義大急診PGY工作手冊(內科疾病處理)　　義大急診部 2012/08

1. 這份survival guide是份參考用的文件，對於PGY醫師剛到急診對於一切都很陌生時，希望能有所幫助。請大家在使用時，把它當作參考，遇到問題時可再詢問資深(總)住院醫師及主治醫師，並翻閱Washington manual，Harrision，內科住院醫師手冊以及相關書籍。
2. 急診室的工作或許繁重，但是卻充滿了挑戰性與成就感;希望各位見實習醫師能夠積極認真學習，主動提出問題與要求，在能力需可的範圍內，相信學長姊會盡力滿足。期許各位能夠行囊滿滿的離開急診，也希望各位日後能加入急診的大家庭。

Keep in mind:

Primary ABCD and Secondary ABCD
Efficiency
Don't forget OPD follow up
Sign your name and counter-signs by VS
Doctor-patient relationship and legal problems
Don't criticize other doctors
Never say never or no problems
Don't quarrel with patient or family

第一部份 開藥/檢查簡易上手

URI

fever:

Acetaminophen 1# tid~qid po
Ibuprofen 1# tid~qid po(watch out for UGI bleeding, renal insufficiency)
Hydration with N/S

cough:

Bensau 1# tid~qid po
Brown mixture 10 cc tid~qid po
Cousin syrup 10 cc tid~qid po (Narcotic)
Codeine(15) 1# q6h po (Narcotic)

rhinorrhea:

Cyproheptadine 1# qid po
Finska-LP 1# qd po
Allegra 1# qd~bid po

sputum:

Ambroxol 1# tid~qid po

sore throat:

Acetaminophen 1# tid~qid po

Ibuprofen 1# tid~qid po

headache:
Acetaminophen 1# tid~qid po
Ibuprofen 1# tid~qid po
*Watch out intracranial lesion

AGE
diarrhea:
Buscopan 1amp im stat (exclude infectious diarrhea first)
Loperamide 2# po stat
Kaolin-pectin 20ml tid po
Buwecon 1# tid~qid po

vomiting:
Novamine 1amp im stat
Primperan 1amp im/iv stat
Primperan 1# tid~qid po
Novamine 1# tid~qid po

fever:
Acetaminophen 1# tid~qid po
Hydration with N/S

dehydration: hydration with N/S

Stool impaction
EVAC enema 1 bottle stat(孕婦不宜)
Dulcolax 1# supp stat
Dulcolax 1# hs po
MgO 1# qid po(renal insufficiency不宜)
Sennoside 2# hs po

Gastritis
Peichia 1# tid~qid po
Strocaine 1# tid~qid po

UTI
Urine set
Acetaminophen 1# tid~qid po
Cephalexin 2# q6h po
Cephadroxil 1# bid po

APN

CBC/DC, biochemistry, B/C x II,
Cefazolin 1g q8h iv + gentamicin 80mg q12h ivd
Cefuroxime 1.5g q8h iv (complicated)

Cellulitis

Mild:
Ulex 2# q6h po
Augmentin 1# bid po(for DM)
Severe:
Oxacillin 2g q6h iv
Augmentin 1amp q8h iv
Unasyn 1amp q6h iv

UGI bleeding

NPO
CBC, BCS, PT/PTT, 備血
IVF: D5S when NPO
One touch q6~8h
CVC if massive bleeding
NG decompression with NS irrigation if hematemesis
Arrange PES
Pantoprazole/Esomeprazole 1 vial stat + q12h iv for PUD
Glypressin 1 vial q6h for EV/GV bleeding

Asthma/COPD

Atrovent+Bricanly 各1amp inhl q6h+stat
Solu-medrol (40 mg) 1 amp q8h iv if necessary
CXR & infection workup if necessary

Pneumonia

CXR, CBC/DC, BCS, B/CxII, oxygen
Sputum smear/culture(AFS/TB culture if needed)
Augmentin 1vial q8h iv
Moxifloxacin 400mg qd ivd (elderly)

Consciousness change

F/S stat
CBC, BCS(esp. Na/Ca), NH3, COHb, ABG, urine basic drug screen (if necessary)
Brain CT(without contrast)
Naloxone use if morphine intoxication is suspected
D50W 4 amp iv stat for hypoglycemia (D5/10W if OHA overdose)

Chest pain

Oxygen, IV, monitor
12-lead ECG
CXR (portable)
NTG 1# sublingual stat (if SBP > 100 mmHg, no inferior MI)

Morphine 3mg IV stat (if acceptable BP)
Lab data (CBC, BCS, cadiac enzymes)
AMI:
Consult CV
Aspirin 3# po stat
Clopidogrel 4# po stat
Heparin 4000 U iv stat then 20000 U in N/S 500 ml run 20 ml/hr with titrate

Hyperventilation

Lab data (especially if no past history of hyperventilation)
D/D with DKA or metabolic acidosis
Diazepam 1amp in N/S 500ml run 60~80ml/hr
Xanax 1# bid po + stat
OPD follow up

Insomnia

Ativan 1# hs po
Stilnox 1# hs po
Venan 1amp iv/im stat(if without respiratory suppression)

第二部份**Content:**

1. UGI bleeding
2. Fever
3. Consciousness disturbance
4. Metabolic emergency
5. Acute stroke
6. Abdominal pain
7. Chest pain
8. Dyspnea
9. arrhythmia
10. Shock
11. Headache
12. Vertigo

