# 藥物治療

- Clot-dissolving drugs
  - Given within three hours of the start of symptoms
  - Used in carefully selected patients
- Blood-thinning drugs (anticoagulants)
  - Heparin given by vein
  - Oral medication ( warfarin ) given if long-term treatment with blood-thinner is expected
- Antiplatelet drugs
  - Aspirin
  - Clopidogrel (Plavix) , dipyridamole (Persantine) , and ticlopidine (Ticlid)

# Medication

- Antiplatelet agents :
  - Aspirin
  - Clopidogrel
  - Ticlopidin
  - Dipyridamole
- Anticoagulant agents :
  - Heparin
  - Warfarin

# Antiplatelet therapy for secondary prevention of stroke

- **Aspirin, clopidogrel, and the combination of aspirin plus extended-release dipyridamole** (ER-DP) (Aggrenox) are all acceptable options for **preventing recurrent** noncardioembolic ischemic stroke.
- For patients with a history of noncardioembolic stroke or transient ischemic attack (TIA) of atherothrombotic, lacunar (small vessel occlusive type), or cryptogenic type, we recommend treatment with **an antiplatelet** agent .
- We suggest initial antiplatelet therapy using either **clopidogrel** (75 mg daily) as monotherapy, or the combination of **aspirin plus ER-DP** (25 mg/200 mg twice a day), **rather than aspirin.** The choice between clopidogrel and aspirin plus ER-DP is dependent mainly on patient tolerance and contraindications.

# Antiplatelet therapy for secondary prevention of stroke

- Although the optimal dose of aspirin is uncertain, there is no compelling evidence that any specific dose is more effective than another, and fewer gastrointestinal side effects and bleeding occur with lower doses (≤325 mg a day). We recommend a dose of **50 to 100 mg daily** when using **aspirin** for the secondary prevention of ischemic stroke
- For patients having **carotid endarterectomy**, we recommend aspirin (81 to 325 mg daily) started before surgery and continued indefinitely in the absence of a contraindication.

# Antiplatelet therapy for secondary prevention of stroke

- Aggrenox contains aspirin and should not be used in patients who cannot tolerate aspirin. **Clopidogrel** (75 mg/day) is an obvious alternative for patients who cannot tolerate aspirin. Ticlopidine should be reserved for patients intolerant of aspirin and clopidogrel.
- For most patients with a noncardioembolic stroke or TIA, we recommend **NOT using aspirin and clopidogrel** in combination for long-term stroke prevention, given the lack of greater efficacy compared with clopidogrel alone and the substantially increased risk of bleeding complications.

# Medication conclusion

- Dipyridamole + Aspirin > Aspirin or Dipyridamole
  - treatment effective for prevent stroke
- Aspirin > Ticlopidine
- Clopidogrel > Aspirin

# 抗血小板藥物

| 學名 | 作用機轉 | 劑量 | 副作用 |
|---|---|---|---|
| Aspirin | COX-I | 100-324 mg/day | 胃腸不適、潰瘍、紅疹、耳鳴 |
| Dipyridamole | PDE-I | 25-75 mg bid-tid | 眩暈、頭痛、低血壓、心跳加速、顏面潮紅 |
| Clopidogrel | ADP-I | 75 mg qd | 胃腸不適、皮膚症狀 |
| Ticlopidine | ADP-I | 100-500 mg/day<br>Max. 500 mg/day | 胃腸不適、紅疹、耳鳴、血尿、白血球減少、血小板減少 |
| Tirofiban | $GP_{IIb/IIIa}$ R-antagonist | | 出血、血小板減少、噁心、發熱、頭痛 |

# Warfarin-Anticoagulant

- **FDA labeled indications**
  - **Atrial fibrillation - Thromboembolic disorder**
  - **Atrial fibrillation - Thromboembolic disorder; Prophylaxis**
  - **Myocardial reinfarction; Prophylaxis**
  - **Prosthetic cardiac valve component embolism**
  - **Prosthetic cardiac valve component embolism; Prophylaxis**
  - **Pulmonary embolism**
  - **Pulmonary embolism; Prophylaxis**
  - **Thrombotic disorder, Post myocardial infarction; Prophylaxis**
  - **Venous embolism**
  - **Venous embolism; Prophylaxis**
  - **Venous thromboembolism**
  - **Venous thromboembolism; Prophylaxis**

