

CASE CONFERENCE

PATTARACHON TONGTEEKA





Identification data

ผู้ป่วยหญิงไทย อายุ 56 ปี

ภูมิลำเนา จังหวัดเชียงราย

สิทธิการรักษา บัตรประกันสุขภาพบัตรทอง

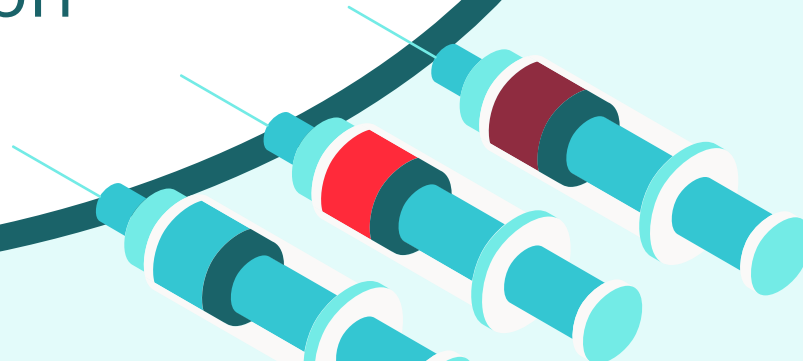
Chief complaint

เจ็บแน่นหน้าอก 9 ชั่วโมงก่อนมาโรงพยาบาล



Triage

Resuscitation



Primary survey

A : can talk , no stridor , no hoarseness

B : RR = 20 /min, SpO₂ = 98%(RA) clear and equal breath sound both lungs ,
symmetrical chest movement , trachea in midline

C : BP = 84/55 mmHg, PR = 38 bpm, pulse 1+, CRT > 2 sec

D : E4/V5/M6 , pupil 3mm RTLBE



Adjunct to primary survey

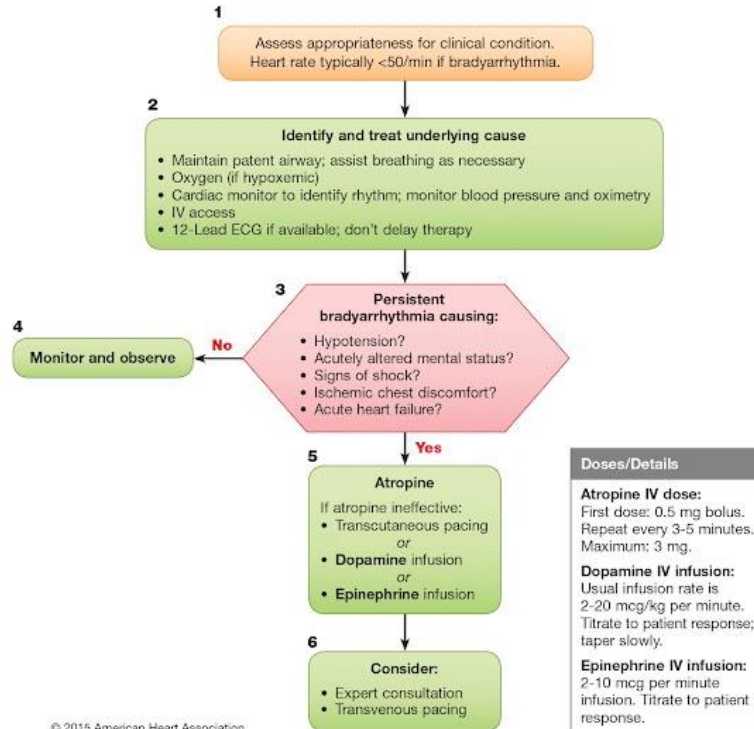


Adjunct to primary survey



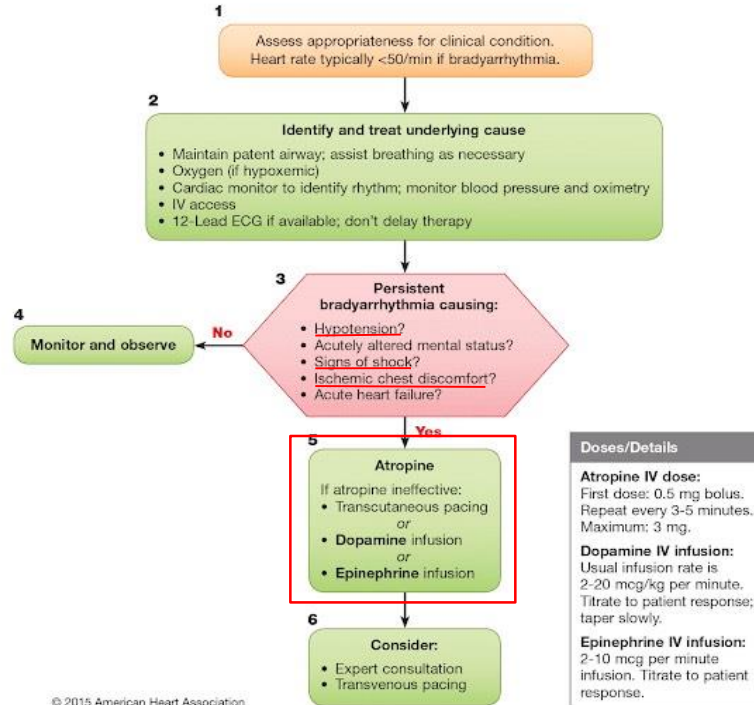
Management

Adult Bradycardia With a Pulse Algorithm



Management

Adult Bradycardia With a Pulse Algorithm



Management

- 19.00 BP 84/55 mmHg, PR 38 bpm, RR 20 /min, SpO2 98%
NSS 300 mL IV load
- 19.01 **EKG 12 leads**, monitor EKG
- 19.05 U/S IVC
- 19.15 BP 86/52 mmHg, PR 40 bpm, RR 20 /min, SpO2 100%
Epinephrine 10 mg + NSS 100 mL IV drip 2 mL/hr
- 19.30 BP 86/56 mmHg, PR 38 bpm, RR 20 /min, SpO2 100%
Epinephrine 10 mg + NSS 100 mL IV drip 4 mL/hr
- 19.45 BP 84/60 mmHg, PR 40 bpm, RR 20 /min, SpO2 100%
Epinephrine 10 mg + NSS 100 mL IV drip 6 mL/hr
- 19.55 BP 121/68 mmHg, PR 72 bpm, RR 20 /min, SpO2 100%

Doses/Details

Atropine IV dose:

First dose: 0.5 mg bolus.
Repeat every 3-5 minutes.
Maximum: 3 mg.

