出血性腦中風

神經外科廖致翔醫師

seb.ch.liao@gmail.com

神經外科 之 撩妹系列


再困難的動脈瘤 都可以輕易封閉
卻封閉不了對妳的思念
臺中榮總神經外科 廖致翔 醫師

廖致翔 M.D.

- 臺中榮民總醫院
  神經外科暨重症專責 主治醫師
- 經歷：
  - 2018 大陸台港澳 神經外科青年醫生手術技能大賽冠軍
  - 2017 世界神經外科聯盟學會會議座長
    - Main Topic Moderator for WFNS 2017
  - 國立陽明大學-臺北榮總解剖課程助教
    - Faculty of “Lectures and Hands-on Cadaver Dissection Course National Yang Ming University-VGHTPE Cerebrovascular Microneurosurgery “
  - 臺北榮民總醫院 神經醫學中心 神經外科 主治醫師 (2015)

長沙站

中華醫學會
神经外科学分会第17次学术会议
CNS2018 17th ANNUAL MEETING OF THE CHINESE NEUROSURGICAL SOCIETY
神经外科站位脑科学计划
www.cnsmeeting.com

主办单位 ORGANIZED BY
中华医学会
Chinese Medical Association
中华医学会神经外科学分会
Chinese Neurosurgical Society

承办单位 CO-ORGANIZED BY
山西省医学会
Shanxi Medical Association
山西省人民医院
Shanxi Provincial People's Hospital

山西太原
Shanxi, Taiyuan
2018年9月7日-9日


中華醫學會
神经外科学分会第17次学术会议
CNS2018
17th ANNUAL MEETING OF THE CHINESE NEUROSURGICAL SOCIETY
神经外科站位脑科学计划
www.cnsmeeting.com
颁奖仪式

龙城太原

Time : 08.30 - 10.30
Venue: Tophane/B2

MT-5/10 / Main Topic Session-60

Moderators: *Dirk Van Roost / Belgium, Chih-Hsiang Liao / Taiwan*

08.30 - 08.45	**Perihippocampal Tumors with Epilepsy: What About Hippocampal Resection?** *Tomislav Sajko / Croatia*
08.45 - 09.00	**Experience with the Supracerebellar Transtentorial Approach for Mediobasal Temporal Lobe Epilepsy** *Niklaus Krayenbuhl / Switzerland*
09.00 - 09.15	**Vascular Events after Transsylvian Selective Amygdalohippocampectomy and Impact on Epilepsy Outcome - A Single Institute´s Experiences** *Chih-Hsiang Liao / Taiwan*
09.15 - 09.30	**Selective En Bloc Amygdalohippocampectomy Through the Piriform Area** *Eduardo Seoane / Argentina*
09.30 - 09.45	**Surgical Technique and Outcome of Trassylvian Selective Amygdalohippocampectomy, Hippocampal Transection in Patients with Intractable Temporal Lobe Epilepsy** *Michiharu Morino / Japan*
09.45 - 10.00	**Surgical Anatomy for Mesiotemporal Tumors. The Choice of the Approach Attending to the White Matter** *Pablo Gonzalez Lopez / Spain*
10.00 - 10.15	**How Smart Technology is Constantly Improving Outcomes for People with Epilepsy** *Andrew McEwoy / UK*
10.15 - 10.30	**Selective Amygdalo-Hippocampectomy** *Dirk Van Roost / Belgium*

Aug. 25 (Fri)