1. <u>UGI bleeding</u>

A. Monitor vital signs. **First sign: tachycardia**
B. History taking – Alcohol ,chronic and acute peptic ulcer history , hunger pain, prior PES, liver disease history, taking steroid or NSAID
Specific Dx: peptic ulcer, varices rupture, gastritis, Mallory-Weiss syndrome
C. D/D – variceal or non-variceal bleeding
D. On 2 large-bore (Fr. 16) peripheral lines
E. Check CBC, CBS, PT/PTT (可多抽一管備血管已備不時之需), Stool OB
F. NG with N/S irrigation and open decompression
G. Treatment :
a. Keep vital signs by fluid resuscitation, use N/S only
b. Transfusion if Hb < 8 (just as a reference)
c. NG tube for diagnosis if necessary and monitor drainage/Digital exam for tarry stool

d. NPO
e. Correct systemic bleeding tendency by FFP, PLT, Vit K1
f. Consider Foley and central venous catheter to help monitor or manage fluids
g. For GU and DU – Proton pump inhibitor (ie. pantoprazole, esomeprazole)
h. For varices – Glypressin
* Glypressin – initially, 2mg,iv bolus and then 1mg , iv,q4-6h
i. Arrange emergent PES as soon as possible
j. Consult surgeon if bleeding persisted or poor response despite medical treatment

2. <u>Fever</u>

A. Be regarded as infection until proved otherwise
B. Look for infectious focus from head to toe
C. Traveling history, pet raising, living environment, SARS exposure history
D. If fever < 3 days, obvious URI symptoms, good general condition, injected throat without pus coating, No need blood tests.
Medications – symptomatic treatment
Bensau 1# or cough mixture 10ml tid-qid po
Finska-LP 1# bid po
Allegra 1# bid po
Ambroxol 1# tid-qid po
Acetaminophen 1# tid-qid po
Ibuprofen 1# tid-qid po
E. If fever > 3 days, immunocompromised host (SLE, malignancy, HIV, immunosuppressant agent…), poor general condition, old age, URI is not likely
Mx – a. CBC/DC,CBS, CXR, Urine set
b. culture and smears of various sites
c. consider antibiotics
F. D/D – collagen disease and malignancy
1. Collagen disease
clues : joint pain, skin rash, proteinuria, oral ulcer, young female
* may check ANA, anti-ENA, anti-ds DNA, C3,C4, CBC, RA factor, ASLO, CRP, ESR, ACA, STS, Coombs' test (direct), etc.
2. Malignancy – eg. lymphoma, leukemia, renal cell carcinoma

3. <u>Consciousness disturbance</u>

A. Supportive treatment and keep vital signs
* supportive treatment – (Airway, breathing and circulation)
a. keep patent airway, including using nasal airway, oral airway, ET tube, suction, change position.. etc
b. consider NG tube, foley
B. Check lab data – one touch sugar, blood test (esp. Na/Ca, NH3, gas)
C. History taking – drugs, alcohol, systemic diseases – eg. DM, Thyroid disease, Fever, trauma history
* If drug exposure or alcohol exposure is suspected, consider checking serum level or urine basic drug screen (需自費)
* if fever (+), consider lumbar puncture (after brain CT) and blood cultures
D. Neurologic exam and Physical examination, including GCS, pupil sizes, bowel sound, HR, skin texture..etc

* no neurologic signs can't exclude neurologic disease : CNS infection, SAH, Chronic bilateral subdural effusion, hydrocephalus
* Presence of neurologic signs can't exclude metabolic disease, but should do CT

E. D50W 4 amp iv bolus if hypoglycemia
F. In chronic alcoholics, thiamine 100mg iv before or shortly after the dextrose to prevent precipitating Wernicke's encephalopathy
G. Consider naloxone – if RR < 12/min or the pupils are pinpoint or other reasons to suspect opioid poisoning
H. If no metabolic problems - Arrange image study - Brain CT
I. Consider lumbar puncture
J. Consult neurologist

4. <u>Metabolic emergencies</u>

A. Hyperkalemia
a. General weakness, parethesia, and cardiac symptoms and signs, the latter may be life-threatening
- cardiac manifestation : bradycardia, Vf, asystole
- ECG : peak T , ST-depression, small R, PR prolong, flat P, wide QRS, QT prolong => 所以不要忘了做ECG

b. Urgent management :
- 5% calcium gluconate 1 amp ivd
- Bricanyl 1 amp IH stat
- RI 12u + D50W 3 amp ivp stat
- Sodium bicarbonate 2 amp ivp stat
- Kayxalate/Kalimate 20 gm tid-qid po ; enema with 60 –100 gm if urgent
- Consult nephrologists for dialysis if above management fails

c. Treat underlying diseases

B. Hypercalcemia
a. Hydration with N/S(H/S if hypernatremia Na>145)
b. Lasix 1 amp iv, q4-6h according to hydration status
c. Watch out for electrolyte imbalance
d. Search for the causes

