

CHAPTER 3

CLINICAL PRESENTATION AND INVESTIGATION

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This chapter presents the results of clinical presentation and investigations of acute coronary syndrome patients registered in the ACS registry.

As discussed in Chapter 2, patients were classified according to ACS presentations of STEMI, NSTEMI and UA. A higher percentage of patients presented as STEMI (42%), followed by NSTEMI (32%) and UA (25%). The lower percentage of patients presented as NSTEMI and UA in this cohort could be due to underreporting as some of these patients were admitted to the general medical wards or non-cardiac wards.

There is no significant difference in the number of distinct episodes of angina in the past 24 hours among patients with STEMI (70%), NSTEMI (62%) and UA (65%) (Table 3.1).

The Killip classification was used to categorize the presence and severity of heart failure at the time of initial presentation ¹. The results show that 56% of STEMI patients were categorized in Killip class I and were followed by Killip class II (20%); both Killip class III and Killip class IV collectively made up 9%. Killip classification was also used among the NSTEMI and UA patients as it was documented as a powerful independent predictor of all-cause mortality in NSTEMI patients ¹. For NSTEMI and UA patients, both class III and IV made up 10 % and 2% respectively.

The result shows that more than 90% of patients in each category had gone through either one of the following cardiac marker tests, which are Creatine Kinase-MB, Creatine Kinase, Troponin T or Troponin I.

Among STEMI patients, 85% (N=801) of them showed positive results for CK-MB test, 75% (N=1325) for CK; 99% (N=183) and 93% (N=58) for Troponin T and Troponin I, respectively. While among NSTEMI patients, 52% (N=874) showed positive results for CK-MB test, 38% (N=970) for CK; 98% (N=446) and 93% (N=167) for Troponin T and Troponin I, respectively. Troponin testing was conducted on only a small number of patients, as a few hospitals in the NCVD-ACS registry have the test available.

Among the younger patients (aged from 20 to less than 40 years old) who presented with acute coronary syndrome, majority of them presented with STEMI (68%). (Table 3.2.1) The incidence of systolic hypertension among older patients was found to be higher as expected. The result also shows that the peak cardiac biomarkers were higher among the younger patients. The total cholesterol, LDL and triglycerides levels were higher among the younger patients. This is a reflection of the dietary trends among the young. As expected, a higher percentage of older patients presented with Killip class II (21%) and Killip class III and IV (9%) compared to Killip class II (7%) and Killip class III and IV (3%) in the younger age group.

The incidence of STEMI was higher in men (48%) compared to women (25%). However, more women were reported to have NSTEMI (41%) and UA (33%) compared to men, who accounted for 30% and 22% respectively.

The Left Ventricular Ejection Fraction (LV EF) is poorer among the elderly and diabetic patients. These patients were likely to have chronic diffuse ischemic disease. A large proportion of patients do not know their pre-morbid dyslipidemia status. There was a higher incidence of STEMI among patients who do not have diabetes, hypertension and elevated lipid levels. However, this finding is most likely misleading, as a large proportion of patients in this group remained undiagnosed for their co-morbidities.

Summary Points:

- Out of the 3422 patients with ACS 42% presented with STEMI, 33% with NSTEMI and 25% UA.
- Most of the patients in STEMI group were in Killip class I and II, 5% of STEMI patients were in Killip class IV compared to 3% in NSTEMI group and none in UA.
- There were no significant differences in baseline blood pressure (BP), heart rate (HR), cholesterol or blood sugar levels between the three groups.
- STEMI patients have a lower number of established risk factors with respect to dyslipidaemia, hypertension and diabetes mellitus compared to NSTEMI and UA patients.

Reference:

- 1 Khot U.N., J. Gang, Moliterno D.J. et.al. 2003. Prognostics Importance of Physical Examination for Heart Failure in Non-ST Elevation Acute Coronary Syndromes: The enduring value of Killip classification. *Journal of the American Medical Association (JAMA)*.290: 2174-2181

Table 3.1 Cardiac presentations of patients with ACS by ACS stratum, Malaysia 2006

	STEMI N=1445	NSTEMI N=1132	UA N=845
Systolic blood pressure, mmHg			
• N	1428	1116	836
• Mean, SD	134 (28)	145 (30)	146 (28)
• Median, (min, max)	130 (60, 230)	142 (66, 230)	142 (60, 224)
Diastolic blood pressure, mmHg			
• N	1402	1087	823
• Mean, SD	80 (17)	82 (17)	82 (15)
• Median, (min, max)	80 (26, 120)	82 (19, 120)	82 (34, 120)
Heart rate at presentation, beats/min			
• N	1434	1122	838
• Mean, SD	82 (21)	86 (23)	81 (19)
• Median, (min, max)	80 (30, 180)	84 (29, 180)	79 (40, 166)
Number of distinct episodes of angina in past 24 hours, no. %			
• 0-2	933 (65)	626 (55)	459 (54)
• >2	68 (5)	74 (7)	93 (11)
• Missing	444 (31)	432 (38)	293 (35)
Killip classification code, no. %			
• I	802 (56)	489 (43)	377 (45)
• II	288 (20)	206 (18)	98 (12)
• III	62 (4)	76 (7)	15 (2)
• IV	66 (5)	30 (3)	4 (0)
• Not stated/inadequately described	227 (16)	331 (29)	351 (42)
Patients with any cardiac marker done, no. %	1402 (97)	1114 (98)	762 (90)
Peak CK-MB, Unit/L, no. %	801	874	397
• >25	681 (85)	457 (52)	0 (0)
Peak CK, Unit/L, no. %	1325	970	722
• >2x reference upper limits	999 (75)	364 (38)	0 (0)
Peak TnT, no. %	183	446	27
• Positive or >0.01	181 (99)	436 (98)	0 (0)
Peak TnI, no. %	58	167	55
• Positive or > reference upper limit/0.04	54 (93)	156 (93)	0 (0)
Total cholesterol, mmol/L			
• N	1175	788	508
• Mean, SD	5.4 (1.3)	5.2 (1.3)	5.1 (1.3)
• Median, (min, max)	5.3 (3.0, 14.3)	5.1 (3.0, 11.0)	5.0 (3.0, 10.8)

	STEMI N=1445	NSTEMI N=1132	UA N=845
HDL-C, mmol/L			
• N	1155	807	514
• Mean, SD	1.13 (0.38)	1.13 (0.37)	1.12 (0.38)
• Median, (min, max)	1.10 (0.50, 4.94)	1.10 (0.50, 4.24)	1.07 (0.50, 4.50)
LDL-C, mmol/L			
• N	1144	793	491
• Mean, SD	3.45 (1.22)	3.16 (1.20)	3.09 (1.19)
• Median, (min, max)	3.40 (1.10, 10.10)	3.03 (1.00, 8.87)	2.99 (1.00, 8.90)
Triglycerides, mmol/L			
• N	1025	687	439
• Mean, SD	2.05 (1.26)	2.06 (1.18)	2.25 (1.54)
• Median, (min, max)	1.70 (1.00, 13.50)	1.70 (1.00, 11.10)	1.80 (1.00, 14.00)
Left ventricular ejection fraction, %			
• N	948	569	199
• Mean, SD	47 (11)	47 (14)	50 (17)
• Median, (min, max)	47 (10, 79)	48 (9, 79)	52 (8, 80)

**** Not all participating centre performed Troponin T or I tests.**

Note: Percentage is to the nearest decimal point.

