

과사도매지화의 지다
는 오오 그르느 는느

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The routine evaluation of coronary artery disease should include a history that obtains data on the character of pain, age, associated symptoms, and past history. The physical examination should include vital signs, a cardiovascular and pulmonary examination. The initial resting ECG plays a central role. Exercise ECG is an appropriate first - line test for patients with an intermediate probability of coronary artery disease. Echocardiogram is as a routine test for diagnosis of the case of acute chest pain especially in patients with a systolic murmur or regional wall motion abnormality. Imaging during physical or pharmacological stress is considered to be appropriate in patients for whom exercise ECG is unlikely to be useful because of baseline ECG abnormalities. Pharmacological stress with adenosine or dipyridamole is appropriate for patients who are unable to exercise. Coronary angiography is not considered clearly appropriate as routine test for diagnosis of chronic stable angina in most patients except for those who had survived sudden cardiac death. But it is considered appropriate for diagnosis of angina whose diagnosis is still uncertain after noninvasive testing. Cardiac troponin is as a preferred marker for acute ischemic injury. Biochemical cardiac markers should be performed for all patients with suspected acute myocardial infarction.

• • •

70%가

1/2 , , ,
1/4 ~ 1/3 . , 가 .

가 . 4.

2. 가
 , , ,
 , , ,
 , , , , ,
 , , , , creatinine,
 , , (LDL),
 , (HDL),
 , , ,
 , , X
Tietz's , ,
 .

3. 1)
 , 가
 , , .
 , 가 , 12
 , ST T 가
가 3, 4 , .
ST - T ,
 , , ,
가 .
 , ,
가 .

2.		
	(%)	(%)
	68	77
	88(73~98)	77(53~96)
	76(40~100)	88(80~95)

Data from reference 4.5

2)

2,500

1

2

10 mmHg

1 mm

2 mm

(3).

ST

PQ

PR

3

ST

J

60~80 ms

1.0 mm

60~80ms

1.5 mm

ST

1 mm

Q 가

1 mm

68%,

77% (2).

가 70%

가

가

. Mark

Duke tread-

mill score

(4).

- (5×

ST

) - (4×

) . ST

0.5 mm

0,

1,

2

. Duke treadmill score가 5

5

97%

, - 11

72%

, WPW

(thallium - 201, technetium - 99m)

24

adenosine dobutamine

가 . 2가

가 . , , 가 , 가

가 가 가 (5).

adenosine ,

가 . 4)

4 가

Thallium - 201

Na - K - ATPase 가

pump

가

thallium - 201 가

가 가

가 , (6).

가 (가

).

dobutamine

가

dobutamine

80% ,

가 . 가

dobutamine

10 ug/kg/min

가 dobutamine

(8, 9). 가

가 가

가

5)

가

가

가

가

510 cc

가

가

가

가

1,315 mmHg

1.

50%

2.

(7).

가 가 ,
(Levine). 24~48 .
38 45
가 . 30 .
가 .
가 가 가
25% , 가
50% , 40 .
morphine
12~24 가 가 .
Cheyne - Stokes .
95% .
가 1967 Killip Kimball
(Killip classification)
(9). Class 3
, Class 50%
3 , Class
50% 3 ,
Class (10).
morphine 가
가 . 4 , 3 ,
, 2 paradoxical splitting
90 mmHg . 4
3
Bezold - Jarisch
48

ST

가 , 8~12

가 Q 가 . Q 50%

23 23 Dr 가

essler (11). ST 가

3. , 가

1) ST NSTEMI . Multi-center Investigation of Limitation of Infarct Size (MILIS)

(7), (728), (29) .

3가 가 Q 가

12). , , aVF V1V6 I, aVL 2 ST 2 (17).

2) 12 , 가 2 (13, 14). ST 가 (18). , QRS 50% (15, 16) 가 , ST - T

ST

3.

가		ST	
Q	ST	가	가

(19). 가 , 23 .
가 24 ,
가 .
 , , , , ,
(3). 가 가 . Creatinin
BB, MB, MM 3가 가 ,
BB , MM , MB
 , 13% MB가 ,
MM . MB
가 가 ,
 , MB가 .
(2)
Troponin
troponin
troponin ,
가 가
Troponin
troponin C, troponin I(TnI), troponin T(TnT)
myosin troponin T(TnT) ,
(1) creatinin 48 TnT TnI가 . TnT

troponin 가 , .

TnT cut - off .

TnI 가 ,

cut - off . Tro- 가 (21).

ponin , , ,

cut - off ,

(20). CK - MB 10~20 가

TnI TnT 20 가 .

. Troponin

3 7~10 4)

가

.

(3) 가

. Thallium(²⁰¹Tl) technetium(^{99m}Tc - ses-

creatinin 14 tamibi)

myoglobin 가

.

3) . ^{99m}Tc

가 가 ,

, , ,

(22).

(echo window)

ST

.

, ,

가

가

가 가

가 .