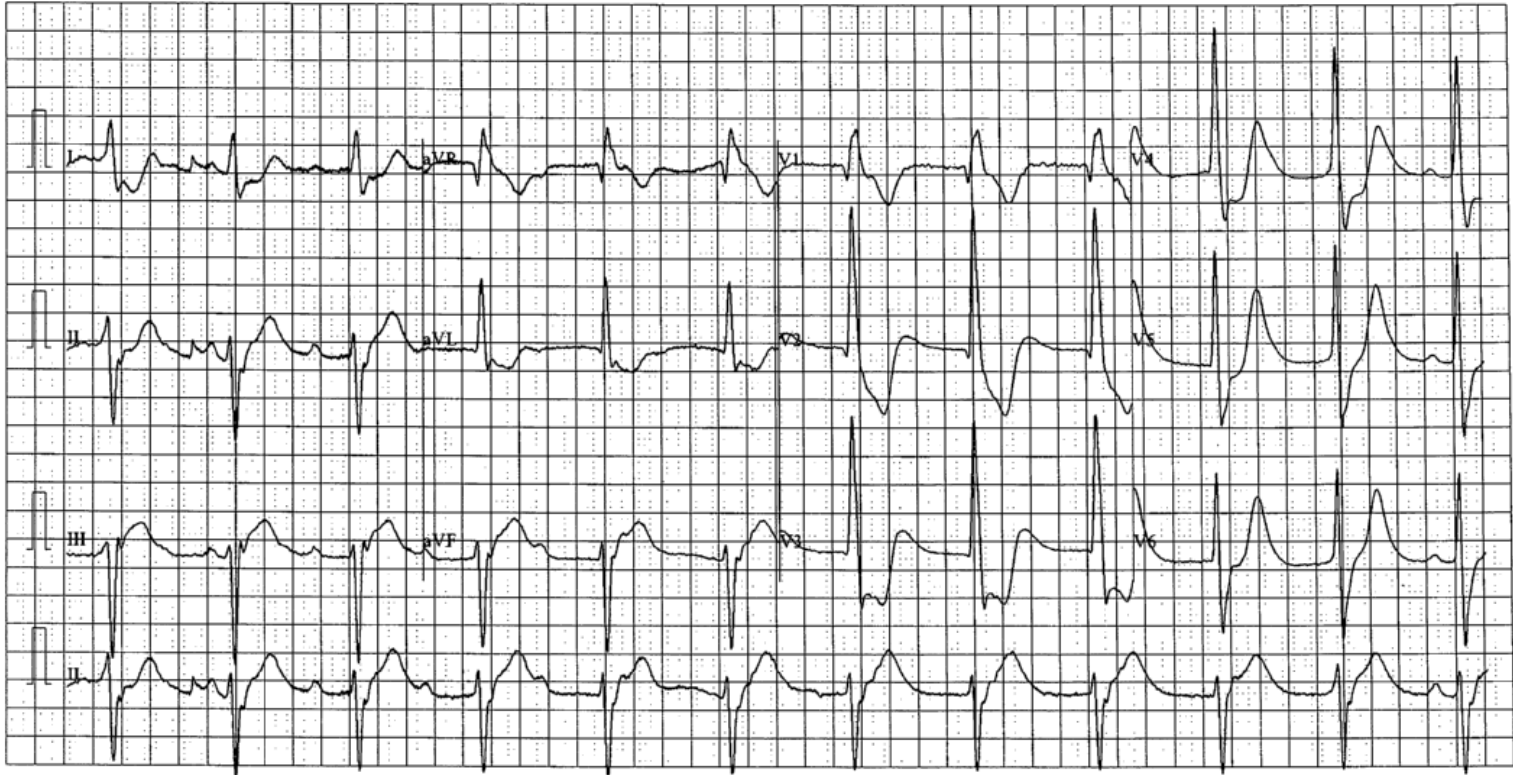
Dopamine IV infusion:

Usual infusion rate is
2-20 mcg/kg per minute.
Titrate to patient response;
taper slowly.

