13 (28.3)	7 (10.8)	
	>110 bpm	3 (2.7)	2 (4.3)	1 (1.5)	
Systolic BP	<140 mmHg	84 (75.7)	33 (71.7)	51 (78.5)	0.693
	≥140 mmHg	27 (24.3)	13 (28.3)	14 (21.5)	
Diastolic BP	<90 mmHg	80 (72.1)	31 (67.4)	49 (75.4)	0.478
	≥90 mmHg	31 (27.9)	15 (32.6)	16 (24.6)	
ACS type	STEMI	38 (34.2)	12 (31.6)	26 (68.4)	0.051
	NSTEMI	67 (60.4)	29 (43.3)	38 (56.7)	
	Unstable angina	6 (5.4)	5 (83.3)	1 (16.7)	
Troponin	<1 ng/ml	33 (29.7)	28 (84.8)	5 (15.2)	0.003
	≥1 ng/ml	78 (70.3)	18 (23.1)	60 (76.9)	

Table 4. Echocardiographic Findings According to RDW Category

LVEF Category	Total (n=111)	RDW ≤15% (n=46)	RDW >15% (n=65)	p-value

ISSN: 0975-3583,0976-2833 VOL 17, ISSUE 7, 2026

LVEF Category	Total (n=111)	RDW ≤15% (n=46)	RDW >15% (n=65)	p-value
Severely reduced (<35%)	6 (5.4)	1 (16.7)	5 (83.3)	**<0.001**
Reduced (35–40%)	40 (36.0)	9 (22.5)	31 (77.5)	
Mildly reduced (40–50%)	27 (24.3)	10 (37.0)	17 (63.0)	
Preserved (>50%)	38 (34.2)	26 (68.4)	12 (31.6)	
LVEF <40%	46 (41.4)	10 (21.7)	36 (78.3)	**<0.001**
LVEF ≥40%	65 (58.6)	36 (55.4)	29 (44.6)	

Table 5. In-Hospital Major Adverse Cardiac Events According to RDW Category

Outcome		RDW ≤15%	RDW >15%	p-value
Arrhythmia	55	10	45	**<0.001**
Acute heart failure (Killip ≥II)	46	14	32	0.074
Stroke/TIA	21	16	5	0.002
Mechanical complication	12	7	5	0.223
In-hospital mortality	7	1	6	0.236

DISCUSSION

The present study evaluated the relationship between admission RDW and clinical outcomes in a cohort of ACS patients from central India. Three principal findings emerged. First, elevated RDW was strongly associated with impaired left ventricular systolic function. Second, higher RDW values were associated with greater myocardial injury as reflected by elevated troponin concentrations. Third, elevated RDW was associated with a substantially higher incidence of in-hospital arrhythmia. Together, these findings support the role of RDW as a readily available marker of disease severity in ACS.

RDW and Left ventricular function

The most important finding of the present study was the strong association between elevated RDW and reduced left ventricular ejection fraction. More than three-fourths of patients with LVEF below 40% had RDW values greater than 15%, and the prevalence of elevated RDW increased progressively with worsening ventricular function. Left ventricular dysfunction remains one of the strongest determinants of adverse outcomes following ACS including heart failure, recurrent ischemic events, and mortality.

Our findings are in concordance with previous studies by Krishnan et al., Diwakar Gowda et al., and Mayank Nausran et al., which demonstrated a significant inverse association between RDW and LVEF, with elevated RDW levels observed more frequently among patients with moderate to severe systolic dysfunction [16,17,18]. The progressive increase in RDW with worsening ventricular function observed in these studies supports the hypothesis that anisocytosis reflects

ISSN: 0975-3583,0976-2833 VOL 17, ISSUE 7, 2026

the cumulative effects of myocardial injury, ventricular remodeling, and systemic inflammatory stress associated with cardiac dysfunction.[19]

RDW and Myocardial Injury Marker (Troponin)

A significant association was observed between RDW and troponin levels in the present study. Patients with troponin concentrations ≥1ng/ml were substantially more likely to have elevated RDW than those with lower troponin values. As cardiac troponin is a well-established marker of myocardial necrosis, this finding suggests that higher RDW values may be associated with greater myocardial injury and ischemic burden.