Figure 3.1.1 Number of distinct angina episodes for patients with ACS by ACS stratum, Malaysia 2006

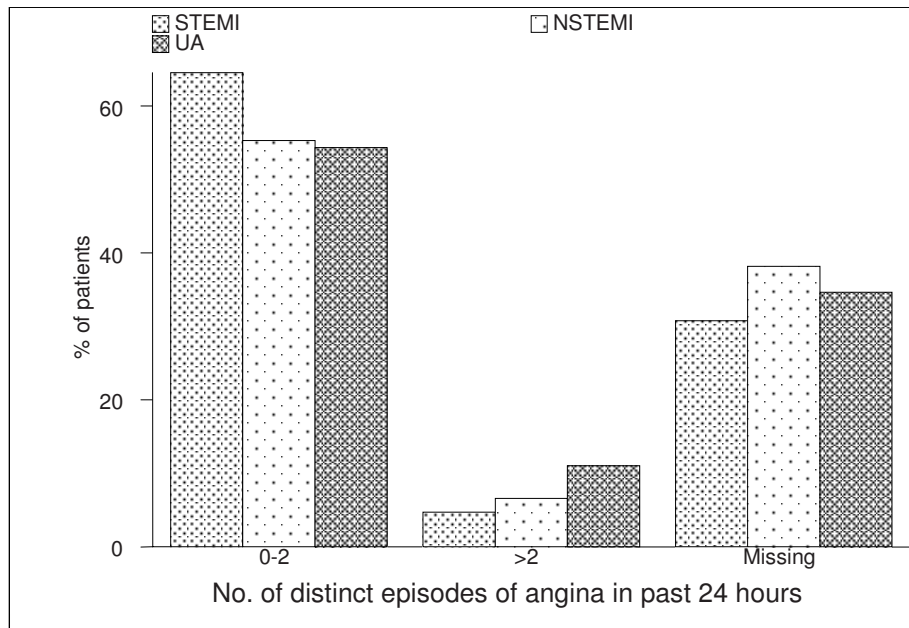


Figure 3.1.2 Killip classification code for patients with ACS by ACS stratum, Malaysia 2006

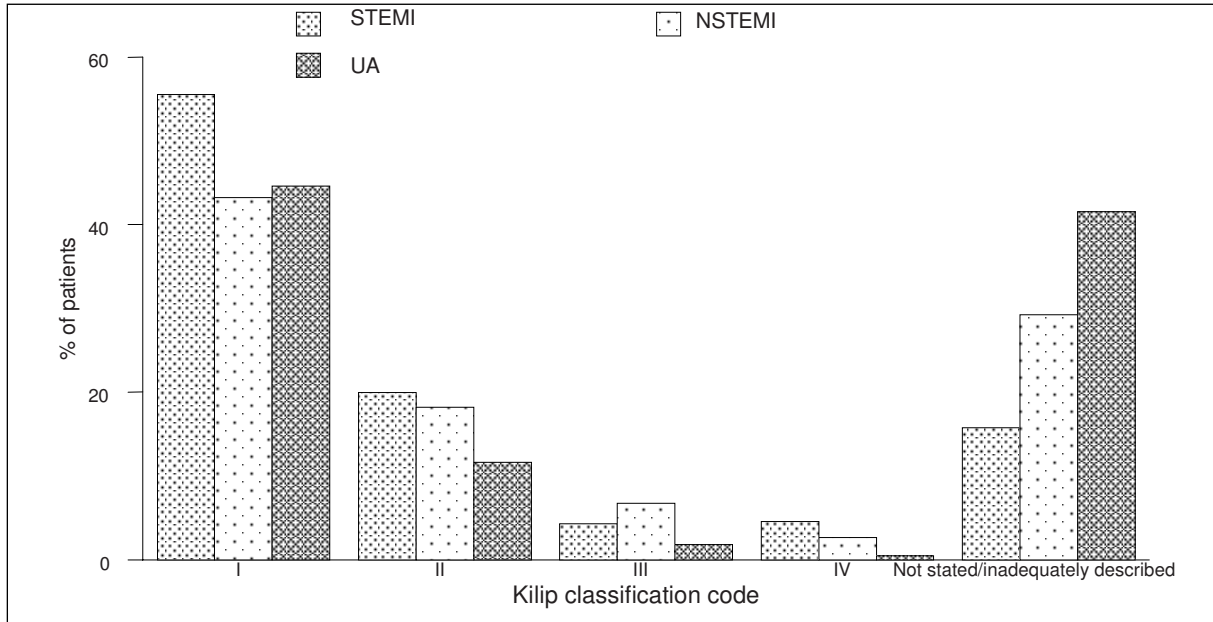


Table 3.2.1 Cardiac presentation of patients with ACS by age group (years), Malaysia 2006

	Age group*		
	Young N=166	Middle-age N=1675	Elderly N=1581
Acute coronary syndrome stratum, no. %			
• STEMI	113 (68)	803 (48)	529 (33)
• NSTEMI	28 (17)	469 (28)	635 (40)
• UA	25 (15)	403 (24)	417 (26)
Systolic blood pressure, mmHg			
• N	165	1657	1558
• Mean, SD	133 (25)	139 (28)	143 (31)
• Median, (min, max)	130 (77, 220)	137 (60, 230)	140 (60, 230)
Diastolic blood pressure, mmHg			
• N	158	1620	1534
• Mean, SD	81 (17)	83 (16)	80 (17)
• Median, (min, max)	80 (38, 118)	82 (35, 120)	80 (19, 120)
Heart rate at presentation, beats/min			
• N	165	1663	1566
• Mean, SD	83 (19)	82 (20)	84 (23)
• Median, (min, max)	82 (44, 153)	80 (30, 171)	82 (29, 180)
Number of distinct episodes of angina in past 24 hours, no. %			
• 0-2	116 (70)	1021 (61)	881 (56)
• >2	9 (5)	118 (7)	108 (7)
• Missing	41 (25)	536 (32)	592 (37)
Killip classification code, no. %			
• I	121 (73)	900 (54)	647 (41)
• II	11 (7)	249 (15)	332 (21)
• III	2 (1)	59 (4)	92 (6)
• IV	4 (2)	47 (3)	49 (3)
• Not stated/inadequately described	28 (17)	420 (25)	461 (29)
Peak CK-MB, Unit/L, no. %	101	994	977
• >25	70 (69)	563 (57)	505 (52)
Peak CK, Unit/L, no. %	144	1511	1362
• >2x reference upper limits	95 (66)	742 (49)	526 (39)
Peak TnT, no. %	23	307	326
• Positive or >0.01	22 (96)	285 (93)	310 (95)
Peak Tnl, no. %	17	112	151
• Positive or > reference upper limit/0.04	13 (76)	77 (69)	120 (79)

	Age group*		
	Young N=166	Middle-age N=1675	Elderly N=1581
Total cholesterol, mmol/L			
• N	143	1257	1071
• Mean, SD	5.7 (1.7)	5.5 (1.3)	5.0 (1.2)
• Median, (min, max)	5.4 (3.1, 14.3)	5.4 (3.0, 10.8)	4.9 (3.0, 11.0)
HDL-C, mmol/L			
• N	141	1268	1067
• Mean, SD	1.08 (0.40)	1.08 (0.35)	1.19 (0.40)
• Median, (min, max)	1.00 (0.60, 3.50)	1.01 (0.50, 4.94)	1.13 (0.50, 4.50)
LDL-C, mmol/L			
• N	141	1218	1069
• Mean, SD	3.67 (1.50)	3.41 (1.22)	3.08 (1.14)
• Median, (min, max)	3.46 (1.50, 10.10)	3.40 (1.00, 9.30)	3.00 (1.00, 8.87)
Triglycerides, mmol/L			
• N	132	1154	865
• Mean, SD	2.39 (1.47)	2.24 (1.36)	1.85 (1.14)
• Median, (min, max)	2.10 (1.00, 13.50)	1.90 (1.00, 13.00)	1.56 (1.00, 14.00)
Left ventricular ejection fraction, %			
• N	96	863	757
• Mean, SD	51 (12)	48 (13)	46 (13)
• Median, (min, max)	50 (12, 75)	50 (8, 80)	45 (10, 80)

*Young is defined as age from 20 to less than 40 years, middle-age is defined as age between 40 to less than 60 years and elderly is defined as 60 years and above

Note: Percentage is to the nearest decimal point.