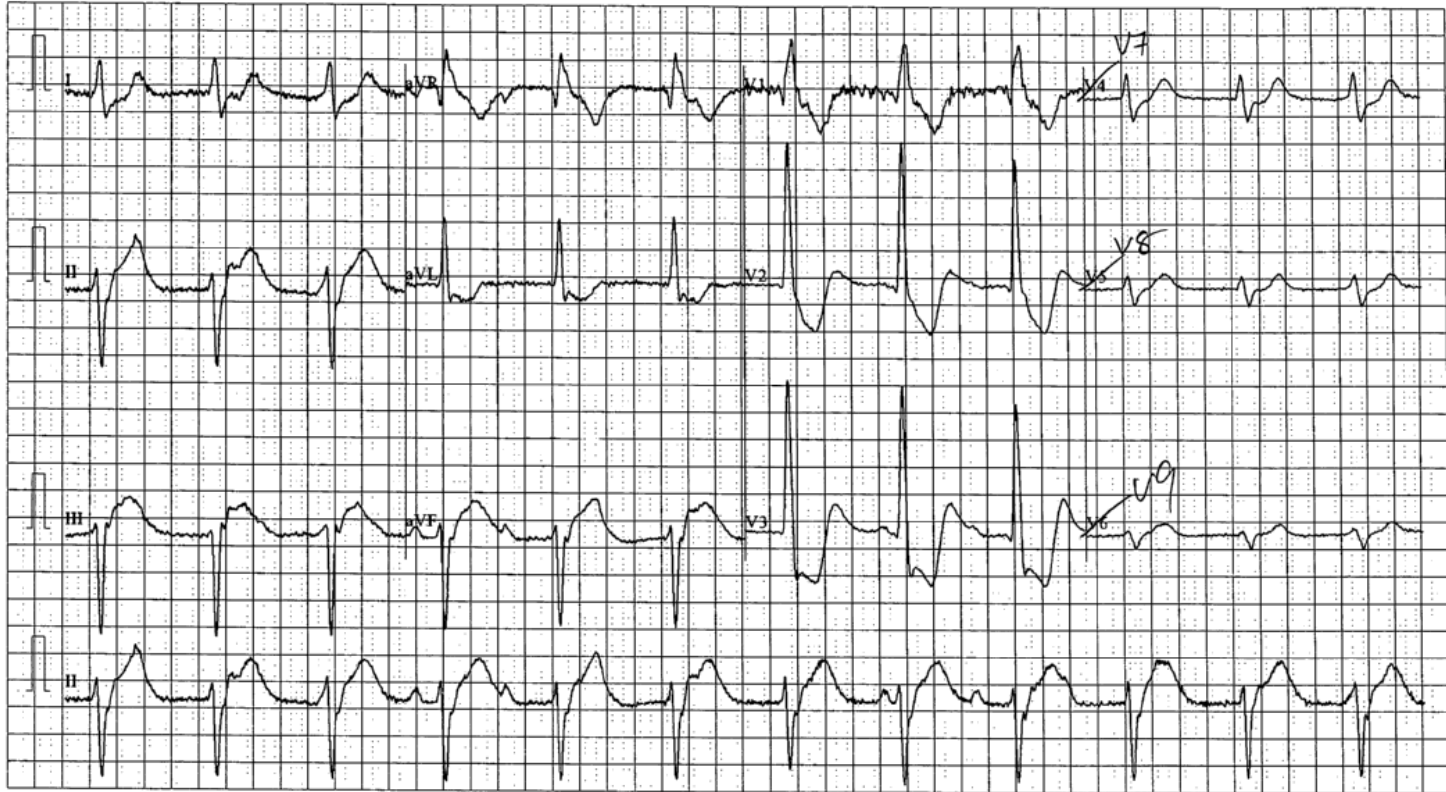
Epinephrine IV infusion:

2-10 mcg per minute
infusion. Titrate to patient
response.