# ACC/AHA/ESC 2006 Guidelines for the management of patients with AF

## 使用 Warfarin

1.Age>=75 y/o,women

2.Age>=65 y/o with heart failure or DM or CAD

3.LVEF<35% and hypertension

4.RHD with MS

5.Prosthetic heart valves

6.Prior thromboembolism or CVA or TIA

7.Persistent atrial thrombus on TEE(IIa indication)

8.CHADS2 score >=3

# $CHADS_2$ Score for Atrial Fibrillation Stroke Risk

| | |
|---|---|
| **CHF Hx** | **+1** |
| **HTN Hx** | **+1** |
| **Age75or>75yrs old** | **+1** |
| **Diabetes Mellitus Hx** | **+1** |
| **Stroke previously or TIA Hx** | **+2** |

| CHADS | Risk level | Warfarin recommended |
|---|---|---|
| 0 | **Low** | **No** |
| 1 | **Low** | **No** |
| 2 | **Moderate** | **Yes** |
| 3 | **Moderate** | **Yes** |
| 4 | **High** | **Yes** |
| 5 | **High** | **Yes** |
| 6 | **High** | **Yes** |

# ACC/AHA/ESC 2006 Guidelines for the management of patients with AF

| 考慮使用Aspirin or Warfarin |
| --- |
| 1.Age>=75 y/o, men<br>2.CHADS2 score 1 or 2 |
| **至少要用Aspirin的情況** |
| 1.Age 60-74 y/o<br>2.Age<60 with heart disease |
| **考慮使用Aspirin或皆不使用** |
| 1.Age<60 without heart disease (lone AF) |

# Antiplatelet agents衛教

- 應告知醫師
  - 有貧血、出血問題或其他血液的問題、潰瘍、氣喘、嚴重肝臟疾病的病史。
  - 若您正服用含 aspirin 之藥品、其他止痛藥品、抗凝血劑 (如Warfarin)、大蒜、人參、銀杏或維他命 E。
- 如果您將要進行手術 (包含牙科手術)，要記得告訴醫師或牙醫師您正在使用血小板抑制劑。醫師會告訴您在進行手術前是否需停止服用血小板抑制劑。
- 請告訴醫師您是否有飲酒習慣；服用此類藥 物期間請勿飲酒。

# Antiplatelet agents衛教

- 若是有以下症狀發生**嚴重的情形或是持續**時，請告知您的醫師：胃不舒服、嘔吐、胃痛。

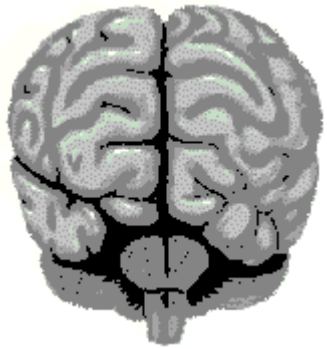
- 若您有下列任一症狀，請**立即就醫**：出血現象（如嘔吐出血或類似咖啡渣的棕色物質、血便或黑便、血尿、紅色或暗棕色尿、突然出現瘀傷、牙齦出血、經血過多、從未發生過的頭痛、腹痛或背痛）或發熱、發冷、虛弱、喉嚨痛、皮疹及搔癢、胸悶、胃腸不適、糞便顏色變淡、皮膚或眼睛變黃等。

# Antiplatelet therapy for secondary prevention of stroke

- We recommend oral **anticoagulation** for patients with **atrial fibrillation** and a recent stroke or TIA.

- We recommend **aspirin** for patients with atrial fibrillation and cardioembolic stroke who have **contraindications** to anticoagulant therapy .

# How to control the BP in acute stroke ?



# Blood Pressure Management in Patients With Stroke

| | Blood Pressure | Treatment |
|---|---|---|
| Candidates for fibrinolysis | **Pretreatment**<br>SBP >185 or DBP >110 mm Hg | Labetalol 10-20 mg IVP 1-2 doses or<br>Enalapril 1.25 mg IVP |
| | **Posttreatment**<br>DBP >140 mm Hg | Sodium nitroprusside (0.5 mcg/kg/min) |
| | SBP >230 mm Hg or<br>DBP 121-140 mm Hg | Labetalol 10-20 mg IVP and consider labetalol infusion at 1-2 mg/min or nicardipine 5 mg/h IV infusion and titrate |
| | SBP 180-230 mm Hg or<br>DBP 105-120 mm Hg | Labetalol 10 mg IVP, may repeat and double every 10 min up to maximum dose of 150 mg |