Figure 3.2.1a Stratum distribution for patients with ACS by age group (years), Malaysia 2006

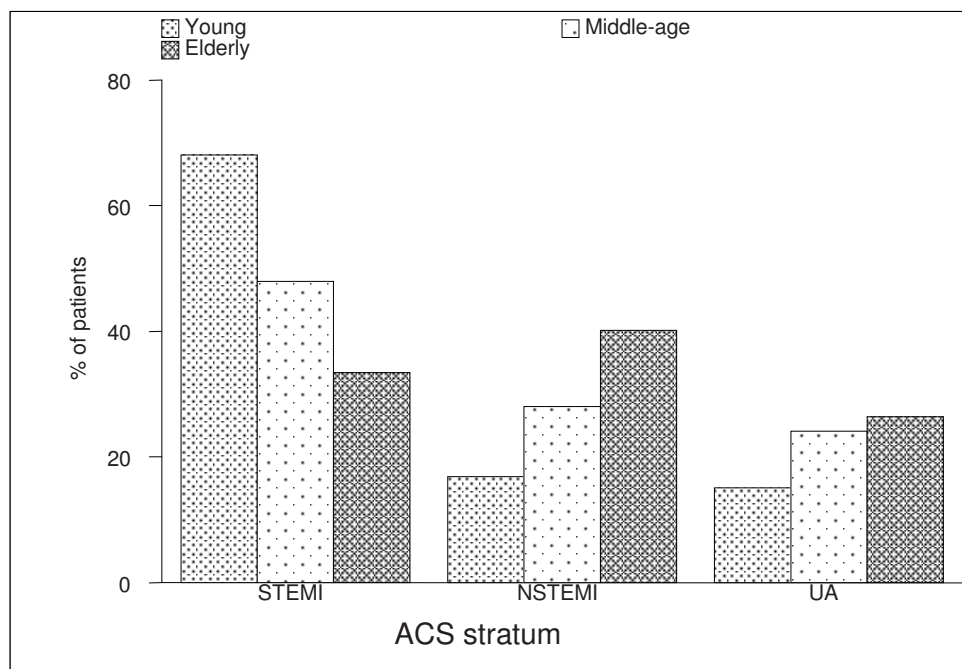


Figure 3.2.1b Number of distinct angina episodes for patients with ACS by age group (years), Malaysia 2006

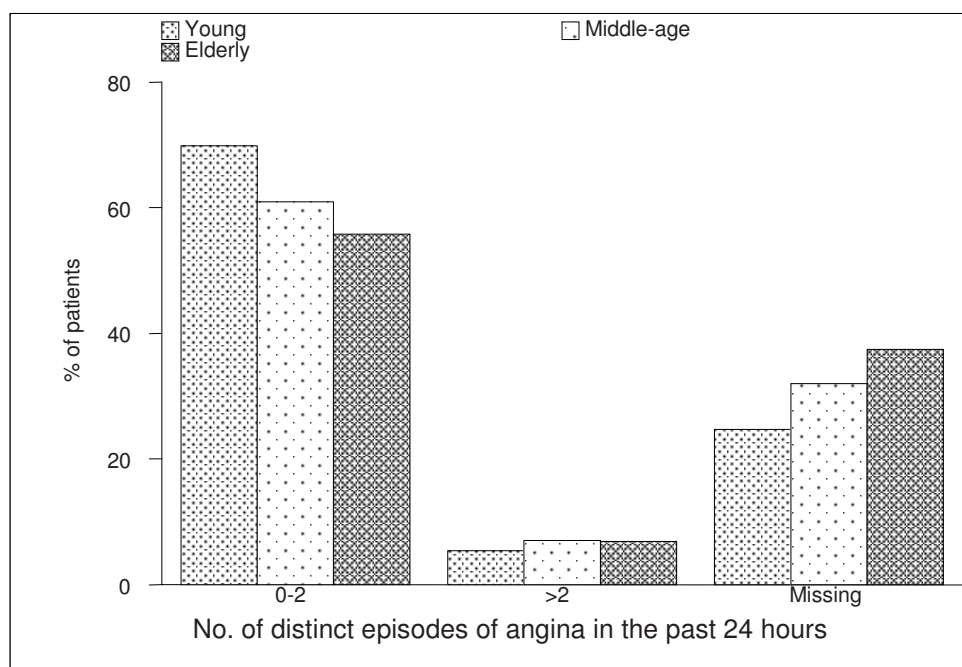


Figure 3.2.1c Killip classification code for patients with ACS by age group (years), Malaysia 2006