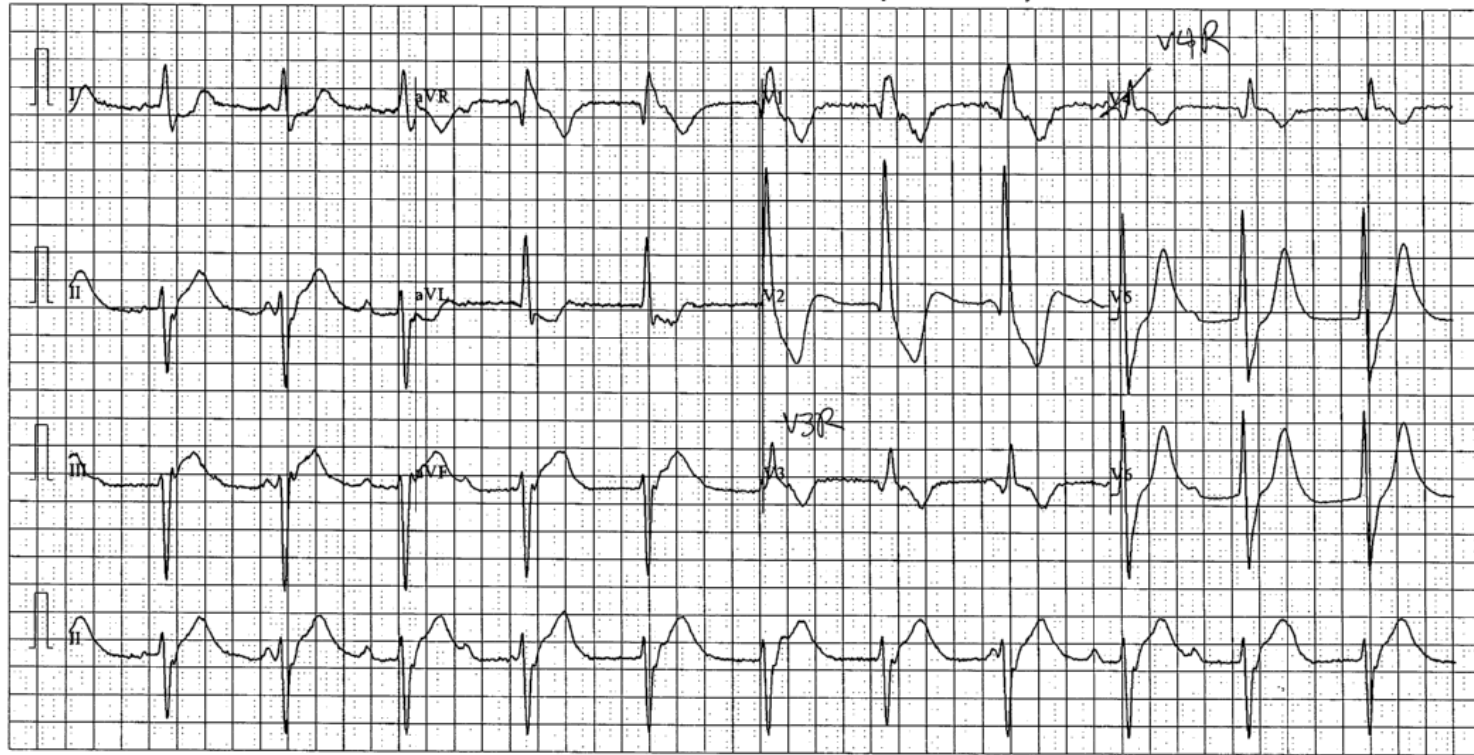
Adjunct to primary survey



Adjunct to primary survey



Adjunct to primary survey



Management

20.22 ASA gr.V 1tab chewing stat

20.33 Plavix 4 tab po

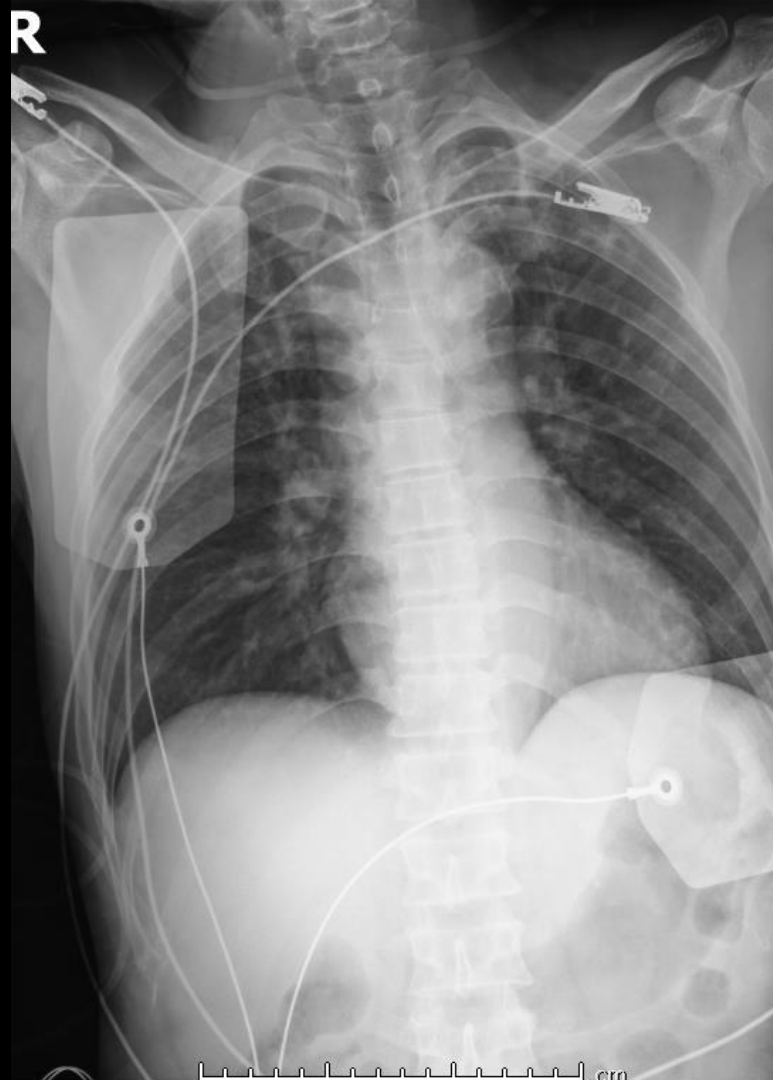
Adjunct to primary survey

BUN	8.9 - 20.6	15	mg/dl
CHLORIDE(CL)	101 - 109	105	mmol/l
CARBONDIOXIDE(CO2)	21 - 31	21	mmol/l
CREATININE	0.78 - 1.18	1.03	mg/dl
CALCIUM	8.8 - 10.6	9.2	mg/dl
POTASSIUM(K)	3.5 - 5.1	3.0	mmol/l
MAGNESIUM	1.6 - 2.6	2.1	mg/dl
SODIUM(NA)	136 - 146	136	mmol/l
PHOSPHOUROUS(PO4)	2.5 - 4.5	1.4	mg/dl
eGFR	60 - 120	81	
hsTroponin I	0 - 19.8	2,286	pg/mL

Adjunct to primary survey

WBC count	5000 - 10000	11300	cell/cu.mm
Control	#	11.1	sec
CONTROL	#	29.8	sec
INR	#	1.00	
Hb	12.9 - 17.1	12.1	g/dL
Hct	40 - 50	35.5	%
MCV	80 - 100	91.4	fl
MCH	26 - 33	31.2	pg
MCHC	31 - 36	34.1	g/dL
RDW	11.2 - 14.8	14.3	%
RBC	4.3 - 6.1	3.88	M/ul
Neutrophil	55 - 65	67.0	%
Lymphocyte	25 - 35	19.3	%
Monocyte	2 - 7	5.9	%
Eosinophil	1 - 3	7.5	%
Basophil	0 - 1	0.3	%
Platelet	#	Adequate	
Platelet count	140000 - 400000	178000	cell/cu.mm

PTT	23.2 - 36.9	23.3	sec
PT	9.2 - 13.1	11.2	sec
INR	#	1.00	



Secondary survey

Allergy : No food or drug allergy

Medication : No current medication

Past history : No known underlying disease

Last meal : 12.00 am



Secondary survey

Event :

10 วันก่อนมาโรงพยาบาล เริ่มมีอาการจุกแน่นใต้ลิ้นปี่เป็นๆหายๆ ไม่มีปวดร้าวไปบริเวณอื่น เป็นมากขึ้นตอนออกแรง พักแล้วดีขึ้น ไม่มีใจสั่น ไม่มีหายใจเหนื่อย ไม่มีแสบร้อนกลางอก ไม่มีเรอเปรี้ยว ไม่มีคลื่นไส้ ไม่อาเจียน อาการปวดไม่สัมพันธ์กับมื้ออาหาร ชยับตัวแล้วไม่ปวดมากขึ้น

9 ชั่วโมงก่อนมาโรงพยาบาล ขณะกำลังนอนอยู่มีอาการเจ็บแน่นบริเวณใต้ลิ้นปี่มากขึ้น ใจสั่น ไม่มีหายใจเหนื่อย ปวดตลอดเวลา

