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Review Article

Evaluation of predictors of poor functional outcome after open reduction and internal fixation (ORIF) Ankle Fractures.

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Abstract

Background: Ankle fractures are common lower-limb injuries that often require open reduction and internal fixation (ORIF). Despite satisfactory anatomical reduction, a considerable proportion of patients experience suboptimal functional recovery. This study aimed to evaluate clinical, radiological and peri-operative predictors of poor functional outcome following ORIF in ankle fractures. ***Methods***: A prospective observational study was conducted over 24 months, enrolling 53 adults with surgically treated ankle fractures. Demographic features, comorbidities, fracture characteristics, surgical details, postoperative complications and rehabilitation patterns were recorded. Functional outcome was assessed at 3 and 6 months using the Olerud–Molander Ankle Score (OMAS) and American Orthopaedic Foot and Ankle Society (AOFAS) score. Patients were categorised as having good (OMAS ≥60) or poor (OMAS <60) outcomes. Statistical tests and multivariate logistic regression were applied to identify independent predictors. ***Results***: The mean age was 41.8 years, and 64.2% were male. At 6 months, 71.7% achieved good outcomes, while 28.3% had poor outcomes. Significant predictors of poor outcome in univariate analysis included older age, higher BMI, diabetes, smoking, Weber C pattern, trimalleolar fracture, syndesmotic injury, delayed surgery (≥7 days), postoperative infection and malreduction. Multivariate analysis identified age >50 years, BMI ≥28 kg/m², trimalleolar fractures, syndesmotic injury, delayed surgery and postoperative infection as independent predictors of poor functional outcome. ***Conclusion***: Nearly one-third of patients exhibited poor functional recovery after ORIF. Advanced age, obesity, complex fracture patterns, syndesmotic disruption, surgical delay and postoperative infection significantly influenced outcomes. Minimising delays, ensuring anatomical reduction and preventing complications may improve prognosis.

Keywords: Ankle fracture, ORIF, Functional outcome, OMAS, AOFAS, Predictors, Syndesmotic injury, Trimalleolar fracture, Postoperative infection.

Introduction:

Ankle fractures are among the most common lower-limb injuries encountered in emergency and trauma practice and account for a substantial proportion of all adult fractures, particularly in active, working-age individuals. Recovery is often prolonged; meta-analytic data suggest that physical function may remain impaired for months and may not fully return to population norms even at one year after injury. [1] Systematic reviews further indicate that, even after surgical treatment, many patients report persistent pain, stiffness and activity limitation, with overall quality of life remaining lower than that of non-injured controls. [2,3]

Open reduction and internal fixation (ORIF) is the current standard of care for displaced and unstable ankle fractures, aiming to restore articular congruity and ligamentous stability and thereby optimise functional recovery. Prospective and long-term series have shown that ORIF can yield good to excellent functional results in a majority of patients, as measured by scores such as the Olerud–Molander Ankle Score (OMAS), American Orthopaedic Foot & Ankle Society (AOFAS) score and other patient-reported outcome measures. [4–6] However, a clinically important subset continues to experience residual symptoms, chronic pain, reduced range of motion and post-traumatic osteoarthritis, highlighting that anatomical reduction alone does not guarantee a satisfactory functional outcome. [3,7]

Recent prognostic studies have attempted to identify factors associated with poor functional outcome after ankle fracture surgery. Patient-related variables such as advanced age, female sex, higher body mass index, diabetes mellitus, smoking and alcohol use have all been associated with worse foot and ankle functional scores and lower health-related quality of life. [7–9] Injury- and surgery-related factors—including fracture complexity (e.g. Weber B/C, trimalleolar or posterior malleolar involvement), syndesmotic injury, open fractures, significant soft-tissue damage, delay to surgery, malreduction, loss of reduction and postoperative complications such as surgical site infection, wound breakdown, malunion and non-union—also contribute to unfavourable outcomes. [7,9–12] Additionally, rehabilitation-related variables, particularly the timing of weight-bearing and early mobilisation protocols, have emerged as potentially modifiable determinants of return to function. [13]