C. NKHS and DKA
a. A status of hyperglycemia, dehydration with (DKA) or without (NKHS) obvious ketoacidosis (check blood ketone)
b. Precipitating factors: AMI, infection, inflammation, trauma, stress, other major illness, steroid, poor compliance …. etc
c. Estimated osmolarity = 2xNa + (Glu / 18) + (BUN / 1.8)
Normal value 280-295 mOsm/L
d. Management :
- Hydration: N/S 500-1000ml/hr, half saline if Na > 155 till euvolemia
- RI 0.1U/kg iv st and then 50U in N/S 500ml, run 0.1U/kg/hr and titrate with one touch
- Supply bicarbonate if coma and pH < 7.1 or hyprkalemia
- Treat the underlying causes, especially infection
- Arrange ICU admission
- Check sugar q2h, ABG & electrolyte q4h,
- K and phosphate supplement if indicated

- Add fixed rate of D5S infusion when sugar < 250
- Adjust RI iv infusion rate to maintain sugar around 200
- Start oral intake when general condition improved:
  * bicarbonate > 15, ketone decrease, no vomiting, consciousness clear
- DC iv infusion RI, start subcutaneous insulin therapy

5. <u>Acute stroke</u>

A. Immediate general assessment
  * Assess ABCs, vital signs
  * Provide oxygen by nasal cannula
  *Obtain IV assess; obtain blood samples (CBC, PT/PTT, CBS)
  * CXR
  * 12 lead ECG, check for arrhythmias(Af)
  * Perform general neurological screening assessment
  * **Alert Stroke Team and arrange Brain CT without contrast**
  (特別是onset在3小時內)

B. Get the specific diagnosis (location and type) by history, NE and brain CT(non-contrast):
  區分為ischemic stroke 和 hemorrhagic stroke 兩種

C. General management of acute stroke patient
  a. intravenous fluids – N/S 500~1000 ml qd (avoids glucose water)
  b. control blood sugar
  c. Oxygen – pulse oximeter. Supplement if indicated
  d. Acetaminophen – if febrile
  e. NG – if at risk for aspiration
  f. Anticonvulsant (ie. BZD, phenytoic, or valporic acid)as needed
  g. Osmotherapy (mannitol) and consult NS as needed for IICP or secondary neurological deterioration
  h. Sennoside for stool softner

D. For acute hemorrhage : consult neurosurgeon first
  a. antihypertensive therapy for hemorrhagic stroke
    Trandate (Labetalol): keep SBP < 160 mmHg (make sure no asthma history)
  b. Reverse any anticoaulants
  c. Reverse any bleeding disorder
  d. Monitor neurological condition

E. For acute ischemic stroke (< 3 hours):
  a. Review risks/benefits with patients and family: if acceptable – **begin fibrinolytic treatment (t-PA) (door-to-treatment goal < 60minutes)**
    *****神內醫師會親自跟病人以及家屬解釋
  b. monitor neurological status: emergent CT if deterioration
  c. monitor BP; treat as indicated
  d. Admit to ICU

F. For acute ischemic stroke (> 3 hours)
  a. 上述的general management
  b. Antiplatelet treatment – aspirin(100) 3#,po stat and then 1#,po,qd
  c. SBP< 220mmHg is tolerable
  d. Arrange admission

6. <u>Abdominal pain</u> – 重點在區分surgical or non-surgical condition

A. surgical condition

* Any obvious lateralized pain should be regarded significant until proved otherwise
* Peritoneal signs (+) – localized tender, rigidity, rebound pain contact GS

1. **Acute appendicitis**
   - initial anorexia, nausea, periumbilical dull pain then shifted to localized pain around Mcburney point
   -PE : tender, rebound pain in Mcburney point, Rovsing's sign, psoas sign, obturator sign
   - Lab : leukocytosis, KUB may present local ileus
   - other condition should be excluded, eg UTI, urolithiasis, adhesion ileus, Obs/Gyn problems, right epididymitis …. etc
2. **Adhesion ileus**
   - previous abdominal operation history and mechanical ileus (+)
   - Management:
     *NPO and may consider NG decompression,
     *May add prokinetic agents, eg primperan
     *Adequate hydration
     *Watch out for peritoneal signs, consult surgeon if peritoneal sign (+)
     *Follow up KUB
3. **Hollow organ perforation**
   - Sudden onset severe persistent abdominal pain
   - PE : tender in peigastric area, diffuse rigidity, abdominal distension with tympanic percussion sound
   - CXR(sitting) : free air under diaphragm
   - Left decubitus view of plain abdomen
4. **Biliary colic and acute cholecystitis**
   - 4F: female, fat, fertile, forty, RUQ pain or epigastralgia after meal
   - Abdominal echo : best diagnostic tool
   - Management :
     Pain control
     NPO with IVF supplement
     Consider NG decompression if vomiting, distension or ileus
     IV antibiotics
     Surgical consultation
5. **Others** : volvulus, mesenteric thrombo-embolism (ischemic bowel disease), diverticulitis, hepatoma rupture, spleen rupture

B. **AGE** – diarrhea with or without vomiting, intermittent cramping pain, hyperactive bowel sound, usually self limiting disease

* Treatment –
  1. watch out for electrolyte imbalance, especially old and weak patient
  2. anti-diarrhea :
     Kaolin-pectine 20ml tid-qid po
     Loperamide 2# stat po (severe)
     Buscopan 1amp, im stat if needed (contraindicated if adhesion ileus is suspected, especially with history of previous abdominal operation)

3. anti-emetic : Primperan or Novamine1 amp im stat, primperan 1#, tid-qid, po
4. If AGE is not sure, check CBC, sugar(watch out DKA), GPT, Cr, lipase, amylase, Na, K, Ca, X-ray, urine analysis
5. Educate appendicitis