Physical examination

Vital sign : BT 36.5 °C , PR = 72 bpm , RR = 20 /min , BP = 116/75 mmHg

GA : A female with good consciousness, tachypnea

HEENT : no pale conjunctiva, no icteric sclera

Lymph node : can't be palpated

Skin : no rash

CVS : regular rhythm, no murmur

RS : clear, equal breath sound both lungs, no adventitious sound

Abdomen : soft, not tender, normoactive bowel sound, no guarding

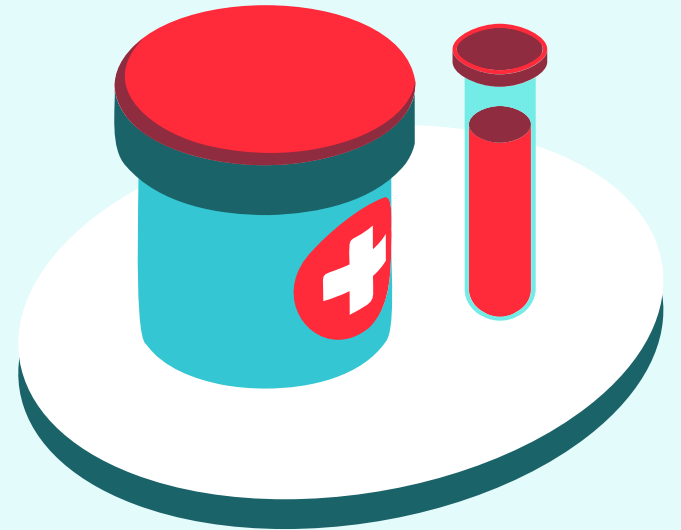
Neuro : E4VTM6, pupil 3 mm RTLBE

Extermities : no edema, CRT <2 sec , no tenderness at chest wall

Problem lists

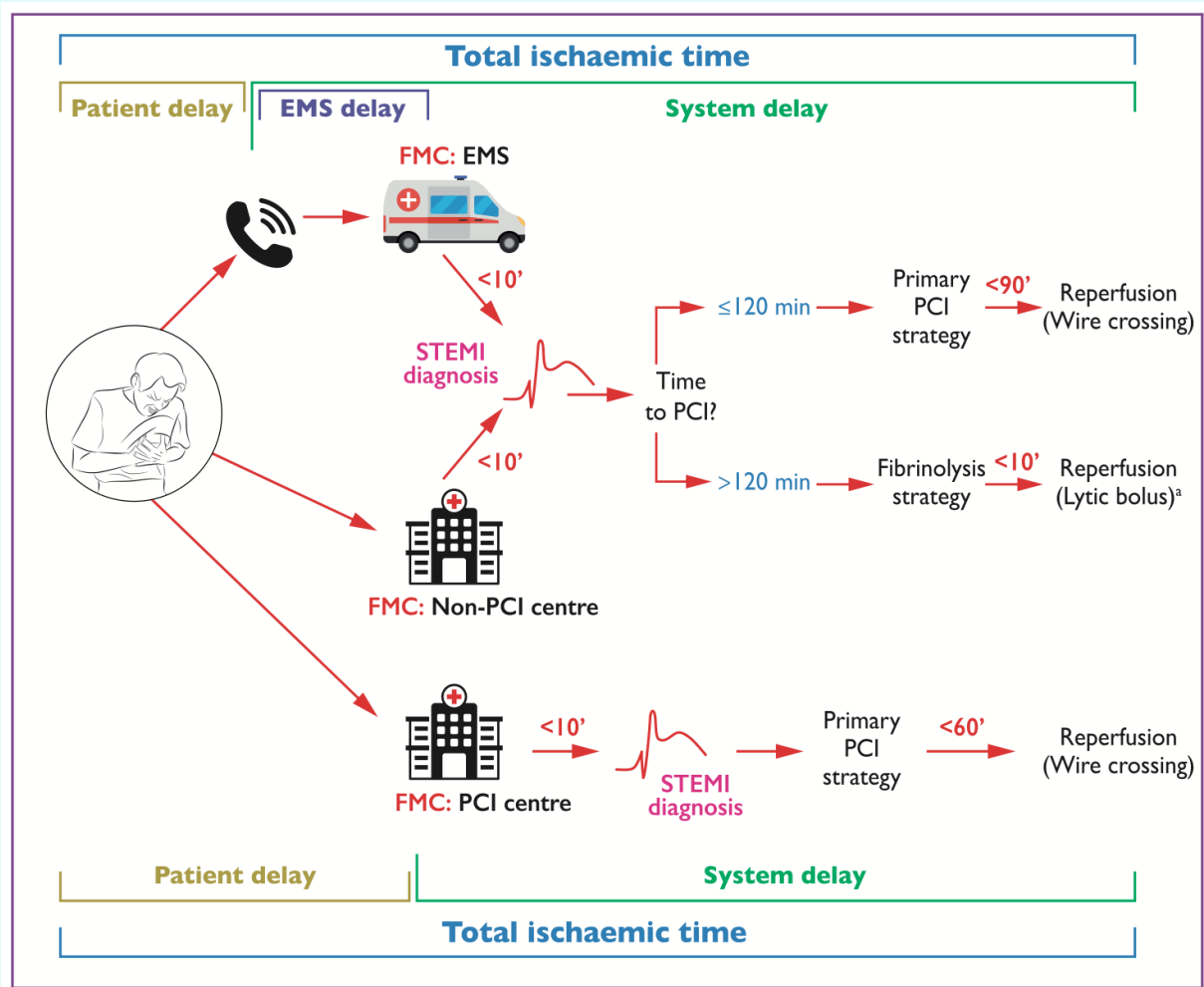


Provisional diagnosis



STEMI





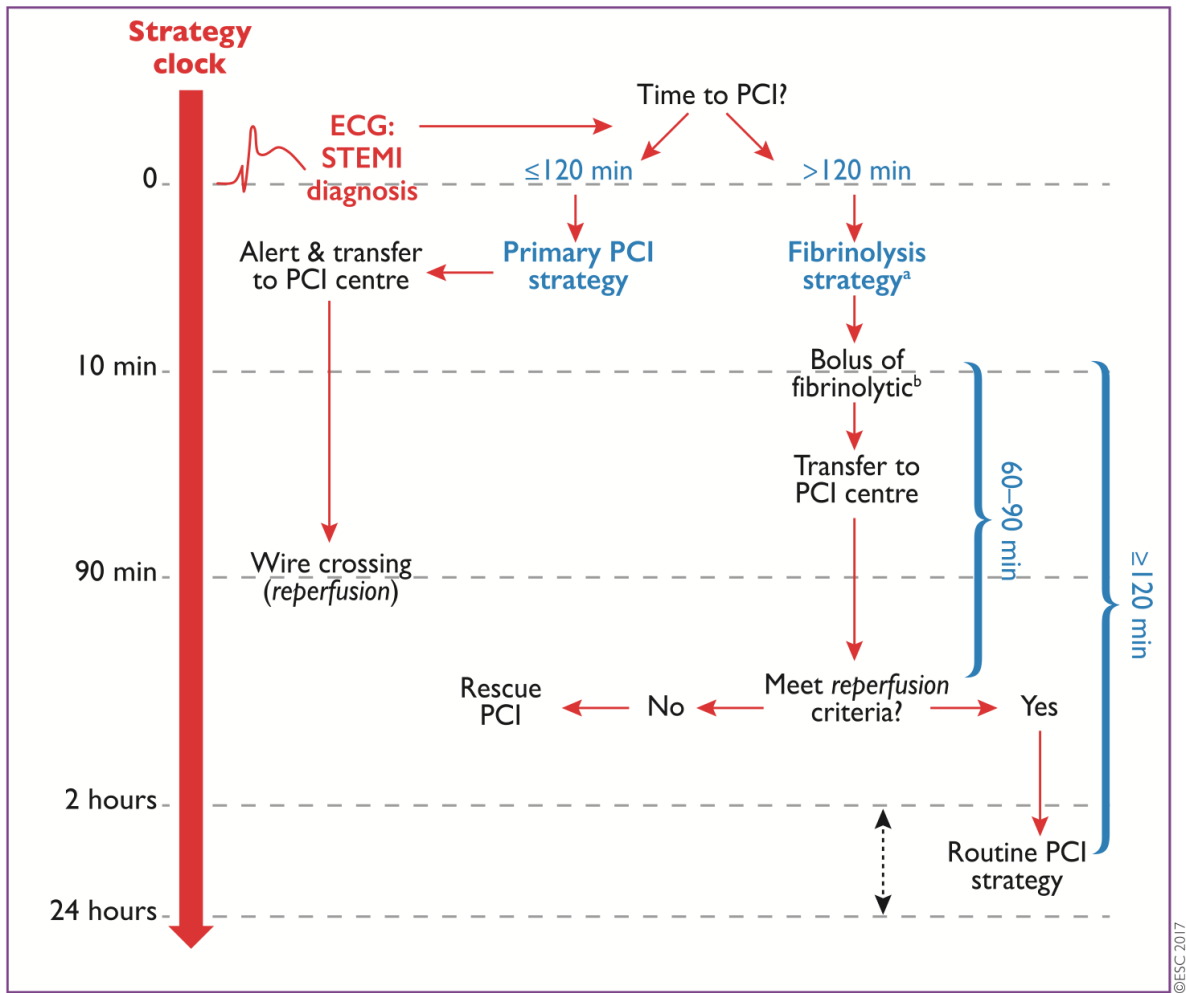


Table 5 Summary of important time targets

Intervals	Time targets
Maximum time from FMC to ECG and diagnosis ^a	≤ 10 min
Maximum expected delay from STEMI diagnosis to primary PCI (wire crossing) to choose primary PCI strategy over fibrinolysis (if this target time cannot be met, consider fibrinolysis)	≤ 120 min