Despite this growing body of literature, there remains considerable heterogeneity in outcome measures, follow-up duration and the set of prognostic factors evaluated, and the ability to predict which patients will have poor functional outcomes after ORIF is still limited. [1–3,7,8] Furthermore, data from different healthcare settings and populations, including low- and middle-income countries, are relatively scarce. A focused evaluation of clinical, radiological and peri-operative predictors of poor functional outcome after ORIF for ankle fractures is therefore essential. Such evidence can help clinicians stratify risk, individualise patient counselling, optimise timing and technique of surgery, and design targeted rehabilitation and follow-up strategies. The present study, “Evaluation of predictors of poor functional outcome after open reduction and internal fixation (ORIF) ankle fractures,” is undertaken to address this need by systematically analysing potential prognostic factors in patients undergoing surgical management of ankle fractures.

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Material and Methods:
This was a hospital-based prospective observational study conducted in the Department of Orthopaedics at Government Medical College/Hospital, Siddipet, a tertiary care teaching hospital. The study was carried out over a period of 24 months, and included all eligible patients undergoing open reduction and internal fixation (ORIF) for ankle fractures.
All adult patients (≥18 years) presenting with acute ankle fractures that required operative fixation were screened for eligibility.

Inclusion Criteria
- Patients aged 18 years and above.
- Radiologically confirmed ankle fractures (unimalleolar, bimalleolar, or trimalleolar).
- Fractures treated surgically with ORIF.
- Patients willing to participate and available for follow-up for at least 6 months post-operatively.

Exclusion Criteria
1. Pathological fractures.
2. Polytrauma patients requiring ventilatory or intensive care support.
3. Patients with pre-existing ankle deformities or chronic ankle instability.
4. Open fractures Grade III (Gustilo–Anderson).
5. Associated ipsilateral lower limb fractures affecting functional assessment.
6. Patients lost to follow-up or unwilling to provide consent.

A total of 53 patients meeting the inclusion criteria were enrolled. Institutional Ethics Committee approval was obtained prior to study initiation. Written informed consent was taken from all participants.

Methods
Detailed demographic, clinical and injury-related data were collected using a pre-structured proforma:
- Age, sex, BMI
- Comorbidities: diabetes mellitus, hypertension, smoking, alcohol use
- Side of injury, mechanism of injury
- Fracture type: Danis–Weber classification, Lauge–

Hansen mechanism
- Presence of syndesmotic injury
- Soft tissue condition (swelling, blisters, open wound)
- Time from injury to surgery (early <7 days, delayed ≥7 days)

Surgical Procedure
All patients underwent ORIF under spinal or general anaesthesia.
Standard surgical protocols were followed:
- Lateral plating for fibular fractures
- Medial malleolus fixation with screws/tension band wiring
- Posterior malleolus fixation when fragment >25% or with articular displacement
- Syndesmotic stabilization with screw or suture-button device where required
- Tourniquet use, implant type, surgeon experience, and intraoperative complications were recorded.
- Postoperative Protocol
- Prophylactic antibiotics as per institutional protocol.
- Wound inspection on postoperative day 2 and suture removal at day 12–14.
- Immobilization duration and progression to partial and full weight-bearing were documented.
- Radiographs were obtained immediately post-op and at each follow-up.

Outcome Measures
Primary Outcome – Functional Outcome
Functional status was evaluated at 3 months and 6 months post-operatively using validated scoring systems:
- Olerud–Molander Ankle Score (OMAS)
- and/or American Orthopaedic Foot and Ankle Society (AOFAS) Ankle–Hindfoot Score

Patients were categorised into good and poor functional outcome groups based on established cut-off scores (e.g., OMAS <60 = poor outcome).