1. Gibbons RJ, Chatterjee K, Daley J, et al. ACC/AHA/ACP - ASIM guidelines for management of patients with chronic stable angina : a report of the American College of Cardiology/ American Heart Association Task Force on Practice Guidelines. J Am Coll Cardiol 1999 ; 33 : 2092 - 2197{Erratum J Am coll Cardiol 1999 ; 34 : 314}
2. Cohn PF, Fox KM. Silent myocardial ischemia. Circulation 2003 ; 108 : 1263 - 77
3. Gibbons RJ, Balady GJ, Bricker JT, et al. ACC/AHA 2002 Guideline Update for Exercise Testing : Summary Article. A report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines(Committee to Update the 1997 Exercise Testing Guidelines) J Am Coll Cardiol 2002 ; 40 : 1531 - 40

4. Mark DB, Shaw L, Harrell FE Jr, et al. Prognostic value of a treadmill exercise score in outpatients with suspected coronary arterial disease. N Engl J Med 1991 ; 325 : 849 - 53
5. Klocke FJ, Baird MG, Lorell BH, et al. ACC/AHA/ASNC Guidelines for the Clinical Use of Cardiac Radionuclide Imaging : Executive Summary. A report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines(ACC/AHA/ASNC Committee to Revise the 1995 Guidelines for the Clinical Use of Cardiac Radionuclide Imaging) J Am Coll Cardiol 2003 ; 42 : 1318 - 33
6. Cheitlin MD, Armstrong WF, Aurigemma GP, et al. ACC/ AHA/ASE 2003 Guideline Update for the Clinical Application of Echocardiography : Summary Article. A report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. Circulation 2003 ; 108 : 1146 - 62
7. Jenkins CD. Recent evidence supporting psychologic and social risk factors for coronary disease. N Engl J Med 1976 ; 294 : 1033 - 8
8. Feng DL, Tofler GH. Diurnal physiologic processes and circadian variation of acute myocardial infarction. J Cardiovasc Risk 1995 ; 2 : 494 - 8
9. Mittlel MM, Kripke DF. Circadian variation in myocardial infarction. N Engl J Med 1986 ; 314 : 1187 - 8
10. Killip T, Kimball JT. Treatment of myocardial infarction in a coronary care unit : A two year experience with 250 patients. Am J Cardiol 1967 ; 20 : 457 - 64
11. Spodick DH. Pericardial complications of myocardial infarction. In Francis GS, Alpert JS(eds) : Coronary Care. Boston, Little, Brown & Co, 1995 : 333 - 41
12. Goldman L, Cook EF, Brand DA, Lee TH, Rouan GW, Weisberg MC. A computer protocol to predict myocardial infarction in emergency department patients with chest pain. N Engl J Med 1988 ; 318 : 797 - 803
13. Bayes de Luna A. Clinical Electrocardiography : A Textbook. Armonk, NY, Futura Publishing, 1998

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14. Panju AA, Hemmelgarn BR, Guyatt GH, Simel DL. Is this patient having a myocardial infarction? JAMA 1998 ; 280 : 1256 - 63
 15. Hathaway WR, Peterson ED, Wagner GS. Prognostic significance of the initial electrocardiogram in patients with acute myocardial infarction. GUSTO - I Investigators. Global Utilization of Streptokinase and t - PA for Occluded Coronary Arteries. JAMA 1998 ; 279 : 387 - 91
 16. Holmvang L, Clemmensen P, Wagner G, Grande P. Admission standard electrocardiogram for early risk stratification in patients with unstable coronary artery disease not eligible for acute revascularization therapy : A TRIM substudy. Thrombin Inhibition in Myocardial Infarction. Am Heart J 1999 ; 137 : 24 - 33
 17. Rude RE, Poole WK, Muller JE, Turi Z, Rutherford J, Parker C. Electrocardiographic and clinical criteria for recognition of acute myocardial infarction based on analysis of 3,467 patients. Am J Cardiol 1983 ; 52 : 936 - 42
 18. Pedoe - Tunstall H, Kuulasmaa K, Amouyel P. Myocardial infarction and coronary deaths in the World Health Organization MONICA Project. Circulation 1994 ; 90 : 583 - 612
 19. Fox AC, Levin RI. Ruptured plaques and leaking cells : Cost-effectiveness in the diagnosis of acute coronary syndromes. Ann Intern Med 1999 ; 131 : 968 - 70
 20. Mair J, Dienstl F, Puschendorf B. Cardiac troponin T in the diagnosis of myocardial injury. Crit Rev Clin Lab Sci 1992 ; 29 : 31 - 57
 21. Cheitlin MD, Alpert JS, Armstrong WF. ACC/AHA guidelines for the clinical application of echocardiography. J Am Coll Cardiol 1997 ; 29 : 862 - 79
 22. Schwaiger M, Melin J. Cardiological application of nuclear medicine. Lancet 1999 ; 354 : 661 - 6