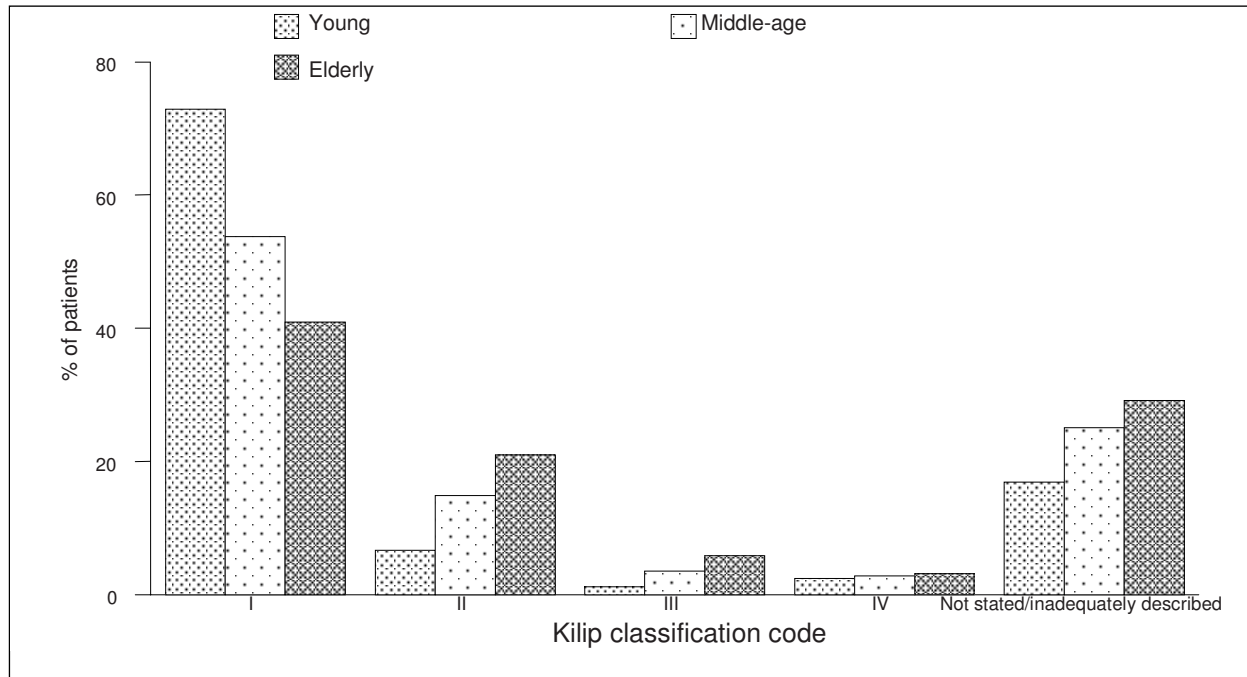


Table 3.2.2 Cardiac presentation of patients with ACS by gender, Malaysia 2006

	Male N=2569	Female N=853
Acute coronary syndrome stratum, no. %		
• STEMI	1230 (48)	215 (25)
• NSTEMI	779 (30)	353 (41)
• UA	560 (22)	285 (33)
Systolic blood pressure, mmHg		
• N	2542	838
• Mean, SD	138 (28)	147 (31)
• Median, (min, max)	136 (60, 230)	144 (60, 229)
Diastolic blood pressure, mmHg		
• N	2484	828
• Mean, SD	82 (17)	80 (17)
• Median, (min, max)	80 (30, 120)	80 (19, 120)
Heart rate at presentation, beats/min		
• N	2548	846
• Mean, SD	82 (21)	88 (22)
• Median, (min, max)	80 (30, 180)	86 (29, 166)
Number of distinct episodes of angina in past 24 hours, no. %		
• 0-2	1564 (61)	454 (53)
• >2	176 (7)	59 (7)
• Missing	829 (32)	340 (40)
Killip classification code, no. %		
• I	1319 (51)	349 (41)
• II	429 (17)	163 (19)
• III	107 (4)	46 (5)
• IV	79 (3)	21 (2)
• Not stated/inadequately described	635 (25)	274 (32)
Peak CK-MB, Unit/L, no. %	1541	531
• >25	908 (59)	230 (43)
Peak CK, Unit/L, no. %	2311	706
• >2x reference upper limits	1147 (50)	216 (31)
Peak TnT, no. %	491	165
• Positive or >0.01	464 (95)	153 (93)
Peak Tnl, no. %	180	100
• Positive or > reference upper limit/0.04	134 (74)	76 (76)

	Male N=2569	Female N=853
Total cholesterol, mmol/L		
• N	1907	564
• Mean, SD	5.3 (1.3)	5.3 (1.4)
• Median, (min, max)	5.1 (3.0, 14.3)	5.2 (3.0, 11.0)
HDL-C, mmol/L		
• N	1904	572
• Mean, SD	1.10 (0.37)	1.22 (0.40)
• Median, (min, max)	1.06 (0.50, 4.94)	1.20 (0.50, 4.24)
LDL-C, mmol/L		
• N	1857	571
• Mean, SD	3.30 (1.20)	3.21 (1.28)
• Median, (min, max)	3.24 (1.00, 10.10)	3.04 (1.00, 8.90)
Triglycerides, mmol/L		
• N	1661	490
• Mean, SD	2.12 (1.31)	1.99 (1.24)
• Median, (min, max)	1.75 (1.00, 13.50)	1.61 (1.00, 14.00)
Left ventricular ejection fraction, %		
• N	1338	378
• Mean, SD	47 (13)	49 (14)
• Median, (min, max)	47 (8, 79)	50 (15, 80)

Note: Percentage is to the nearest decimal point.

Figure 3.2.2a Stratum distribution for patients with ACS by gender, Malaysia 2006

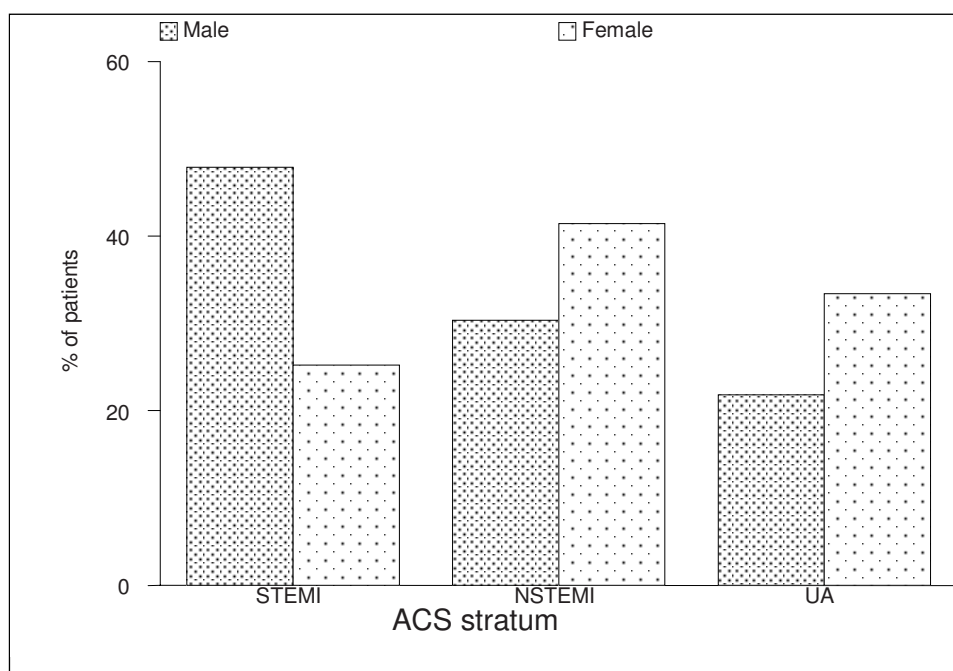


Figure 3.2.2b Number of distinct angina episodes for patients with ACS by gender, Malaysia 2006

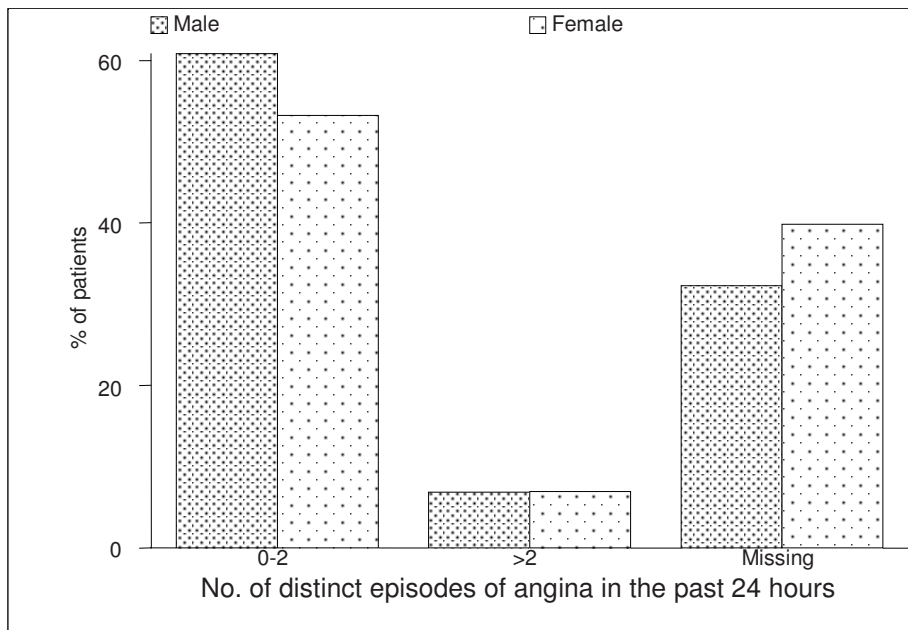


Figure 3.2.2c Killip classification code for patients with ACS by gender, Malaysia 2006