Secondary Outcomes
- Radiological union
- Ankle range of motion
- Postoperative complications: superficial/deep infection, malunion, delayed union, non-union, implant failure
- Development of post-traumatic osteoarthritis (on follow-up radiographs)

Statistical Analysis
The collected data were first entered into Microsoft Excel and subsequently analysed using SPSS version 25.0 (IBM Corp., Armonk, NY). Quantitative variables were summarised as mean ± standard deviation (SD), while qualitative variables were presented as frequencies and percentages. Comparisons between patients with good and poor functional outcomes were performed using the Independent t-test or ANOVA for continuous variables and the Chi-square test or Fisher's exact test for categorical variables, as appropriate. To determine independent predictors of poor functional outcome following ORIF, a multivariate logistic regression analysis was conducted, incorporating all relevant clinical, radiological and surgical variables. For all statistical tests, a p-value <0.05 was considered indicative of statistical significance.

RESULTS

Table 1 : Demographic Profile of Study Participants (n = 53)

Parameters	Frequency	Percentage
Age		
18–30 yrs	14	26.4
31–50 yrs	24	45.3
>50 yrs	15	28.3
Mean ± SD	41.8 ± 13.6	
Gender		
Male	34	64.2
Female	19	35.8
Gender		
Diabetes mellitus	11	20.8
Hypertension	14	26.4
Smoking	17	32.1
Alcohol use	15	28.3
BMI (Mean ± SD)	27.4 ± 3.8	

Table 1 presents the demographic characteristics of the 53 patients included in the study. The mean age was 41.8 ± 13.6 years, with the majority (45.3%) belonging to the 31–50-year age group, indicating that ankle fractures predominantly affect the economically productive age population. Males constituted a higher proportion (64.2%) compared to females (35.8%), reflecting the increased exposure of males to outdoor activities and trauma risk. Comorbidities were common, with hypertension (26.4%) and diabetes mellitus (20.8%) being the most frequent, followed by smoking (32.1%) and alcohol consumption (28.3%). The mean BMI was 27.4 ± 3.8 kg/m², showing that many patients were overweight, a potential factor influencing fracture healing and functional recovery.

Table 2 : Injury Characteristics of Ankle Fractures (n = 53)

Parameters	Frequency	Percentage
Mechanism of Injury		
Slip/Fall	29	54.7
Road Traffic Accident (RTA)	21	39.6
Sports Injury	3	5.7
Site of Injury		
Right	30	56.6
Left	23	43.4
Fracture Pattern (Weber)		
Weber A	6	11.3
Weber B	25	47.2
Weber C	22	41.5
Fracture Type		
Unimalleolar	11	20.8
Bimalleolar	25	47.2
Trimalleolar	17	32.1
Syndesmotic Injury		
Present	19	35.8
Absent	34	64.2
Soft Tissue Condition		
Normal	33	62.3
Significant Swelling/Blister	14	26.4
Open Fracture (Grade I–II)	6	11.3

Table 2 describes the mechanisms and patterns of ankle fractures. Slip-and-fall injuries accounted for more than half of the cases (54.7%), followed by road traffic accidents (39.6%), demonstrating that both low- and high-energy trauma mechanisms significantly contribute to ankle fractures. The right side was slightly more affected (56.6%) than the left. Weber B fractures were most common (47.2%), followed by Weber C (41.5%), indicating a predominance of rotational injuries with varying degrees of syndesmotic involvement. Bimalleolar fractures were the most frequent (47.2%), while syndesmotic injuries were present in 35.8% of patients. Soft tissue compromise was observed in several cases, with 26.4% having significant swelling or blisters and 11.3% presenting with Grade I–II open fractures. These findings highlight the complexity and variability of ankle fracture patterns.