Our findings are consistent with previous studies demonstrating a positive relationship between RDW and cardiac troponin levels in patients with acute coronary syndromes. Elevated RDW has been associated with higher peak troponin concentrations, larger infarct burden, and poorer clinical outcomes, supporting the concept that anisocytosis may reflect the severity of underlying ischemic injury.[20,21,22,23]. The mechanisms underlying this association are likely multifactorial. Myocardial injury triggers systemic inflammation, oxidative stress, neurohormonal activation, and alterations in iron metabolism, all of which can disrupt erythropoiesis and increase red blood cell size variability. Consequently, elevated RDW may reflect the broader physiological response to acute myocardial injury rather than merely a hematological abnormality [22,23]. These findings support the role of RDW as a simple, inexpensive adjunctive marker of disease severity in patients presenting with ACS.

RDW and In-Hospital Arrhythmia

Another notable finding of the present study was the strong association between elevated RDW and in-hospital arrhythmia. Nearly seventy percent of patients with RDW >15% experienced an arrhythmic event during hospitalization compared with approximately one-fifth of those with RDW ≤15%. Although the relationship between RDW and arrhythmia has received less attention than its association with mortality and major adverse cardiovascular events, increasing evidence suggests that elevated RDW may reflect the underlying pathophysiological processes that contribute to cardiac electrical instability.

Our findings are consistent with those reported by Zheng et al. and Diwakar Gowda et al., who demonstrated an association between elevated RDW and arrhythmic events, as well as adverse cardiovascular outcomes.[24,16] The mechanisms underlying this association are likely multifactorial. Chronic inflammation, oxidative stress, endothelial dysfunction, and neurohormonal activation may simultaneously disrupt erythrocyte maturation and promote myocardial electrical remodeling. Consequently, elevated RDW may serve as an indirect marker of the systemic biological stress that predisposes patients to arrhythmia during the acute phase of ACS. Taken together, these findings suggest that RDW may provide additional prognostic information beyond traditional cardiovascular risk factors and may help identify patients who require closer cardiac monitoring during hospitalization.

RDW and Mortality

Although six of the seven in-hospital deaths occurred among patients with elevated RDW, the association between RDW and mortality did not reach statistical significance in the present study. This likely reflects the small number of mortality events and the limited statistical power

ISSN: 0975-3583,0976-2833 VOL 17, ISSUE 7, 2026

of our cohort rather than the absence of a true relationship. Nevertheless, the Findings are consistent with previous studies that have identified elevated RDW as an independent predictor of mortality in patients with acute myocardial infarction and other cardiovascular disorders. Huang et al. demonstrated a significant association between higher RDW values and increased in-hospital mortality among patients with acute myocardial infarction, while Senapati et al. reported that elevated RDW was associated with poorer clinical outcomes and increased mortality risk in patients with heart failure [25,26].
These findings suggest that RDW may reflect the cumulative effects of inflammation, oxidative stress, nutritional deficiencies, impaired erythropoiesis, and other pathophysiological processes that contribute to adverse cardiovascular outcomes. Although our study was underpowered to detect a statistically significant mortality difference, the predominance of deaths within the elevated-RDW group warrants further investigation in larger prospective studies with longer follow-up periods.

RDW and Conventional Cardiovascular Risk Factors

In contrast to its significant associations with left ventricular dysfunction, elevated troponin levels, and in-hospital arrhythmia, RDW was not significantly associated with conventional cardiovascular risk factors such as hypertension, diabetes mellitus, dyslipidaemia, smoking, or obesity in the present study. This finding suggests that RDW may reflect the physiological consequences of acute cardiovascular stress and systemic inflammation rather than the mere presence of individual cardiovascular risk factors.