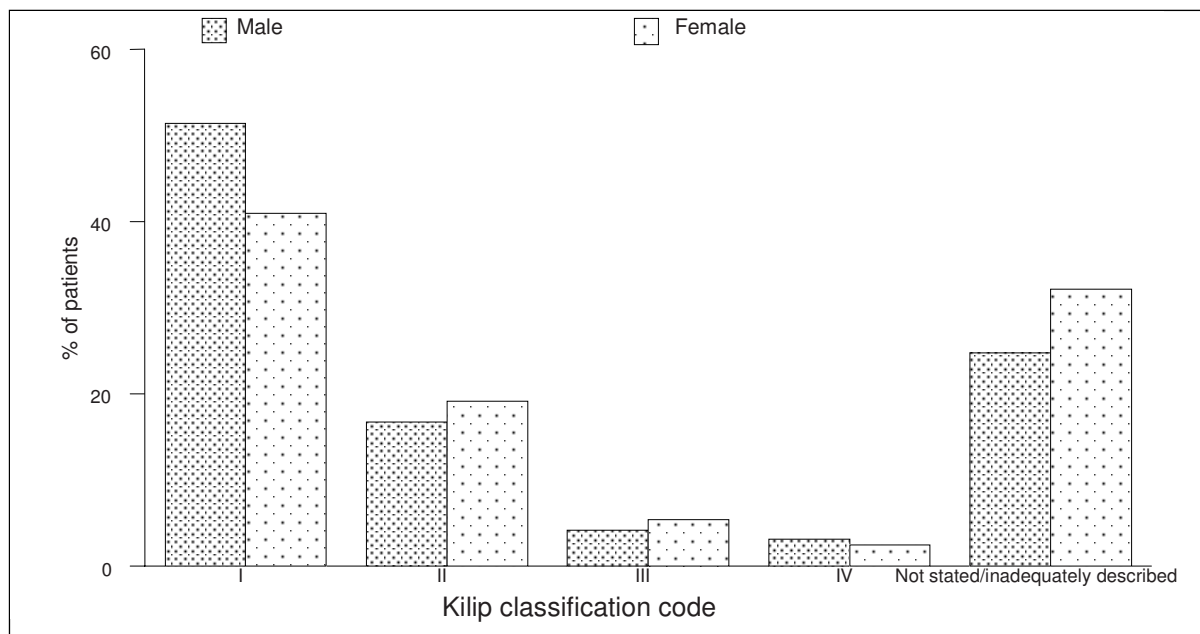


Table 3.2.3 Cardiac presentation of patients with ACS by pre-morbid diabetes, Malaysia 2006

	Pre-morbid diabetes		
	Diabetic N=1497	Non-diabetic N=1226	Not known N=699
Acute coronary syndrome stratum, no. %			
• STEMI	525 (35)	538 (44)	382 (55)
• NSTEMI	579 (39)	364 (30)	189 (27)
• UA	393 (26)	324 (26)	128 (18)
Systolic blood pressure, mmHg			
• N	1475	1215	690
• Mean, SD	142 (30)	140 (29)	136 (28)
• Median, (min, max)	140 (66, 229)	137 (60, 230)	134 (64, 219)
Diastolic blood pressure, mmHg			
• N	1457	1180	675
• Mean, SD	81 (16)	81 (17)	81 (17)
• Median, (min, max)	80 (19, 120)	81 (26, 120)	80 (30, 120)
Heart rate at presentation, beats/min			
• N	1486	1216	692
• Mean, SD	86 (21)	80 (21)	81 (22)
• Median, (min, max)	85 (29, 180)	78 (35, 171)	79 (39, 171)
Number of distinct episodes of angina in past 24 hours, no. %			
• 0-2	862 (58)	669 (55)	487 (70)
• >2	109 (7)	69 (6)	57 (8)
• Missing	526 (35)	488 (40)	155 (22)
Killip classification code, no. %			
• I	700 (47)	619 (50)	349 (50)
• II	290 (19)	193 (16)	109 (16)
• III	84 (6)	39 (3)	30 (4)
• IV	51 (3)	22 (2)	27 (4)
• Not stated/inadequately described	372 (25)	353 (29)	184 (26)
Peak CK-MB, Unit/L, no. %	966	740	366
• >25	469 (49)	421 (57)	248 (68)
Peak CK, Unit/L, no. %	1354	1035	628
• >2x reference upper limits	526 (39)	489 (47)	348 (55)
Peak TnT, no. %	333	207	116
• Positive or >0.01	312 (94)	193 (93)	112 (97)
Peak TnI, no. %	130	92	58
• Positive or > reference upper limit/0.04	104 (80)	67 (73)	39 (67)

	Pre-morbid diabetes		
	Diabetic N=1497	Non-diabetic N=1226	Not known N=699
Total cholesterol, mmol/L			
• N	1067	884	520
• Mean, SD	5.2 (1.3)	5.3 (1.3)	5.4 (1.3)
• Median, (min, max)	5.0 (3.0, 10.8)	5.3 (3.0, 14.3)	5.3 (3.0, 10.4)
HDL-C, mmol/L			
• N	1076	886	514
• Mean, SD	1.10 (0.39)	1.16 (0.39)	1.14 (0.34)
• Median, (min, max)	1.04 (0.50, 4.90)	1.10 (0.50, 4.94)	1.10 (0.50, 4.20)
LDL-C, mmol/L			
• N	1039	880	509
• Mean, SD	3.10 (1.22)	3.37 (1.21)	3.48 (1.18)
• Median, (min, max)	2.95 (1.00, 9.30)	3.31 (1.00, 10.10)	3.37 (1.02, 8.20)
Triglycerides, mmol/L			
• N	952	745	454
• Mean, SD	2.25 (1.44)	1.96 (1.11)	1.98 (1.23)
• Median, (min, max)	1.82 (1.00, 14.00)	1.67 (1.00, 12.90)	1.62 (1.00, 13.00)
Left ventricular ejection fraction, %			
• N	736	609	371
• Mean, SD	46 (13)	49 (13)	48 (13)
• Median, (min, max)	45 (8, 80)	50 (10, 80)	49 (10, 78)

Note: Percentage is to the nearest decimal point.

Figure 3.2.3a Stratum distribution for patients with ACS by pre-morbid diabetes, Malaysia 2006

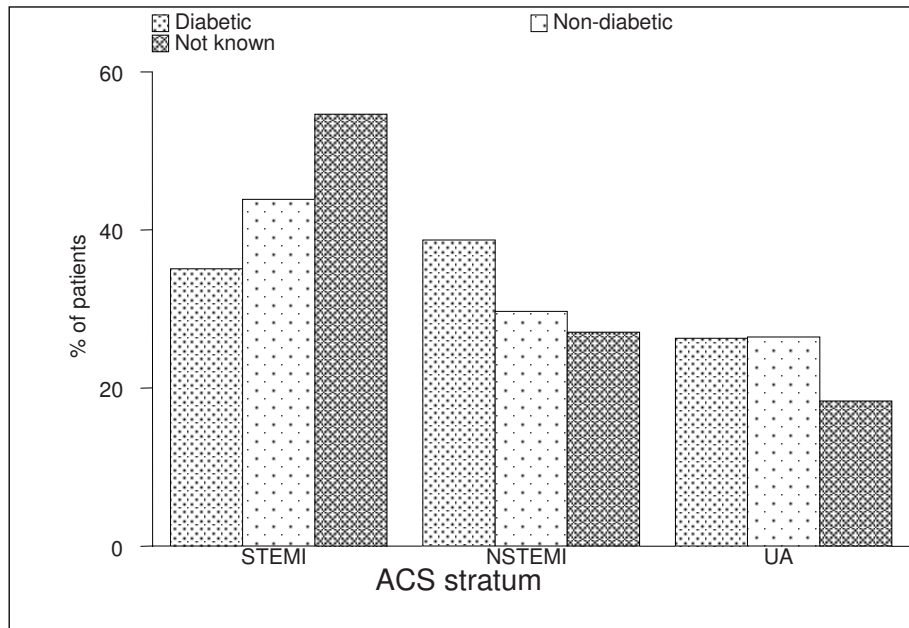


Figure 3.2.3b Number of distinct angina episodes for patients with ACS by pre-morbid diabetes, Malaysia 2006