Table 3 : Surgical Characteristics among study population (n = 53)

Parameters	Frequency	Percentage
Time from Injury to Surgery		
<7 days	36	67.9
≥7 days	17	32.1
Fixation of Posterior Malleolus		
Done	12	22.6
Not Done	41	77.4
Syndesmotic Fixation		
Screw	14	26.4
Suture-button	5	9.4
No fixation	34	64.2
Intraoperative Complications		
Present	3	5.7
Absent	50	94.3

Table 3 outlines the operative management details. Most patients (67.9%) underwent surgery within 7 days of injury, while 32.1% experienced delayed surgery. Posterior malleolus fixation was required in 22.6% of cases, consistent with the incidence of trimalleolar fractures. Syndesmotic stabilization was necessary in 35.8% of the study population, predominantly using screws (26.4%). The majority (64.2%) required no syndesmotic fixation. Intraoperative complications were rare, reported in only 5.7% of surgeries, indicating that the procedures were largely uneventful and performed following standard operative protocols.

Table 4 : Postoperative Course and Complications (n = 53)

Parameters	Frequency	Percentage
Early Weight-bearing		
≤3 weeks	21	39.6
>3 weeks	32	60.4
Early Weight-bearing		
Superficial	4	7.5
Deep	2	3.8
None	47	88.7
Malunion / Malreduction		
Present	6	11.3
Absent	47	88.7
Radiological Union Time(Mean ± SD)	13.4 ± 2.1 weeks	

Table 4 shows the postoperative recovery parameters. Early weight-bearing (≤3 weeks) was achieved in 39.6% of patients, whereas most (60.4%) transitioned later, depending on fracture pattern and fixation stability. Wound complications occurred in 11.3% of cases, including superficial (7.5%) and deep infections (3.8%). Malunion or malreduction was observed in 11.3% of patients, which could influence long-term functional outcomes. The mean radiological union time was 13.4 ± 2.1 weeks, aligning with expected healing timelines for surgically managed ankle fractures.

Table 5 : Functional Outcome Scores at 6 Months (n = 53)

Outcome	(Mean ± SD)	
	3 Months	6 Months
Olerud–Molander Ankle Score (OMAS)	52.4 ± 14.2	71.6 ± 15.8
AOFAS Ankle–Hindfoot Score	63.8 ± 11.5	78.4 ± 12.7

Table 5 demonstrates progressive improvement in functional outcomes. At 3 months, mean OMAS (52.4 ± 14.2) and AOFAS (63.8 ± 11.5) scores indicated moderate disability, reflecting the early phase of rehabilitation. By 6 months, these scores significantly improved to 71.6 ± 15.8 and 78.4 ± 12.7, respectively, highlighting satisfactory functional recovery following ORIF for most patients. This trend confirms that functional restoration continues well into the postoperative period, with notable gains between 3 and 6 months.

Table 6 : Categorisation Into Good vs. Poor Functional Outcome Groups (Based on OMAS) (n = 53)

Parameters	Cut-off Value	Frequency	Percentage
Good Functional Outcome	OMAS ≥ 60	38	71.7
Poor Functional Outcome	OMAS < 60	15	28.3

Table 6 categorises patients based on OMAS into good (≥60) and poor (<60) functional outcomes. A majority (71.7%) achieved good recovery at 6 months, while 28.3% fell into the poor outcome category. This distribution shows that although ORIF generally results in favourable outcomes, nearly one-third of patients still experience suboptimal function, indicating the need to explore predictors associated with poor recovery.

Table 7 : Comparison of Predictors Between Good and Poor Outcome Groups (n = 53)