| | Blood Pressure | Treatment |
|---|---|---|
| Noncandidates for fibrinolysis | DBP >140 mm Hg | Sodium nitroprusside 0.5 mcg/kg/min; may reduce approximately 10-20% |
| | SBP >220 or<br>DBP 121-140 mm Hg or<br>MAP >130 mm Hg | Labetalol 10-20 mg IVP over 1-2 min; may repeat and double every 10 min up to maximum dose of 150 mg or nicardipine 5 mg/h IV infusion and titrate |
| | SBP< 220 mm Hg or<br>DBP 105-120 mm Hg or<br>MAP <130 mm H | Antihypertensive therapy indicated only if AMI, aortic dissection, severe CHF, or hypertensive encephalopathy present |

*Adopted from Advanced Cardiac Life Support (ACLS) guidelines and 2003 American Stroke Association Scientific Statement
Abbreviations: SBP - systolic blood pressure; DBP - diastolic blood pressure; IVP - intravenous push; MAP - mean arterial pressure

# Tolerating arterial hypertension under special conditions

- Ischemic stroke
- The presence of a high-grade stenosis or occlusion of the extra- or intracranial large arteries
- Patients with longstanding severe arterial hypertension with and advanced white matter disease of the brain
- Elevated BP should also be tolerated in eclampsia to avoid placental hypoperfusion

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# 台灣腦中風防治指引2008

**急性缺血性腦中風時，血壓之增高，可提高腦血流量，改變腦組織之缺血狀態。**

- **美國中風學會建議**
  - **急性缺血性腦中風期間，收縮血壓在220mmHg以上或舒張血壓在120-140mmHg時，應使血壓慢慢下降10-15%。**
  - **若舒張血壓超過140mmHg時，可使用靜脈點滴Sodium nitroprusside，並監控血壓，慢慢下降10-15%(27)(Class I, Level of Evidence C)。**
  - **若使用抗凝血劑或血栓溶解劑tissue plasminogen activator（t-PA）治療時，血壓應控制在180/105mmHg範圍內，血壓在此範圍內，不會造成腦部二度傷害(28,29)(Class I, Level of Evidence B)。**
- **美國中風學會(American Stroke Association) 對於血栓溶解劑（t-PA）治療前後之血壓控制，建議使用Labetaolol或Nicardipine或Nitroprusside等藥物來控制血壓，並密集監測血壓。**

# 台灣腦中風防治指引2008

**急性出血性腦中風**時

美國中風學會建議：

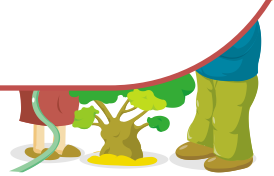
- 若**收縮血壓在200mmHg**以上或平均動脈血壓在150mmHg以上時，應持續靜脈滴注降血壓藥物並每5分鐘監測血壓。
- 若**收縮血壓在180mmHg**以上或平均動脈血壓在130mmHg以上，臨床上懷疑或有**腦壓升高**之證據時，應監測顱內壓，並同時使用間歇性或持續性靜脈滴注降血壓藥物，維持大腦灌注壓在60-80mmHg以上。
- 若**收縮血壓在180mmHg**以上或平均動脈血壓在130mmHg以上，臨床上並**沒有腦壓升高**之證據時，應考慮使用間歇性或持續性靜脈滴注降血壓藥物來溫和地控制血壓（平均動脈血壓在110mmHg或**目標血壓在160/90mmHg左右**），同時每**15**分鐘檢查病人。

# 台灣腦中風防治指引2008

- 高血壓是中風多重危險因子中最重要的，而且是可以治療的，控制高血壓，可有效預防初次或再次中風。
- 若以預防中風為主要目的時，選擇降高血壓藥物，應先考慮**Diuretic**，另外，添加**ACEI**可達加成效果。若因為副作用之緣故，無法使用Diuretic或ACEI時，可考慮使用**CCB**或**ARB**。
- 急性中風時，降低血壓是很危險的，避免過度降低血壓，使用**tPA**時，必須把血壓控制在**180/105mmHg**左右，避免造成腦組織二度損傷。
- 長期高血壓之治療，血壓應控制在140/90mmHg之下，有糖尿病危險因子之病人，應更為嚴格，血壓宜控制在130/80mmHg；控制高血壓時，應注意病人之耐受度，特別是頸動脈狹窄嚴重之病患。