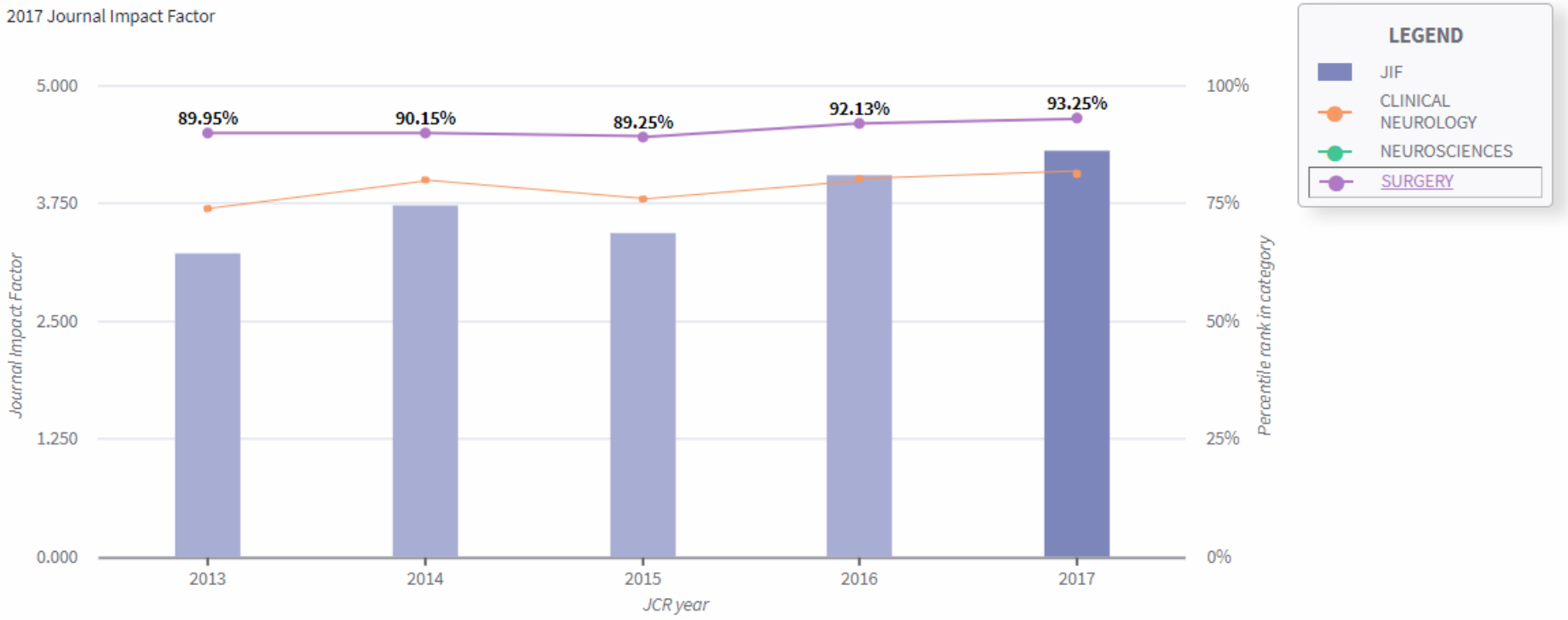
JNS JOURNAL OF NEUROSURGERY
OFFICIAL JOURNALS OF THE AANS SINCE 1944

Journal Impact Factor Trend 2017

Printable Version

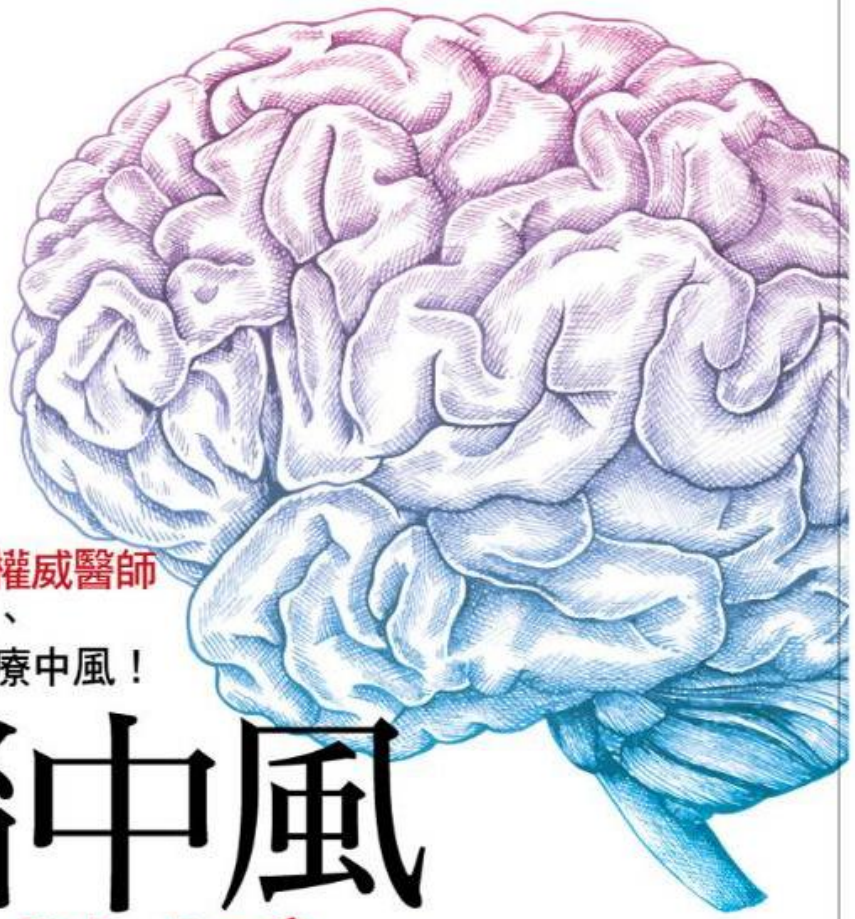
4.319
2017 Journal Impact Factor

View All Years



醫療保健
025
強效圖解！腦中風神救援
崔源生◎著
資料夾文化

台中榮民總醫院神經外科血管科主任
崔源生◎著



神經外科權威醫師
教你認識、
預防、治療中風！

腦中風神救援

強效圖解

血管健康自評表×大量圖解×最新治療介紹，從防治、診斷、治療到照護與福利面面俱到，
腦中風快易通，完全圖解一讀就通！

專業推薦
（依姓名筆畫排序）

前台中榮總院長/