Previous studies have reported variable results regarding the relationship between RDW and traditional cardiovascular risk factors. While some investigators have demonstrated significant associations between elevated RDW and conditions such as hypertension and cardiometabolic disease, others have suggested that RDW is more closely related to overall patient vulnerability, systemic inflammation, and adverse cardiovascular outcomes than to specific risk factors themselves [27,28,29,30]. These differences may reflect variations in study populations, disease severity, comorbidity burden, and study design.
An association was observed between alcohol use and elevated RDW in our cohort. Patients reporting alcohol consumption were more likely to have RDW values above 15% than non-users. Chronic alcohol exposure has been linked to impaired erythropoiesis, nutritional deficiencies, and increased variability in red blood cell size, all of which may contribute to elevated RDW values. However, the relatively small number of alcohol users in the present study limits definitive interpretation of this finding, and the possibility of residual confounding cannot be excluded. Further studies are required to clarify the nature and clinical significance of this association.

Overall, our findings support the concept that RDW may function as an integrated marker of physiological stress and cardiovascular vulnerability rather than a surrogate for individual conventional cardiovascular risk factors.

Clinical Implications

ISSN: 0975-3583,0976-2833 VOL 17, ISSUE 7, 2026

The findings of this study have important clinical implications, particularly in resource-limited settings. As RDW is routinely available at no additional cost as part of the complete blood count, its significant association with reduced LVEF, elevated troponin levels, and in-hospital arrhythmia suggests that it may serve as a simple adjunctive marker of disease severity in patients with ACS. Elevated RDW at admission may help identify patients who require closer monitoring, early echocardiographic assessment, and more intensive clinical surveillance. In settings where access to advanced biomarkers, continuous telemetry, or early cardiac imaging is limited, RDW may assist in risk stratification and prioritization of care. Although further prospective studies are needed to validate its prognostic utility, RDW represents an inexpensive and widely accessible parameter that may complement existing risk assessment strategies in ACS.

Limitations

Several limitations should be considered when interpreting the findings of this study. First, the retrospective design is inherently susceptible to incomplete documentation and information bias. Second, this was a single-centre study with a relatively modest sample size, which may limit the generalizability of the findings. Nevertheless, the inclusion of consecutive ACS admissions provides a representative reflection of routine clinical practice in our setting.

Third, multivariable regression analysis was not performed; therefore, residual confounding cannot be excluded, and the observed associations should be interpreted as exploratory rather than causal. Fourth, multiple statistical comparisons were conducted without formal adjustment for multiplicity, increasing the possibility of type I error, particularly for findings with borderline statistical significance. Fifth, potentially important determinants of RDW, including inflammatory markers, iron studies, and nutritional parameters, were not available for analysis. Finally, only in-hospital outcomes were assessed, precluding evaluation of the long-term prognostic significance of RDW. Despite these limitations, the study demonstrated significant associations between elevated RDW, impaired left ventricular function, increased myocardial injury, and in-hospital arrhythmia. These findings support the need for larger prospective multicentre studies to further clarify the prognostic utility of RDW in patients with ACS.

CONCLUSION

Elevated RDW was common among patients admitted with acute coronary syndrome and showed significant associations with elevated troponin levels, impaired left ventricular systolic function, and in-hospital arrhythmia. These findings suggest that RDW may reflect the severity of myocardial injury and the overall physiological burden associated with ACS.

Given its universal availability, low cost, and inclusion in routine complete blood count testing, RDW has potential utility as an adjunctive marker for early risk stratification, particularly in resource-limited healthcare settings. Although elevated RDW was also associated with a higher

ISSN: 0975-3583,0976-2833 VOL 17, ISSUE 7, 2026

proportion of in-hospital deaths, this relationship did not reach statistical significance in the present study.

Larger prospective multicentre studies with long-term follow-up and multivariable adjustment are needed to validate these findings and determine the incremental prognostic value of RDW beyond established cardiovascular risk assessment tools. Until then, RDW should be regarded as a readily available supplementary marker that may assist in identifying ACS patients at increased risk of adverse in-hospital outcomes.

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