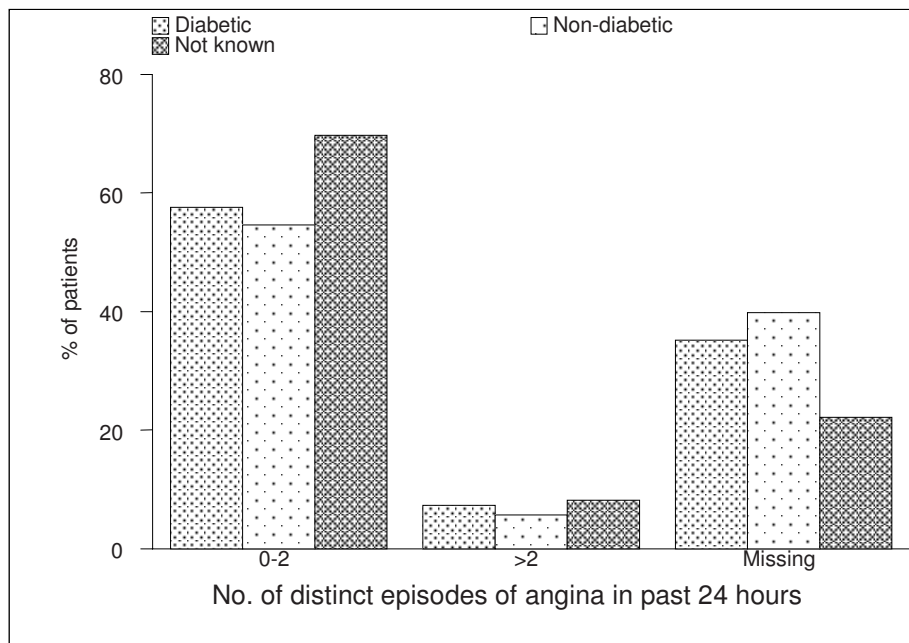


Figure 3.2.3c Killip classification code for patients with ACS by pre-morbid diabetes, Malaysia 2006

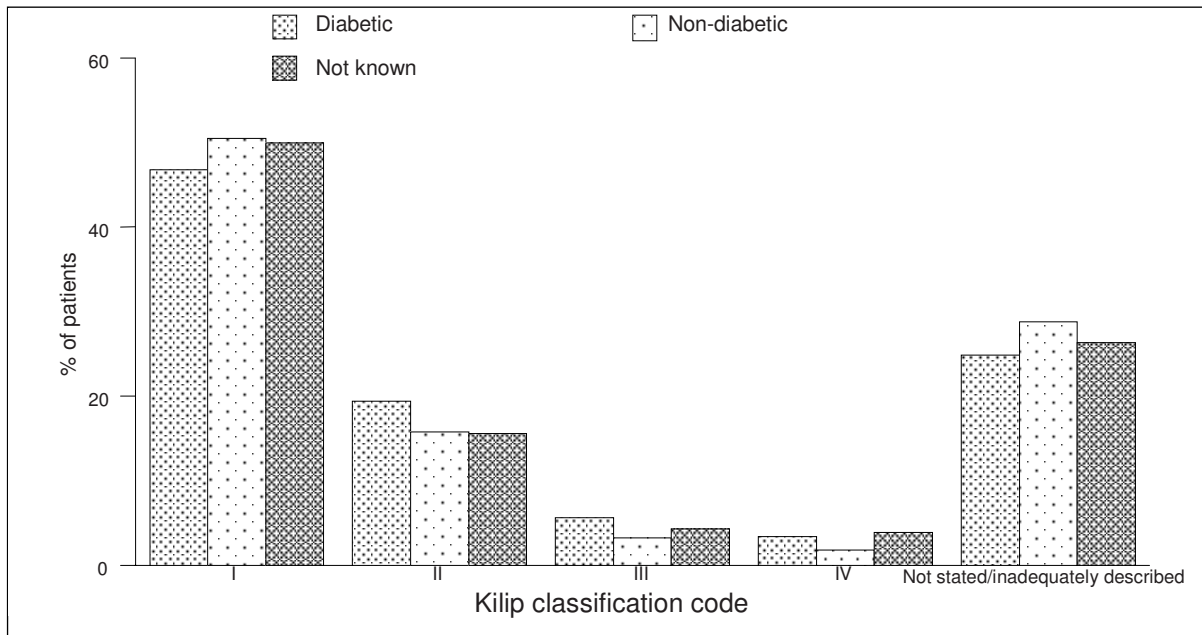


Table 3.2.4 Cardiac presentation of patients with ACS by pre-morbid hypertension, Malaysia 2006

	Pre-morbid hypertension		
	Hypertensive N=2084	Non- hypertensive N=786	Not known N=552
Acute coronary syndrome stratum, no. %			
• STEMI	681 (33)	433 (55)	331 (60)
• NSTEMI	789 (38)	202 (26)	141 (26)
• UA	614 (29)	151 (19)	80 (14)
Systolic blood pressure, mmHg			
• N	2052	784	544
• Mean, SD	146 (30)	132 (26)	131 (26)
• Median, (min, max)	144 (60, 230)	130 (60, 226)	130 (64, 223)
Diastolic blood pressure, mmHg			
• N	1999	773	540
• Mean, SD	83 (17)	78 (16)	79 (17)
• Median, (min, max)	83 (26, 120)	79 (19, 120)	80 (30, 119)
Heart rate at presentation, beats/min			
• N	2069	779	546
• Mean, SD	84 (22)	82 (20)	82 (22)
• Median, (min, max)	82 (29, 180)	80 (36, 157)	80 (39, 171)
Number of distinct episodes of angina in past 24 hours, no. %			
• 0-2	1206 (58)	427 (54)	385 (70)
• >2	165 (8)	36 (5)	34 (6)
• Missing	713 (34)	323 (41)	133 (24)
Killip classification code, no. %			
• I	992 (48)	411 (52)	265 (48)
• II	374 (18)	121 (15)	97 (18)
• III	94 (5)	33 (4)	26 (5)
• IV	45 (2)	24 (3)	31 (6)
• Not stated/inadequately described	579 (28)	197 (25)	133 (24)
Peak CK-MB, Unit/L, no. %	1314	455	303
• >25	633 (48)	287 (63)	218 (72)
Peak CK, Unit/L, no. %	1845	682	490
• >2x reference upper limits	680 (37)	387 (57)	296 (60)
Peak TnT, no. %	429	134	93
• Positive or >0.01	400 (93)	128 (96)	89 (96)

	Pre-morbid hypertension		
	Hypertensive N=2084	Non- hypertensive N=786	Not known N=552
Peak Tnl, no. %	189	43	48
• Positive or > reference upper limit/0.04	134 (71)	37 (86)	39 (81)
Total cholesterol, mmol/L			
• N	1462	599	410
• Mean, SD	5.2 (1.3)	5.4 (1.3)	5.4 (1.4)
• Median, (min, max)	5.1 (3.0, 11.9)	5.4 (3.0, 14.3)	5.3 (3.0, 10.4)
HDL-C, mmol/L			
• N	1481	591	404
• Mean, SD	1.13 (0.40)	1.11 (0.35)	1.13 (0.34)
• Median, (min, max)	1.10 (0.50, 4.94)	1.07 (0.50, 3.50)	1.10 (0.53, 4.20)
LDL-C, mmol/L			
• N	1442	587	399
• Mean, SD	3.15 (1.18)	3.48 (1.24)	3.45 (1.26)
• Median, (min, max)	3.04 (1.00, 8.90)	3.50 (1.10, 10.10)	3.36 (1.02, 8.20)
Triglycerides, mmol/L			
• N	1275	518	358
• Mean, SD	2.12 (1.34)	2.06 (1.19)	2.05 (1.28)
• Median, (min, max)	1.71 (1.00, 14.00)	1.70 (1.00, 12.90)	1.67 (1.00, 13.50)
Left ventricular ejection fraction, %			
• N	980	441	295
• Mean, SD	48 (14)	48 (12)	46 (13)
• Median, (min, max)	48 (8, 80)	47 (20, 77)	46 (10, 79)

Note: Percentage is to the nearest decimal point.