現任童綜合醫院院長
李三剛 教授

前台北榮總院長/
現任台北醫學大學總顧問
李良雄 教授

世界華人神經外科榮譽理事長/
腦血管防治基金會董事長/考試院考試委員
高明見 教授

作者簡介 崔源生 醫師

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- 竹東榮民醫院神經外科主治醫師
- 台中榮民總醫院神經外科主治醫師
- 日本國立東北大學腦血管內治療學科臨床研究員
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- 台灣神經外科專科醫師
- 台灣血管外科專科醫師
- 台灣重症醫學專科醫師

專長：
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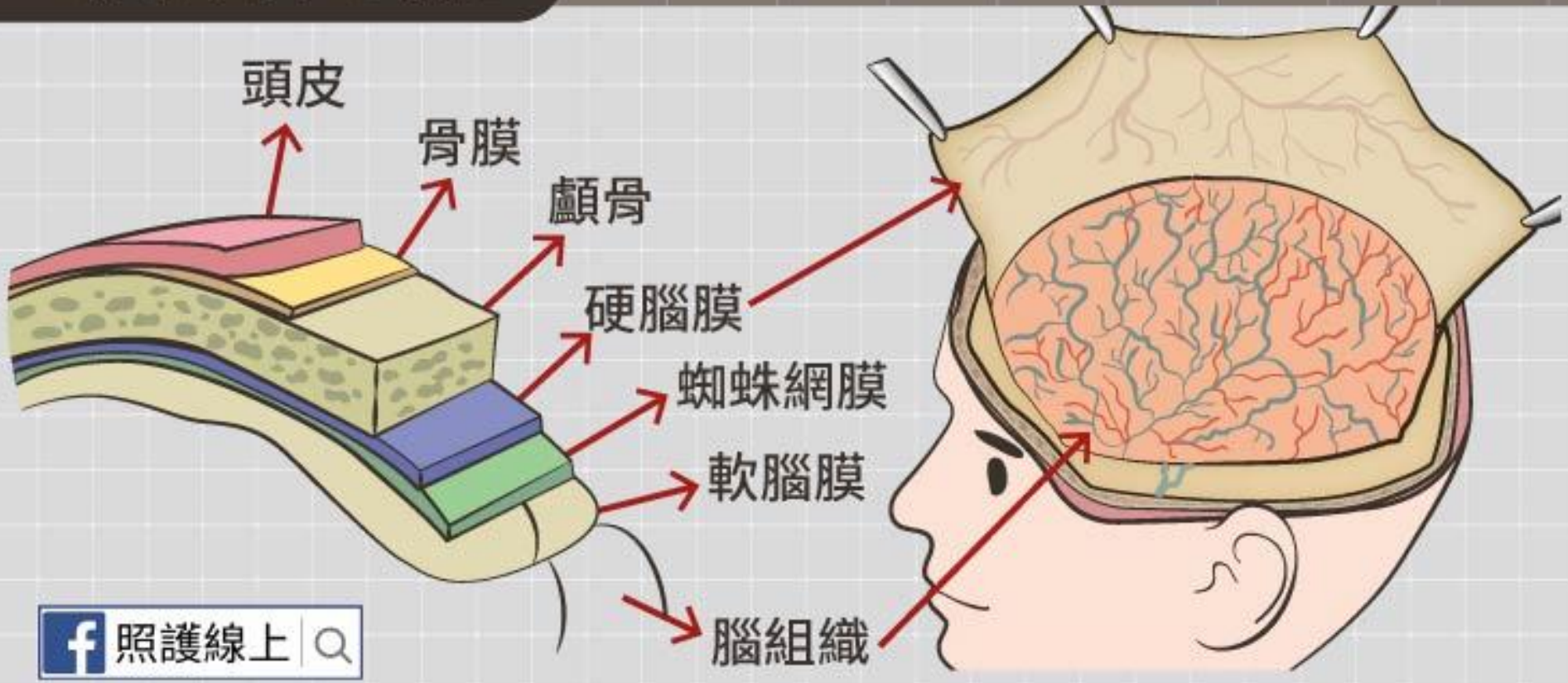
- 腦血管內介入性導管手術治療
- 神經外科複合式手術