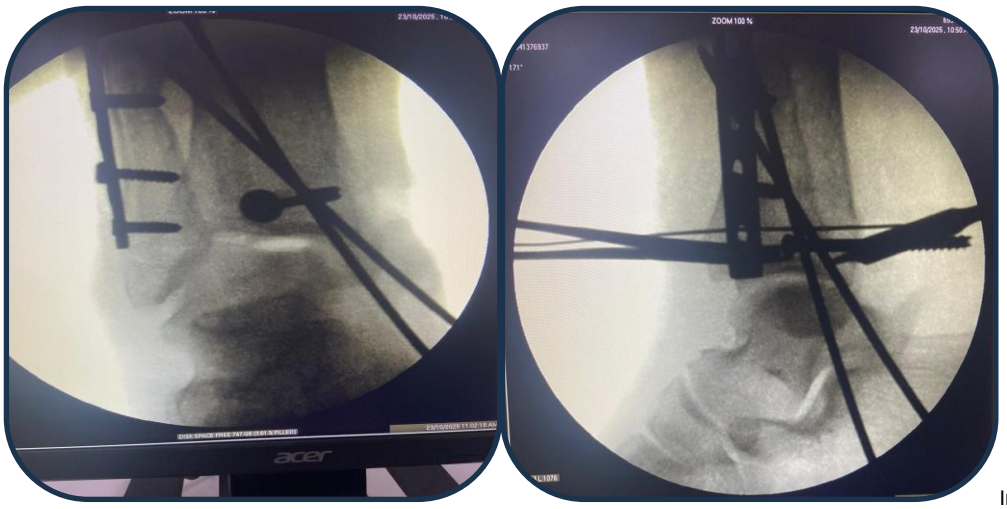
Variable	Good Outcome (n=38)	Poor Outcome (n=15)	p-value
Age (years)	38.9 ± 12.4	49.6 ± 14.1	0.012*
BMI (kg/m²)	26.7 ± 3.5	29.0 ± 4.1	0.046*
Diabetes Mellitus	5 (13.1%)	6 (40%)	0.034*
Smoking	9 (23.6%)	8 (53.3%)	0.041*
Weber C Fracture	12 (31.6%)	10 (66.7%)	0.018*
Trimalleolar Fracture	8 (21.1%)	9 (60%)	0.009*
Syndesmotic Injury	10 (26.3%)	9 (60%)	0.021*
Delay to Surgery ≥7 days	8 (21.1%)	9 (60%)	0.011*
Post-op Infection (any)	2 (5.2%)	4 (26.7%)	0.023*
Malreduction/Malunion	2 (5.2%)	4 (26.7%)	0.023*

Table 7 compares clinical, demographic, and injury-related variables between good and poor outcome groups. Patients with poor outcomes were older (49.6 vs. 38.9 years) and had higher BMI (29.0 vs. 26.7), both statistically significant. Diabetes and smoking were significantly more frequent among poor outcome cases, suggesting systemic health impacts on recovery. Unfavourable fracture characteristics—Weber C, trimalleolar fractures, syndesmotic injuries—were significantly associated with poor outcomes. Delayed surgery (≥7 days) and postoperative complications, including infection and malreduction, also showed strong associations with poor functional recovery. All these variables reached statistical significance ($p < 0.05$), indicating their importance as predictors.

Table 8 : Multivariate Logistic Regression Analysis for Predictors of Poor Functional Outcome

Predictor Variable	Adjusted Odds Ratio (AOR)	95% CI	p-value
Age > 50 years	2.42	1.11–5.69	0.031*
BMI ≥ 28 kg/m²	2.19	1.04–4.90	0.040*
Trimalleolar Fracture	3.66	1.32–10.2	0.012*
Syndesmotic Injury	2.74	1.08–7.35	0.034*
Delay to Surgery ≥7 days	2.59	1.19–6.80	0.028*
Postoperative Infection	3.1	1.21–11.4	0.022*

Table 8 identifies the independent predictors of poor functional outcome. Age >50 years, BMI ≥28 kg/m², trimalleolar fractures, syndesmotic disruption, delayed surgery (≥7 days), and postoperative infection all significantly increased the risk of poor outcome. Among these, trimalleolar fractures (AOR 3.66) and postoperative infection (AOR 3.1) showed the strongest associations. These findings highlight the need for careful perioperative optimisation, early surgical intervention, and meticulous soft-tissue and infection management to improve long-term functional recovery in ankle fracture patients.