Maximum time from STEMI diagnosis to wire crossing in patients presenting at primary PCI hospitals	≤ 60 min
Maximum time from STEMI diagnosis to wire crossing in transferred patients	≤ 90 min
Maximum time from STEMI diagnosis to bolus or infusion start of fibrinolysis in patients unable to meet primary PCI target times	≤ 10 min
Time delay from start of fibrinolysis to evaluation of its efficacy (success or failure)	60-90 min
Time delay from start of fibrinolysis to angiography (if fibrinolysis is successful)	2-24 hours

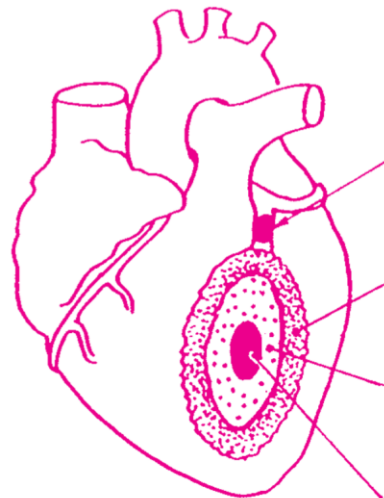
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ECG = electrocardiogram; FMC = first medical contact; PCI = percutaneous coronary intervention; STEMI = ST-segment elevation myocardial infarction
^aECG should be interpreted immediately.