Figure 3.2.4a Stratum distribution for patients with ACS by pre-morbid hypertension, Malaysia 2006

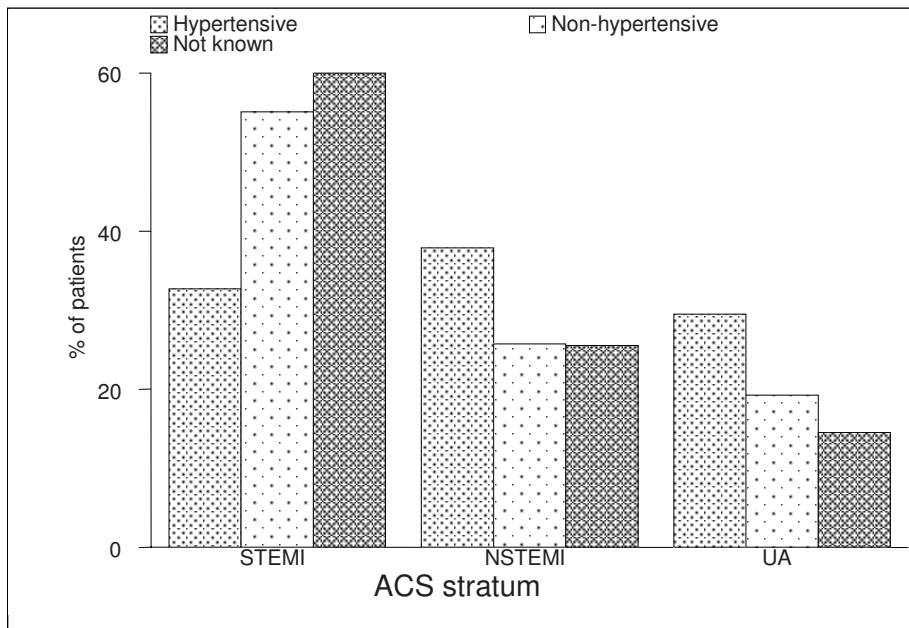


Figure 3.2.4b Number of distinct angina episodes for patients with ACS by pre-morbid hypertension, Malaysia 2006

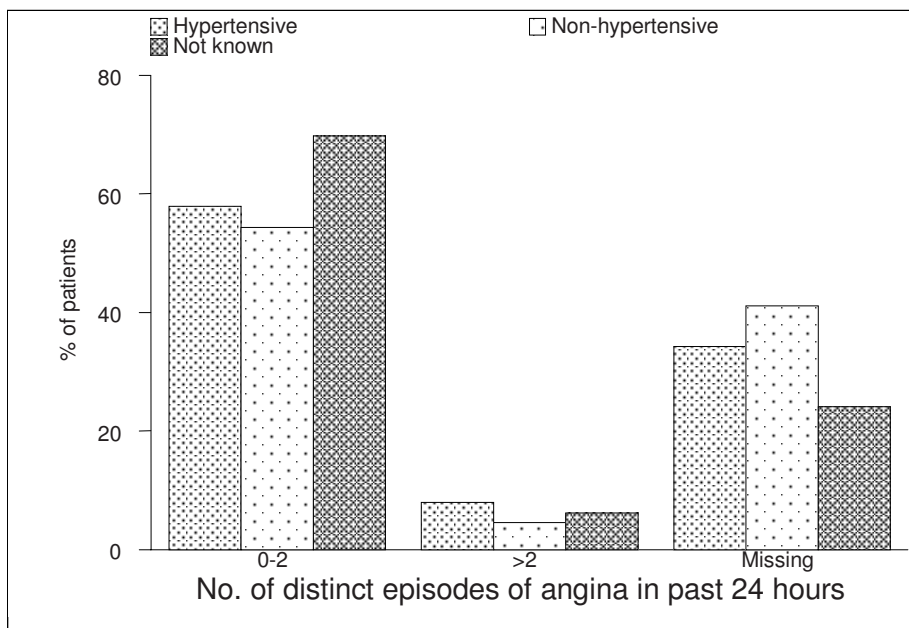


Figure 3.2.4c Killip classification code for patients with ACS by pre-morbid hypertension, Malaysia 2006

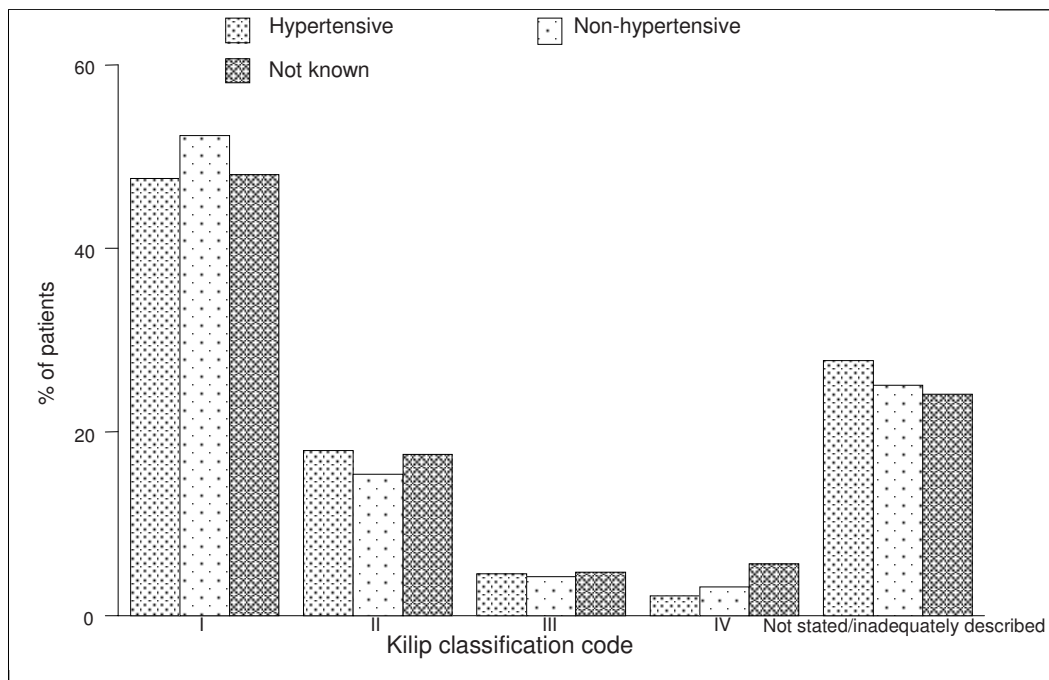


Table 3.2.5 Cardiac presentation of patients with ACS by pre-morbid dyslipidaemia, Malaysia 2006