Images 1 : Open Reduction and Internal Fixation of Ankle Fractures

DISCUSSION

The present study evaluated clinical, radiological and peri-operative predictors of poor functional outcome in 53 patients undergoing ORIF for ankle fractures. At 6 months, 71.7% of patients had good functional outcome (OMAS ≥60), while 28.3% had poor outcome, and multivariate analysis identified age >50 years, BMI ≥28 kg/m², trimalleolar fractures, syndesmotic injury, delay to surgery ≥7 days and postoperative infection as independent predictors of poor function (Tables 5–8).These findings are consistent with contemporary literature that highlights both patient-related and injury-/treatment-related factors as key determinants of long-term recovery after ankle fractures.[7,9]

In our cohort, the mean age was 41.8 ± 13.6 years, with nearly three-quarters of patients below 50 years and a clear male predominance (64.2%).This pattern reflects the high exposure of middle-aged, working-age men to outdoor and high-risk activities. Court-Brown and Caesar similarly reported that ankle fractures are common in adults, with a large burden in the middle-aged population even though incidence rises further in the elderly.[14] The mean BMI of 27.4 kg/m² in our series indicates that most patients were overweight, and comorbidities such as diabetes (20.8%), hypertension (26.4%), smoking (32.1%) and alcohol use (28.3%) were frequent. These comorbidities and lifestyle factors have been repeatedly associated with poorer functional and patient-reported outcomes after ankle fractures in prognostic studies.[7,9]

Slip or fall was the most common mechanism of injury (54.7%), followed by road-traffic accidents (39.6%), indicating a mixture of low- and high-energy trauma typical for ankle fractures.Weber B (47.2%) and Weber C (41.5%) fractures predominated, and almost 80% of fractures were bi- or trimalleolar, with syndesmotic injury present in 35.8% and Grade I–II open fractures in 11.3%. This distribution mirrors other ORIF series, where unstable Weber B/C and multi-malleolar fractures form the majority of surgically treated injuries.[9,8] Syndesmotic disruption and complex fracture patterns (e.g. trimalleolar injuries) have consistently been linked with inferior long-term function and higher rates of complications and reoperation.[7,9]

Most patients (67.9%) underwent surgery within 7 days of injury, while 32.1% had delayed fixation (≥7 days). Fixation of the posterior malleolus was required in 22.6% and syndesmotic fixation in 35.8% (mainly screw fixation), reflecting adherence to current principles of stabilising the posterior tibial plafond and distal tibiofibular joint in unstable patterns. Intraoperative complications were rare (5.7%).

These figures are comparable with other prospective cohorts where careful soft-tissue assessment and standardised techniques minimise intraoperative adverse events.[7,8] Early weight-bearing (≤3 weeks) was initiated in 39.6% of patients, with the remainder progressing later, according to fracture stability and soft-tissue status. Superficial and deep wound infections occurred in 7.5% and 3.8% of cases, respectively, and malunion/malreduction was seen in 11.3%. The mean radiological union time was 13.4 ± 2.1 weeks.These rates are within the ranges reported in the literature, where infection after ankle ORIF typically occurs in 4–10% and malalignment in 5–15% of patients.[15,16]

Functional scors improved substantially over time. Mean OMAS increased from 52.4 ± 14.2 at 3 months to 71.6 ± 15.8 at 6 months, and AOFAS scores from 63.8 ± 11.5 to 78.4 ± 12.7 over the same period. At 6 months, 71.7% of patients achieved a good functional outcome (OMAS ≥60), whereas 28.3% were categorised as having poor outcome (OMAS <60).This pattern of meaningful improvement between 3 and 6 months is in line with other outcome studies that show continued recovery well into the first postoperative year.[7,9] Balaji et al. reported comparable mean OMAS and AOFAS scores at 6 months in their prospective cohort of surgically treated unstable ankle fractures, confirming that our overall functional results are broadly similar to other Indian and international experiences.[8]