Contraindication of Fibrinolytic therapy

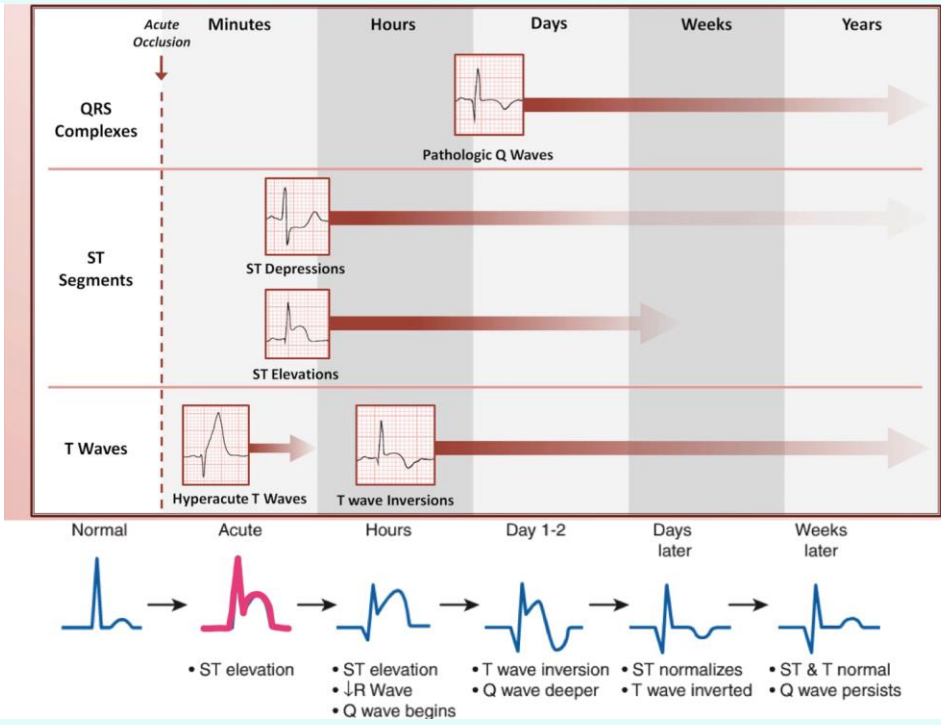
Absolute
Previous intracranial haemorrhage or stroke of unknown origin at anytime
Ischaemic stroke in the preceding 6 months
Central nervous system damage or neoplasms or arteriovenous malformation
Recent major trauma/surgery/head injury (within the preceding month)
Gastrointestinal bleeding within the past month
Known bleeding disorder (excluding menses)
Aortic dissection
Non-compressible punctures in the past 24 hours (e.g. liver biopsy, lumbar puncture)

Relative
Transient ischaemic attack in the preceding 6 months
Oral anticoagulant therapy
Pregnancy or within 1 week postpartum
Refractory hypertension (SBP >180 mmHg and/or DBP >110 mmHg)
Advanced liver disease
Infective endocarditis
Active peptic ulcer
Prolonged or traumatic resuscitation

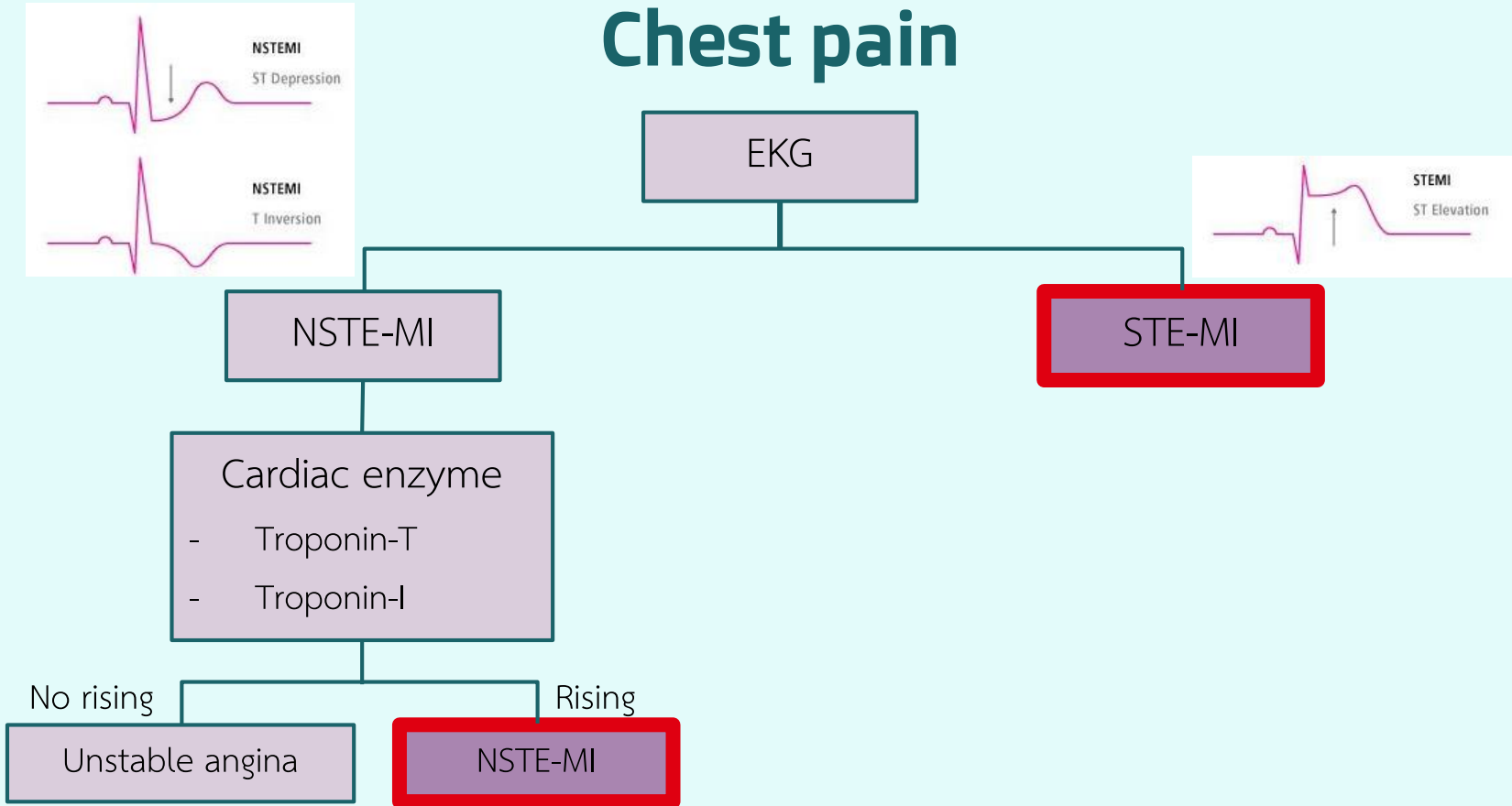


Occlusion of
Left Anterior Descending
Coronary Artery

- Ischemia  T wave inversion
- Injury  ST segment elevation
- Infarction  significant Q wave