C. **Pancreatitis**

1. History – alcohol, gall stone, hypertriglyceridemia and certain drugs, abdominal pain after heavy meal, radiate to back, relieved by bending
2. Lab – elevated amylase ,lipase (more specific but slightly less sensitive than amylase); Ranson's criteria; CRP
3. Management :
   - NPO with IVF supplement
   - Monitor U/O and adjust IVF
   - Arrange abdominal echo ; abdominal CT if indicated
   - Pain control with Demerol 1amp, im or morphine
   - Arrange admission

D. **Acute gastritis**

1. Other diseases should be excluded first
2. Management :
   - antacid : Peichia 1#, tid-qid, po
   - Pain relief : strocain 1# tid-qid po

E. **Constipation**

1. Other diseases should be excluded first
2. May try EVAC enema 1 bottle
3. MgO 1# tid-qid po or sennoside 2# hs po (if renal insufficiency)
4. Dulcolax 1# hs po

F. **OBS/GYN problems** => OBS/GYN consultation as needed

1. **Ectopic pregnancy**
   - missed period, abdominal pain, pale looking, even shock
   - check urine pregnancy test and then Obs/Gyn consultation needed
2. **Ovarian cyst** : may cause acute abdominal condition by torsion or rupture
3. **Pelvic inflammatory disease**
   - low abdominal pain, increased vaginal discharge
   - risk factors : non-barrier contraception, such as IUD; a young age at first intercourse; multiple sexual partners; recent exposure to STD; a previous history of PID; recent Gyn instrumentation; vaginal douching; bacterial vaginosis
   - PE : lifting pain of cervix
   - Antibiotics use after Obs/Gyn consultation

G. Urinary tract diseases

1. **Urolithiasis**
   - Abdominal pain (usuallu flank pain), may radiate to inguinal area, knocking pain, urinalysis revealed hematuria
   -Management:
   KUB and check urine routine

Pain control (ie. Morphine 1mg/kg im 或 Ketorolac 1amp im)
- Adequate hydration
- If sympytoms improves, may give pain killer and urologic OPD F/U
-Inform possibility of recurrent renal colic after returning home

2. **Acute pyelonephritis** (Fever, flank pain , urinalysis showed pyuria)
-Management :
- Blood culture and urine culture
- Antibiotics

3. Others : liver abscess, hepatoma, abdominal aortic aneurysm. DKA or NKHS, SBP, acute intermittent porphyria, uremia …….. etc

7. <u>Chest pain</u>

A. 重點在 D/D – angina , non-angina ; routine 照CXR, 作12-lead ECG
D/D of chest pain : from skin to aorta
ie. Herpes Zoster ; pain of musculoskeletal origin ; intercostal neuralgia, Pleuritic pain – pleurisy, empyema, pneumothorax
Lung diseases – pneumonia, lung abscess, pulmonary emboli,
Heart disease – CAD, pericarditis, ……..
Esophagitis due to acid regurgitation ; Dissecting aneurysm;
Others – mediasternitis, anxiety…….. etc

B. Always keep in mind
Acute life threatening conditions associated with chest pain –
-AMI
-Aortic dissection
-Pulmonary embolism
-Myocarditis, pericarditis
-Others: pneumothorax, pericardial diseases, esophageal rupture

C. Typical angina symptoms
-Nature: oppression sensation
-Related to exercise, emotion, heavy meal or exposure to cold
-Relieved by rest or sublingual NTG
-Location : precordial region
-Area: about one-foot size
-Radiation to jaw, left shoulder or arm
-Duration : 3-5 minutes but may be longer (up to hours)

D. **Atypical chest pain**
-Pain of a finger-snap duration
-Pain of an area of a finger tip
-Pain elicited by local pressure
-Pain elicited by a particular posture or action

E. **Acute coronary syndrome**
(Immediate general management : "MONA")
1. oxygen at 3 L/min
2. NTG 1# SL stat (if no hypotension or infereior wall MI)
3. Morphine 3mg, iv (if pain not relieved with NTG)
4. Aspirin 3# + Plavix 4# po stat if unstable angina or AMI is likely

- Assess initial 12-lead ECG (根據是否有ST –T change, 做進一步處置)
-Consult CV if ECG show typical changes of AMI

-Diagnosing AMI (2 out of 3): chest pain, ECG, cardiac markers

F. **Dissecting aneurysm**

1.History

Severe chest pain with radiation to back , history of hypertension

(S/S : associated with occlusion of branches : asymmetric pulse, consciousness change, renal shunt down, renal colic (renal infarction), AMI, paraplegia, low back pain …..

2. Management

a. On critical

b. Control BP (Labetalol)

c. Emergent chest CT

d. Consult cardiovascular surgeon

8. <u>Dyspnea</u>

A. D/D – lung disease, heart disease, CNS disease, metabolic disease

B. check CXR, CBS, ABG, ECG

C. **Asthma**

1. D/D – cardiac asthma, COPD with AE
2. Usually has past history
3. CXR shows emphysema only
4. Management :

a. Rapid assessment of degree of respiratory distress

b. Supplemental oxygen, pulse oximeter, and if severe, iv access

c. Beta-agonist therapy :

Atrovent + Bricanyl 1amp inhalation stat, evaluate response

d. Corticosteroids :

Prednisone: 40-60 mg, po (1-2mg/kg)

Solu-cortef (100mg) : 1amp q6-8h iv (4-5mg/kg/dose)