	Pre-morbid dyslipidaemia		
	Yes N=1131	No N=902	Not known N=1389
Acute coronary syndrome stratum, no. %			
• STEMI	278 (25)	458 (51)	709 (51)
• NSTEMI	464 (41)	247 (27)	421 (30)
• UA	389 (34)	197 (22)	259 (19)
Systolic blood pressure, mmHg			
• N	1123	891	1366
• Mean, SD	144 (29)	140 (28)	138 (30)
• Median, (min, max)	140 (70, 229)	138 (60, 230)	135 (60, 230)
Diastolic blood pressure, mmHg			
• N	1095	876	1341
• Mean, SD	82 (16)	81 (16)	81 (17)
• Median, (min, max)	81 (19, 120)	80 (30, 120)	80 (28, 120)
Heart rate at presentation, beats/min			
• N	1123	894	1377
• Mean, SD	83 (21)	83 (21)	83 (22)
• Median, (min, max)	80 (32, 180)	80 (30, 180)	80 (29, 171)
Number of distinct episodes of angina in past 24 hours, no. %			
• 0-2	652 (58)	475 (53)	891 (64)
• >2	100 (9)	37 (4)	98 (7)
• Missing	379 (34)	390 (43)	400 (29)
Killip classification code, no. %			
• I	573 (51)	426 (47)	669 (48)
• II	208 (18)	126 (14)	258 (19)
• III	48 (4)	43 (5)	62 (4)
• IV	24 (2)	19 (2)	57 (4)
• Not stated/inadequately described	278 (25)	288 (32)	343 (25)
Peak CK-MB, Unit/L, no. %			
• >25	749	514	809
	352 (47)	316 (61)	470 (58)
Peak CK, Unit/L, no. %			
• >2x reference upper limits	1029	765	1223
	319 (31)	393 (51)	651 (53)
Peak TnT, no. %			
• Positive or >0.01	263	148	245
	240 (91)	141 (95)	236 (96)
Peak TnI, no. %			
• Positive or > reference upper limit/0.04	77	56	147
	52 (68)	46 (82)	112 (76)

	Pre-morbid dyslipidaemia		
	Yes N=1131	No N=902	Not known N=1389
Total cholesterol, mmol/L			
• N	777	675	1019
• Mean, SD	5.2 (1.3)	5.3 (1.3)	5.4 (1.3)
• Median, (min, max)	5.0 (3.0, 10.8)	5.2 (3.0, 14.3)	5.3 (3.0, 10.4)
HDL-C, mmol/L			
• N	784	675	1017
• Mean, SD	1.13 (0.36)	1.16 (0.44)	1.11 (0.34)
• Median, (min, max)	1.10 (0.50, 4.50)	1.10 (0.50, 4.94)	1.10 (0.50, 4.24)
LDL-C, mmol/L			
• N	763	669	996
• Mean, SD	3.13 (1.18)	3.31 (1.26)	3.37 (1.21)
• Median, (min, max)	3.00 (1.00, 8.90)	3.24 (1.00, 10.10)	3.30 (1.02, 8.20)
Triglycerides, mmol/L			
• N	685	581	885
• Mean, SD	2.12 (1.22)	2.06 (1.28)	2.10 (1.37)
• Median, (min, max)	1.80 (1.00, 13.00)	1.70 (1.00, 12.90)	1.70 (1.00, 14.00)
Left ventricular ejection fraction, %			
• N	549	470	697
• Mean, SD	47 (14)	48 (12)	48 (13)
• Median, (min, max)	47 (10, 80)	50 (9, 80)	49 (8, 80)

Note: Percentage is to the nearest decimal point.

Figure 3.2.5a Stratum distribution for patients with ACS by pre-morbid dyslipidaemia, Malaysia 2006

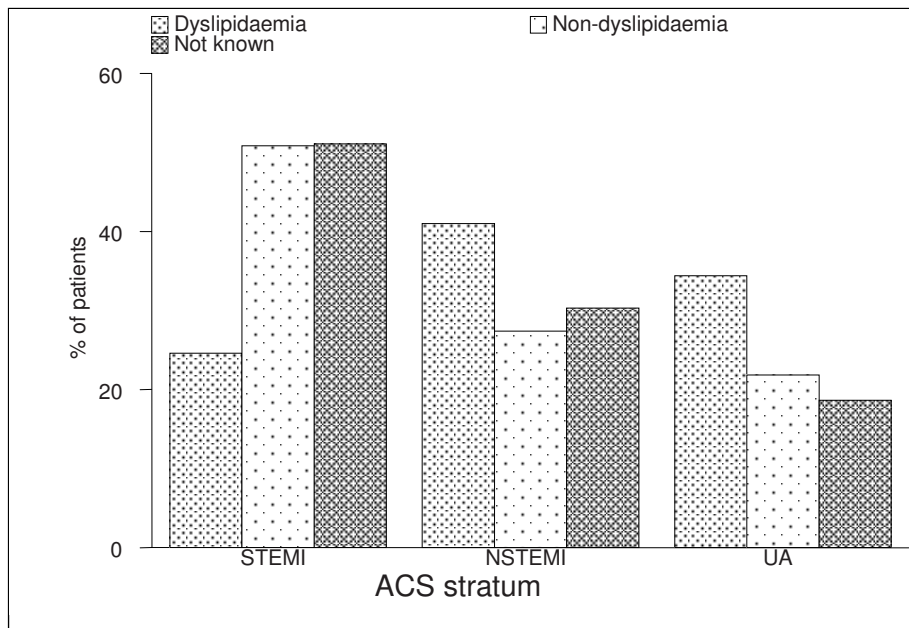


Figure 3.2.5b Number of distinct angina episodes for patients with ACS by pre-morbid dyslipidaemia, Malaysia 2006

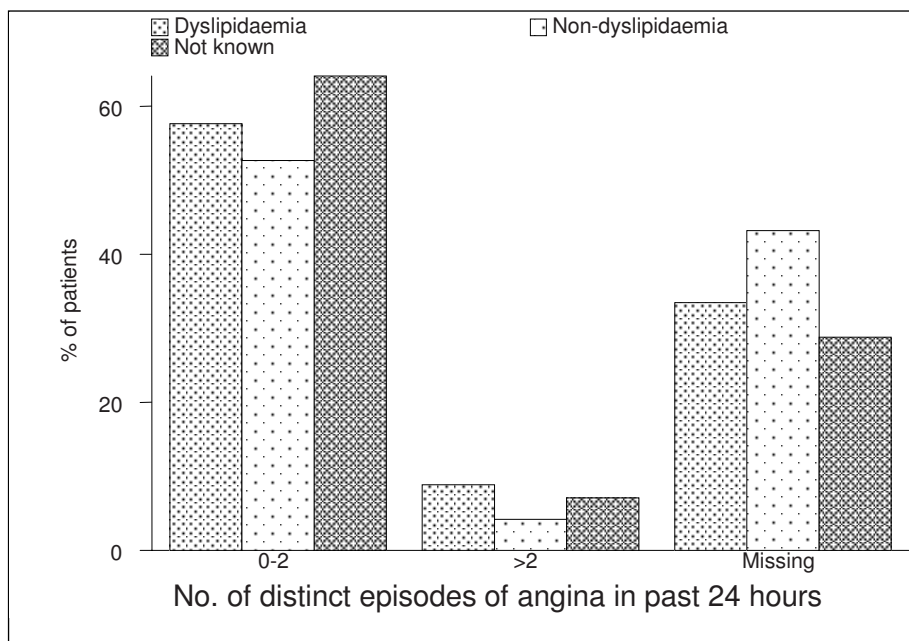


Figure 3.2.5c Killip classification code for patients with ACS by pre-morbid dyslipidaemia, Malaysia 2006

