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Combining fragmented QRS and TIMI score for predicting in-hospital short-term prognosis after acute myocardial infarction

Key words: Acute myocardial infarction(AMI)， Freagmented QRS (fQRS)， TIMI score，short-term prognosis

Research Summary

This study mainly focused on the short-term prognosis of patients with AMI by using the combination of fQRS and TIMI score.

- **Patients with AMI under continuous treatment were selected retrospectively for this study and graded by TIMI risk score.**
- **The fQRS was identified in ECG following the addmition.**
- **Patients were first be evaluated the outcomes by the combination of fQRS and TIMI score, and then with divided into groups based on the TIMI score ≥4 and <4 with the presence or absence of fQRS on ECG.**

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Innovation points

Table 2- **Short-term prognostic outcomes of patients with AMI as evaluated by the fQRS and TIMI risk score**

	Positive fQRS (n/%)	Negative fQRS (n/%)	P-value	Positive fQRS (n/%)	Negative fQRS (n/%)	P-value
	TIMI score ≥ 4			TIMI score < 4		
Malignant cardiac arrhythmia	15(6.5)	7(3.0)	0.263	8(11.4)	0(0)	0.006
LVSD	39(18.1)	15(6.9)	0.014	8(12.1)	2(3.0)	0.064
Death	31(13.5)	18(7.8)	0.315	9(12.9)	1(1.4)	0.014

With the presence of fQRS, the numbers of cases with malignant cardiac arrhythmia, LVSD, and mortality were all significantly higher than those observed in the negative fQRS group, either with a TIMI risk score of ≥4 or<4.

Innovation points

Table 3 - Correlation between the fQRS with TIMI risk score and the short-term prognosis for patients after PCI intervention

	TIMI score ≥ 4 (n/%)		P-value	TIMI score < 4 (n/%)		P-value
	With PCI intervention	Without PCI intervention		With PCI intervention	Without PCI intervention	
Malignant cardiac arrhythmia	9(6.9)	6(4.6)	0.919	2(5.3)	6(15.8)	0.012
LVSD	19(15.2)	20(16.0)	0.046	4(11.4)	4(11.4)	0.286
Death	12(9.2)	19(14.5)	0.009	2(5.3)	7(18.4)	0.004

Positive fQRS patients with a TIMI risk score of ≥4, the incidence rates of LVSD and mortality were significantly higher in patients without PCI , while in the group with a TIMI risk score of <4, significant differences were seen in the rates of malignant cardiac arrhythmia and mortality for patients without PCI treatment.

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