When patients were stratified into good and poor outcome groups, those with poor outcome were significantly older (49.6 vs. 38.9 years) and had higher BMI (29.0 vs. 26.7 kg/m²). They also had a higher prevalence of diabetes (40% vs. 13.1%) and smoking (53.3% vs. 23.6%). These observations align with the findings of Audet et al., who reported that increased BMI, tobacco and alcohol use, and medical comorbidities were associated with worse patient-reported outcomes at mid-term follow-up after ankle fractures.[7] Lorente et al., in a recent systematic review, likewise concluded that advanced age, high BMI, diabetes and smoking are consistent predictors of poorer function and health-related quality of life.[9]

Complex fracture configurations were strongly associated with poor outcome in our series. Patients with poor outcome more frequently had Weber C fractures (66.7% vs. 31.6%) and trimalleolar fractures (60% vs. 21.1%), and syndesmotic injuries were also significantly more common (60% vs. 26.3%). Delayed surgery ≥7 days occurred in 60% of the poor outcome group compared with 21.1% of the good outcome group. These results corroborate earlier evidence that fracture complexity and syndesmotic disruption are important prognostic factors. Audet et al. found that more severe fracture patterns and fracture-dislocations were associated with lower functional scores.[7] Balaji et al. similarly showed that unstable patterns (often Weber C and bimalleolar/trimalleolar fractures) and less-than-optimal radiographic restoration were linked with poorer outcomes in their prospective cohort.[8] The negative impact of surgical delay on outcome in our study is also consistent with the wider literature. Studies emphasise timely fixation, once soft tissues permit, to reduce swelling-related complications and to facilitate accurate reduction; delays have been associated with higher infection rates and worse functional recovery.[8,15]

Postoperative infection and malreduction/malunion were markedly over-represented in the poor outcome group: any infection occurred in 26.7% vs. 5.2%, and malreduction/malunion in 26.7% vs. 5.2% of patients. Ovaska et al. showed that deep infection after internal fixation of ankle fractures can have catastrophic consequences, with diabetes, smoking, alcohol abuse and malreduction significantly increasing the risk of treatment failure and long-term disability.[15] Our findings echo this, underlining that meticulous soft-tissue handling, strict asepsis, precise reduction and early detection and management of complications are critical for preserving function.

On multivariate logistic regression, age >50 years, BMI ≥28 kg/m², trimalleolar fracture pattern, syndesmotic injury, delay to surgery ≥7 days and postoperative infection remained independent

predictors of poor functional outcome at 6 months. This reinforces the concept that both non-modifiable (age, fracture complexity) and modifiable (timing of surgery, infection control) factors jointly shape prognosis. Our results are in agreement with Audet et al. and Lorente et al., who emphasise that patient-related risk factors must be considered alongside fracture severity and treatment quality when counselling patients and planning follow-up.[7,9] Balaji et al. also reported that careful attention to fracture reduction and optimisation of comorbidities can improve functional outcomes even in unstable patterns.[8]

From a clinical standpoint, elderly, overweight patients with trimalleolar fractures and syndesmotic disruption represent a high-risk group who should receive targeted counselling, more intensive rehabilitation and closer follow-up. Avoiding unnecessary delay to surgery, ensuring anatomical reduction (especially of the posterior malleolus and syndesmosis) and stringent prevention and management of postoperative infection are practical, modifiable strategies that may improve long-term functional outcomes in such patients.

Conclusion

In this study of 53 patients undergoing ORIF for ankle fractures, the majority (71.7%) achieved good functional outcomes by 6 months; however, nearly one-third continued to experience significant functional limitation. Poor outcomes were strongly associated with older age, higher BMI, diabetes, smoking, complex fracture patterns (particularly trimalleolar and Weber C injuries), syndesmotic disruption, delayed surgery and postoperative complications such as infection and malreduction. Multivariate analysis confirmed age >50 years, obesity, trimalleolar fractures, syndesmotic injury, surgical delay ≥7 days and postoperative infection as independent predictors of poor recovery. These findings highlight the importance of early surgical intervention, meticulous anatomical reduction, aggressive management of comorbidities and prevention of complications to optimise postoperative functional outcomes following ankle fracture fixation.

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Conflict of Interest: None

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