# 藥物治療

- Other drugs are used to:
  - Control blood pressure ( labetalol , the first-line drug, or sodium nitroprusside)
  - Reduce chance of additional clot formation (aspirin or similar medications)
  - Reduce brain swelling
  - Correct irregular heart rhythm (eg, atrial fibrillation)



# 手術治療

中風或 TIA 以後，可能需要進行手術，以預防其復發。手術技術：

- 頸動脈內膜剝離術Carotid endarterectomy —外科醫師將脂肪沉積物從頸動脈上剝除（頸動脈是頸內通往腦部的主要動脈）。
- 頸動脈氣球擴張術和支架術Carotid angioplasty and stenting —這是一種侵入性比頸動脈內膜剝離術低的手術。外科醫師擴張頸動脈，然後將一個網架插入動脈，以保持動脈開放。
- 顱外/顱內搭橋術Extracranial/intracranial bypass—外科醫師繞過堵塞的動脈，利用健康的頭皮動脈重建血供路線。
- 開顱術Craniotomy—出血性中風時，外科醫師採用開顱術緩解腫脹引起的腦內壓力積聚。

# Stroke

- **Rehabilitation**
  - Physical therapy
  - Occupational therapy
  - Speech therapy

- Prevention To help reduce your chance of getting a stroke, take the following steps:
  - Exercise regularly.
  - Eat more fruits and vegetables and limit dietary salt and fat .
  - Stop smoking .
  - Drink alcohol only in moderation (1-2 drinks per day).
  - Maintain a healthy weight.
  - Frequently check blood pressure and follow doctor recommendations for keeping it in a safe range.
  - Take a low dose of aspirin (75 milligrams per day) if your doctor says it is safe.
  - Keep chronic medical conditions under control (such as high cholesterol and diabetes).
  - Seek medical care if you have symptoms of a stroke, even if symptoms stop.
  - Stop the use of recreational drugs (cocaine, heroin, marijuana, amphetamines).

STROKE

# 憂鬱症

# 憂鬱症會有哪些*症狀*？

- **身體方面**:失眠或睡太多，食慾低落(不想吃)或暴食(吃太多)，脾氣暴躁或不想動，身體沒力氣，表情冷漠，疲倦，甚至完全不動，性慾降低。

- **心理方面**:注意力不集中，無價值，無助、無望感，漠不關心，覺得自己是別人的負擔，以淚洗面。思考減慢，迷惑。常想到死亡，失去自我控制能力，出現自殺的行為。

- 嚴重的會出現**幻聽和妄想**。

# 憂鬱症診斷標準？

- 要達到憂鬱症的診斷，至少要有持續2週時間，有下列5種症狀以上—

□持續出現憂鬱心情或無望感
□對幾乎所有的活動都沒有興趣
□食慾，體重增加或降低
□失眠或多眠
□生理性的激動，無法靜坐，或動作緩慢
□喪失精力或疲倦
□罪惡感(誇大對某些事件的責任)或無價值感（對自己的負面評價）
□無法集中注意力，不尋常地猶豫不決
□想到死亡或是自殺

# 憂鬱-身體症狀

- 『心情不好的心理疾病』，情緒低落、容易哭泣確實是憂鬱症的一個重要症狀
- 憂鬱症的診斷定義，憂鬱症至少可能還包含有睡眠的改變 (幾乎每天失眠或嗜睡)、食慾的改變(明顯食慾變差或增加)、幾乎每天覺得疲累等身體症狀。

# 憂鬱-身體症狀

- 臨床上，常見的憂鬱***身體症狀***還包括：
  - 胸悶、心悸、腸胃不適、肌肉緊繃或**酸痛**、骨頭關節酸痛、頭痛、背痛、胸痛、頭暈等症狀。
  - 不是每位憂鬱症患者都有上述的身體症狀，有些患者可能只有少數症狀，但有部份身體症狀很多的憂鬱症患者會以為自己身體生病了，而多次求診內科醫師或做身體檢查，但卻找不到有明顯的內科疾病可以完全解釋身體不舒服的狀況。
  - 憂鬱有一種**全身是病的感覺**但又找不到明顯的病因。
  - 有部份憂鬱患者會將**心情的憂鬱歸因於身體的諸多不適**，相反的，有些醫療人員或家屬可能會將患者的身體不適歸因於心理作用而否定患者的不舒服，以致患者覺得無法獲得體諒，因而情緒更糟。