Solu-medrol (40mg): 1 amp, q6-8h iv (1-2mg/kg/dose)

e. Anticholinergics

Atrovent 1 amp q6h inhalation

f. Intubate patients electively for impending respiratory failure

g. Make dispostion if no improvement after 2-4hrs of aggressive therapy

h. Treat the possible respiratory tract infection

i. If discharge, prescribe oral medications including anti-tussive, bronchodilator, steroid

D. **COPD with AE**

a. Management the same as asthma patients, except

- low flow oxygen flow : high oxygen flow may cause CO2 retention
- Antibiotics if suspect secondary infection

9. <u>Arrhythmia</u>

A. Assess ABCs, vital signs => **stable vs unstable**

所謂**unstable**表示病患有與**arrhythmia**相關的嚴重症狀**, eg. chest pain, dyspnea, conscious disturbance, hypotension, shock, acute pulmonary edema, AMI, or CHF.** 若無上述嚴重症狀者是為**stable**

B. 12-lead ECG if possible

C. arrhythmia判斷流程 :

1. 決定心跳快(>100/min)或慢(60/min)
2. 決定QRS波是寬(>3小格)或窄(<3小格)
3. 決定QRS波前有無P波
4. 決定心律有無規則性
5. 決定P

QRS之間的相關性

依上述五要點找出心臟節律點位置之後,再加上心跳數即是答案

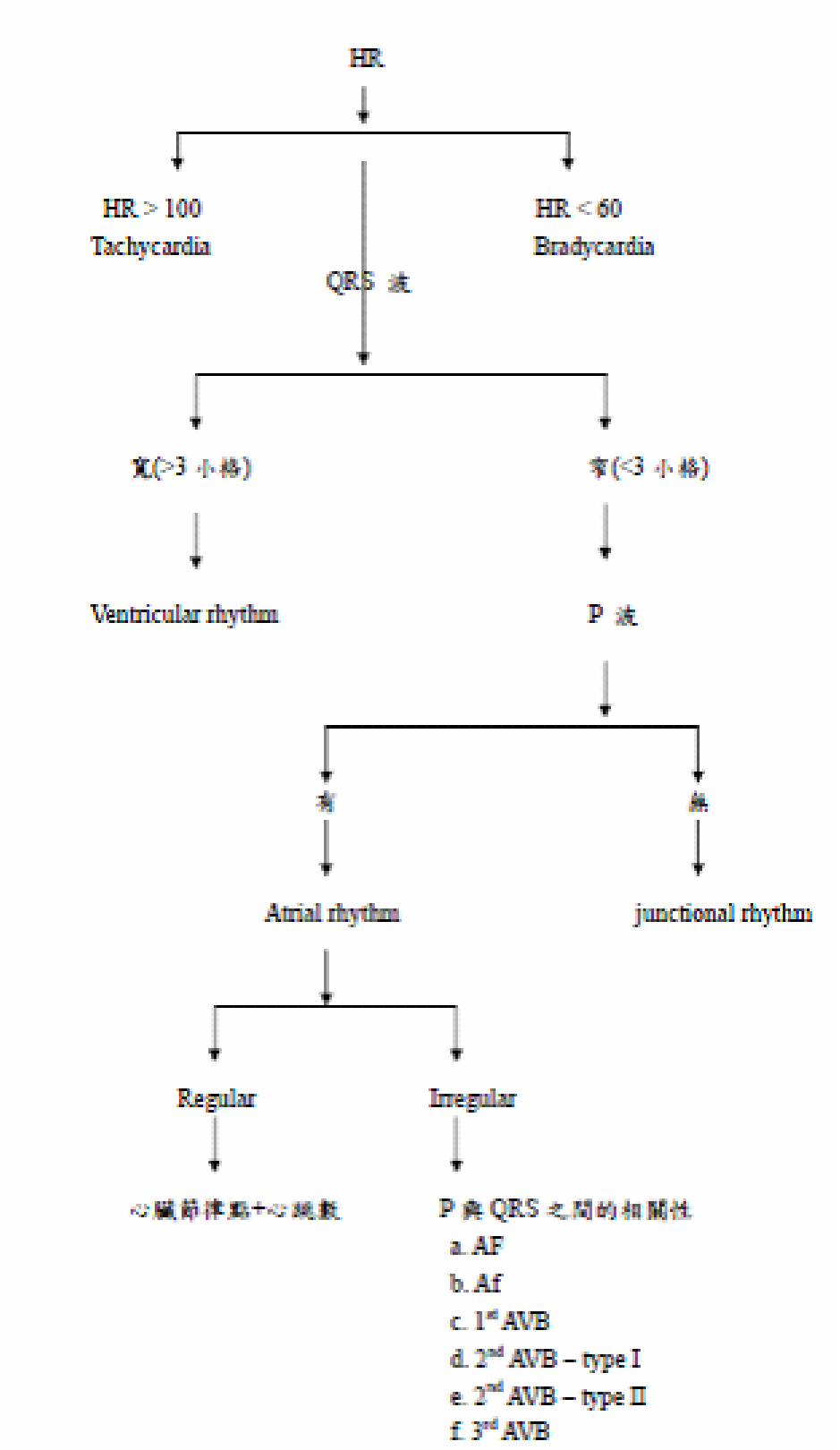
D. Bradycardia – 不是所有的Bradycardia都要治療,有症狀不穩定的才要治療(chest pain, dyspnea, conscious disturbance, hypotension, shock, acute pulmonary edema, AMI, or CHF), 簡單來說,治療方式依序為: Atropine, TCP (high degree AV blocks), Dopamine/Epinephrine, temporary pacemaker