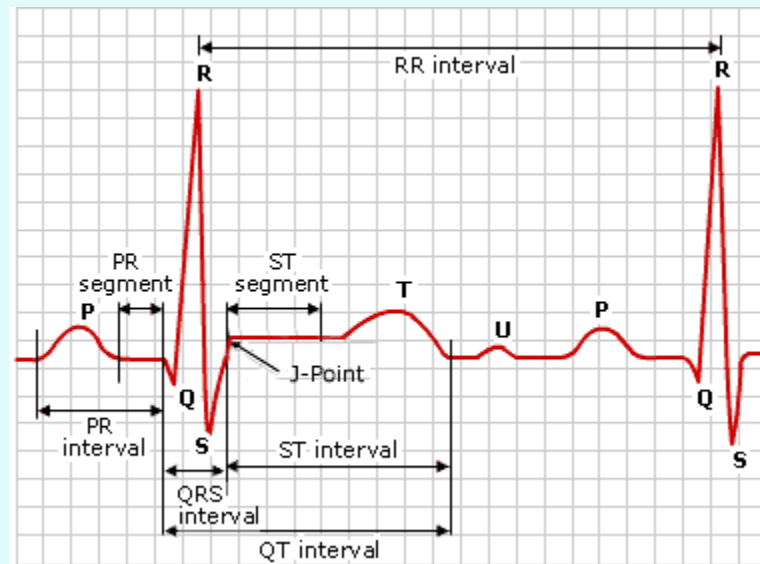
Chest pain



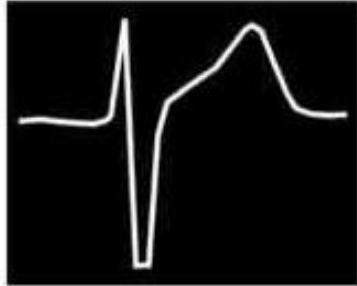
ST elevation

Abnormal J-point elevation

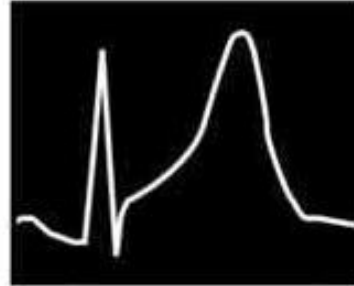
- **0.1 mV** in All leads except
- V2,V3 women : **0.15 mV**
men > 40 yrs : **0.2 mV**
< 40 yrs : **0.25 mV**
- V3R,V4R : **0.05 mV** except for males < 30 yrs : **0.1 mV**
- V7-V9 : **0.05 mV**



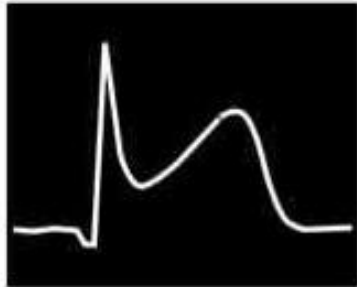
ST elevation



Concave upward
(BER)



Concave upward
(pericarditis)



Oblique straightening
(AMI)



Convex upward
(AMI)

Initial management **MONAA**

1. **Dual Anti-platelet(DAPT)** : ASA + P2Y12I
2. **Anticoagulant**
3. **Nitroglycerin**
4. **Oxygen support** if SpO2 < 90 %
5. **Morphine**



Dual Anti-platelet(DAPT) : For Primary PCI

Primary PCI

- ASA 300 mg Loading dose, maintenance 75 – 100 mg/day long term
- Clopidogrel 600 mg loading dose, then 75 mg/day

Fibrinolysis

- ASA 300 mg Loading dose, maintenance 75 – 100 mg/day long term
- Clopidogrel
 - Age \leq 75 yrs : 300 mg loading dose, then 75 mg/day
 - Age $>$ 75 yrs : 75 mg single dose

Fibrinolytics

Drug	Initial treatment	Specific contra-indications
Doses of fibrinolytic therapy		
Streptokinase	1.5 million units over 30–60 min i.v.	Previous treatment with streptokinase or anistreplase
Alteplase (tPA)	15 mg i.v. bolus 0.75 mg/kg i.v. over 30 min (up to 50 mg) then 0.5 mg/kg i.v. over 60 min (up to 35 mg)	
Retepase (rPA)	10 units + 10 units i.v. bolus given 30 min apart	
Tenecteplase (TNK-tPA)	Single i.v. bolus: 30 mg (6000 IU) if <60 kg 35 mg (7000 IU) if 60 to <70 kg 40 mg (8000 IU) if 70 to <80 kg 45 mg (9000 IU) if 80 to <90 kg 50 mg (10000 IU) if ≥90 kg It is recommended to reduce to half-dose in patients ≥75 years of age. ¹²¹	

Table 8 Contra-indications to fibrinolytic therapy

Absolute
Previous intracranial haemorrhage or stroke of unknown origin at anytime
Ischaemic stroke in the preceding 6 months
Central nervous system damage or neoplasms or arteriovenous malformation
Recent major trauma/surgery/head injury (within the preceding month)
Gastrointestinal bleeding within the past month
Known bleeding disorder (excluding menses)
Aortic dissection
Non-compressible punctures in the past 24 hours (e.g. liver biopsy, lumbar puncture)
Relative
Transient ischaemic attack in the preceding 6 months
Oral anticoagulant therapy
Pregnancy or within 1 week postpartum
Refractory hypertension (SBP >180 mmHg and/or DBP >110 mmHg)
Advanced liver disease
Infective endocarditis
Active peptic ulcer
Prolonged or traumatic resuscitation

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DBP = diastolic blood pressure; SBP = systolic blood pressure.

Initial management

Nitroglycerin for pain relief

Contraindication

- Inferior wall MI with RV infarction
- Hypotension
- Bradycardia
- Recent used of phosphodiesterase inhibitor

Morphine if pain not relief by NTG



Thank you