E. Tachycardia – 要分narrow-QRS (regular & irregular) 和Wide-QRS 三種

a. Unstable –DC cardioversion

b. Stable –

* Wide-QRS : Treat as VT
  - Clinical CHF : DC cardioversion or Amiodarone
  - Preserved cardiac function: cardioversion or Amiodarone
* Narrow-QRS :
  -PSVT
    Vagal maneuver
    Adenosine 6mg 12mg
  - Clinical CHF : Amiodarone, Digoxin, Herbesser
  - Preserved cardiac function : Isoptin, β-blocker, Amiodarone
* AF/Af : 要注意onset的時間,underlying heart function,和是否為WPW
  - management首重control heart rate
    Clinical CHF – Amiodarone(IIb), Digoxin(IIb), Herbesser(IIb)
    Preserved cardiac function : Calcium channel blocker (I), β-blocker(I), Amiodarone (IIb)


HR
HR > 100
Tachycardia
HR < 60
Bradycardia
QRS 波
寬(>3 小格)
窄(<3 小格)
Ventricular rhythm
P 波
有
無
Atrial rhythm
junctional rhythm
Regular
Irregular
心臟節律點+心跳數
P 與 QRS 之間的相關性
a. AF
b. Af
c. 1st AVB
d. 2nd AVB – type I
e. 2nd AVB – type II
f. 3rd AVB

10. <u>Shock</u>

A. Assess ABCs, vital signs

B. Most likely problem ? – **Acute pulmonary edema, Volume, Pump, Rate**

C. Treatment of acute pulmonary edema – 1st line therapy

* Lasix 0.5-1mg/kg, iv
* Morphine 2-4 mg, iv
* NTG SL
* Oxygen/Intubation as needed

D. Treatment of volume problem –

* Fluid – N/S or L/R
* Blood transfusion
* Cause- specific interventions
* consider Vasopressors

E. Treatment of Pump problem –

SBP < 70mmHg with S/S of shock => Norepinephrine 0.5-30μg/min, ivd
SBP 70-100mmHg with S/S of shock => Dopamine 5-15μg/min, ivd
SBP 70-100mmHg without S/S of shock => Dobutamine 5-15μg/min, ivd
SBP > 100mmHg => NTG 10-20 μg/min, ivd

F. Treatment of rate problem –

See arrhythmia

11. <u>Headache</u>

A. Look for neurological signs and IICP signs

B. D/D –

a. Headache with reduced conscious level or focal neurological signs – Stroke, SAH, Chronic SDH, After major seizure, Acute hydrocephalus, intracranial space-occupying lesions (eg. Neoplasms, abscess, subdural empyema), meningitis, encephalitis, cerebral malaria, hypertensive encephalopathy

b. Headache with local signs - Acute sinusitis, acute angle-closure glaucoma, temporal arthritis, TM joint dysfunction

c. Headache with no abnormal signs – Tension-type headache, medication misuse, migraine, drug related, toxin exposure, temporal arthritis, SAH

C. Migraine – Treatment of an acute attack is with analgesics – eg paramol and anti-emetic, eg. Primperan 10mg im

D. SAH – Sudden onset severe headache with or without meningeal signs

12. <u>Vertigo</u>

A. Look for any neurological signs, cranial nerves and cerebellar tests must be performed

B. D/D –

a. CNS disease – vertebrobasilar insufficiency or brain stem stroke almost always with neurological signs other than vertigo

b. Acoustic neuroma – hearing loss may be more prominent than vertigo ; cerebellar signs may be present

c. Inner ear disease – Labyrinithitis – Acute : infection, especially after URI, trauma, drugs, alcohol,

ischemia

Chronic : Menier's disease, vestibular neuritis

BPPV (Benign paroxymal positional vertigo) : 發病期間,應做頭部或身體姿勢改變的測驗,有時可誘發短暫的眼振(約10sec),但重複操作時,則減輕或不發生,即所謂的有習慣性.真正的原因尚不明瞭.

d. others: visual problems- oculomotor torsion, poor glasses ……

proprioception problems – peripheral neuropathy …

C. Management :

a. Assess for life threatening cerebrovascular accidents or infection
b. Treat dehydration with isotonic fluids
c. Use antiemetics for nausea or vomiting, eg Novamine
d. Consult a neurologist, neurosurgeon or otolaryngonist, as indicated
e. medical therapy :
* Antihistamine – Chlorpheniramine 1 amp im
* Diazepam 1 amp in N/S 500ml run 60-80ml/hr
* Cephadol 1# tid-qid, po
* Cinnarizine 1# tid-qid po
* Do Brain CT if suspect central vertigo

Acute Coronary Syndrome

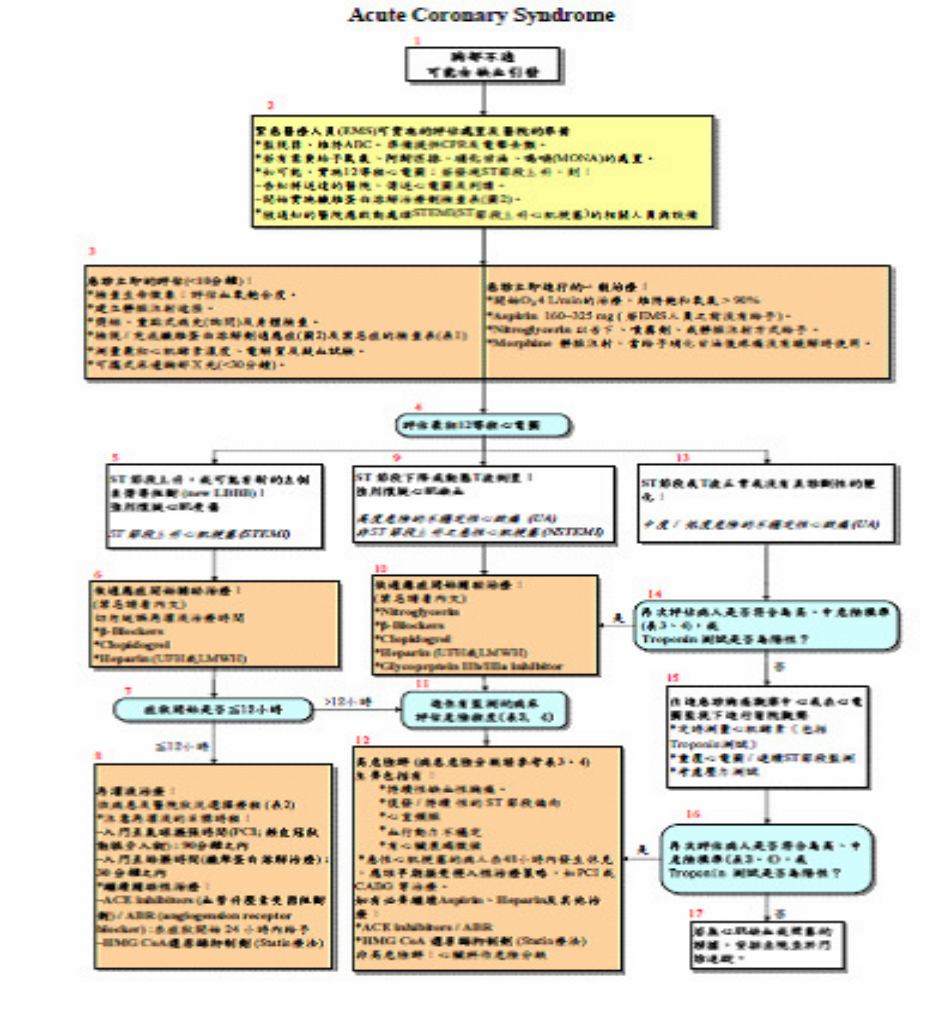


Fig 2

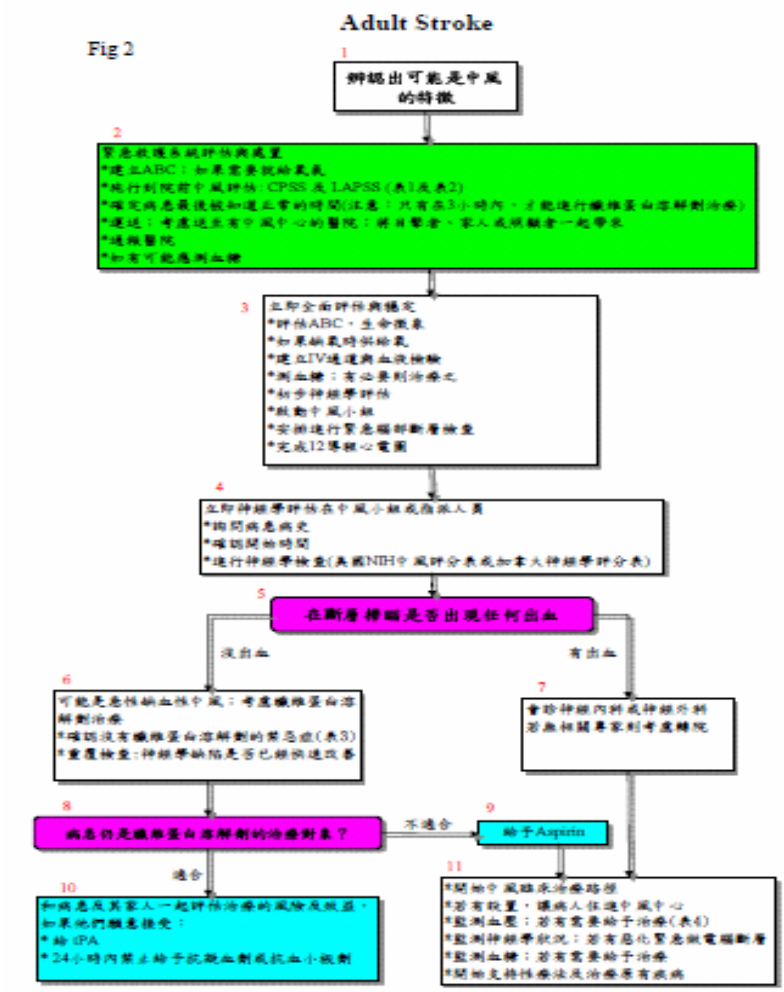

Adult Stroke
1
辨認出可能是中風的特徵
2
緊急救護系統評估與處置
*建立ABC；如果需要就給氧氣
*施行到院前中風評估：CPSS 或 LAPSS（表1及表2）
*確定病患最後被知道正常的時間(注意：只有在3小時內，才能進行纖維蛋白溶解劑治療)
*選送：考慮送至有中風中心的醫院；將目擊者、家人或照顧者一起帶來
*通報醫院
*如有可能應測血糖
3
立即全面評估與穩定
*評估ABC，生命徵象
*如果缺氧時供給氧
*建立IV通道與血液檢驗
*測血糖；有必要則治療之
*初步神經學評估
*啟動中風小組
*安排進行緊急腦部斷層檢查
*完成12導聯心電圖
4
立即神經學評估在中風小組成指派人員
*詢問病患病史
*確認開始時間
*進行神經學檢查(美國NIH中風評分表或加拿大神經學評分表)
5
在斷層掃瞄是否出現任何出血
沒出血
有出血
6
可能是急性缺血性中風：考慮纖維蛋白溶解劑治療
*確認沒有纖維蛋白溶解劑的禁忌症(表3)
*重覆檢查：神經學缺陷是否已經快速改善
7
會診神經內科或神經外科
若無相關專家則考慮轉院
8
病患仍是纖維蛋白溶解劑的治療對象？
不適合
9
給予Aspirin
適合
10
和病患及其家人一起評估治療的風險及效益，如果他們願意接受：
* 給 tPA
* 24小時內禁止給予抗凝血劑或抗血小板劑
11
*開始中風組床治療路徑
*若有缺置，讓病人住進中風中心
*監測血壓；若有需要給予治療(表4)
*監測神經學狀況；若有惡化緊急做電腦斷層
*監測血糖；若有需要給予治療
*開始支持性療法及治療原有疾病

Fig 3

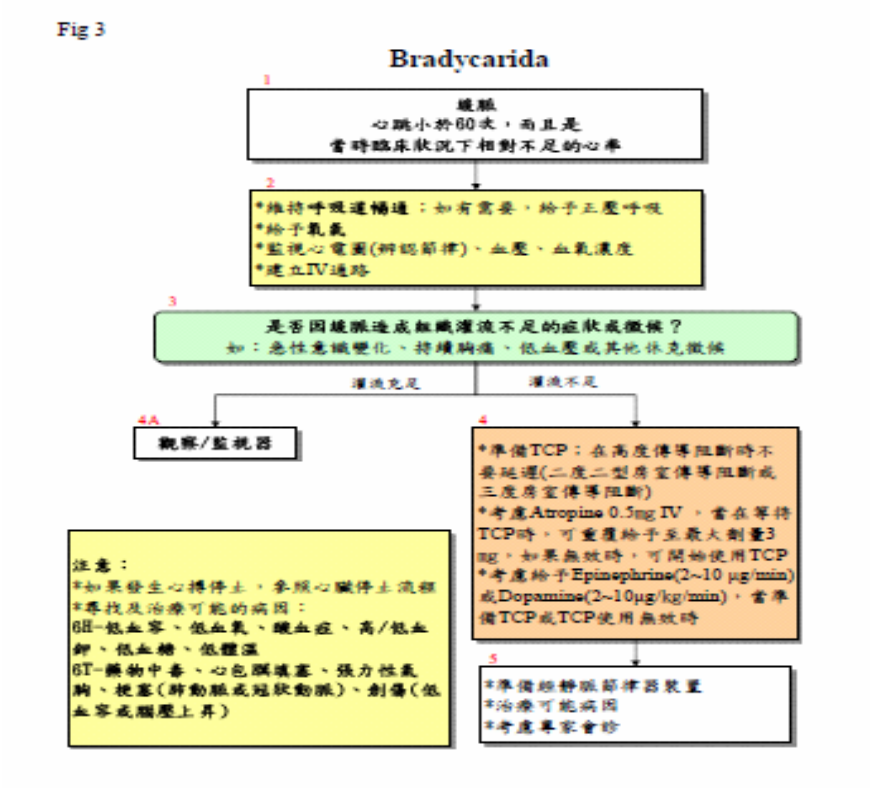

Bradycarida
1
緩脈
心跳小於60次，而且是
當時臨床狀況下相對不足的心率
2
*維持呼吸道暢通：如有需要，給予正壓呼吸
*給予氧氣
*監視心電圖(辨認節律)、血壓、血氧濃度
*建立IV通路
3
是否因緩脈造成組織灌流不足的症狀或徵候？
如：急性意識變化、持續胸痛、低血壓或其他休克徵候
灌流充足
灌流不足
4A
觀察/監視器
4
*準備TCP：在高度傳導阻斷時不要延遲(二度二型房室傳導阻斷或三度房室傳導阻斷)
*考慮Atropine 0.5mg IV，當在等待TCP時，可重複給予至最大劑量3 mg，如果無效時，可開始使用TCP
*考慮給予Epinephrine(2~10 μg/min)或Dopamine(2~10μg/kg/min)，當準備TCP或TCP使用無效時
5
*準備經靜脈節律器裝置
*治療可能病因
*考慮專家會診
注意：
*如果發生心搏停止，參照心臟停止流程
*尋找及治療可能的病因：
6H-低血容、低血氧、酸血症、高/低血鉀、低血糖、低體溫
6T-藥物中毒、心包膜填塞、張力性氣胸、梗塞(肺動脈或冠狀動脈)、創傷(低血容或腦壓上昇)

Fig 4

Tachycarida