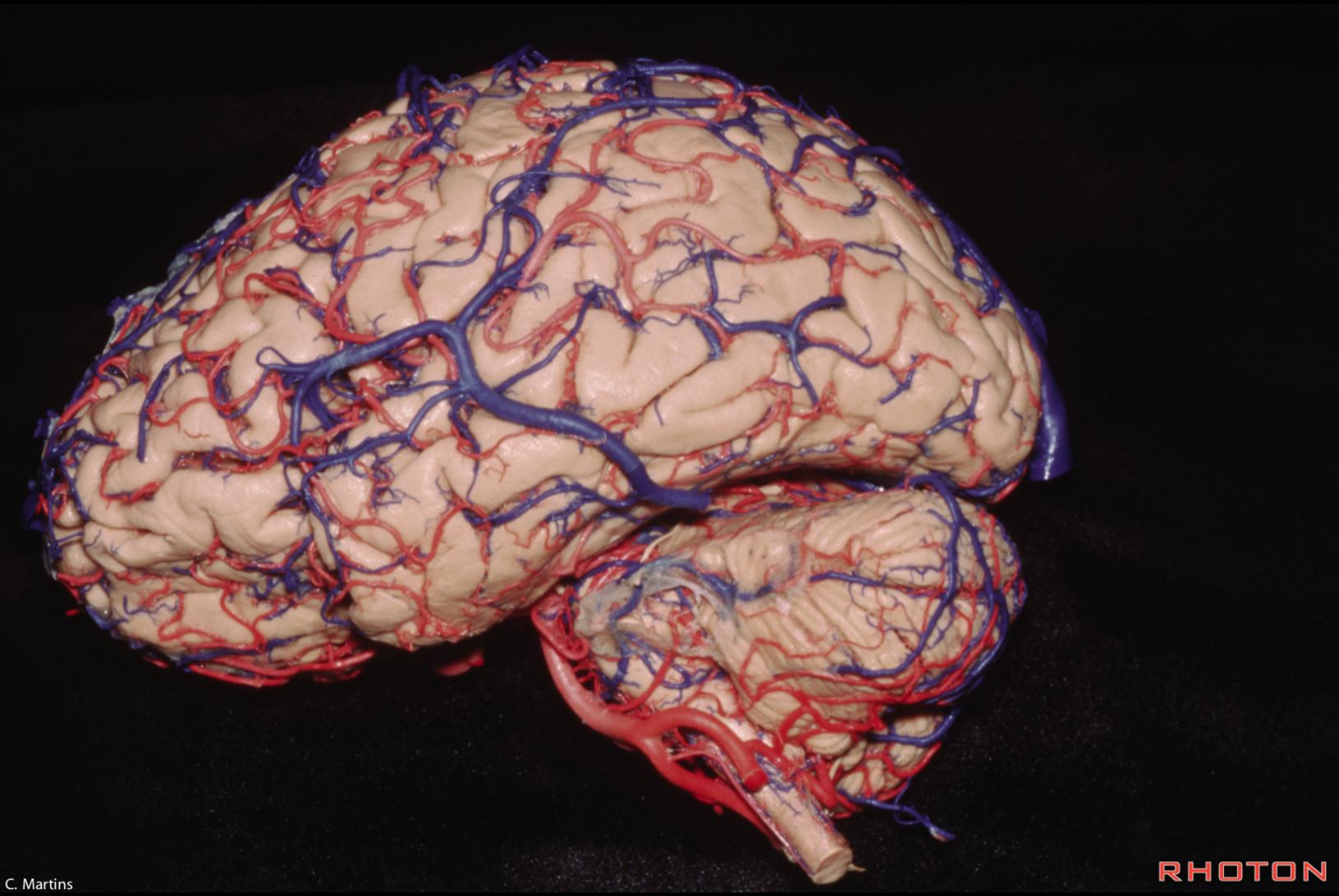
Disclosure:

None

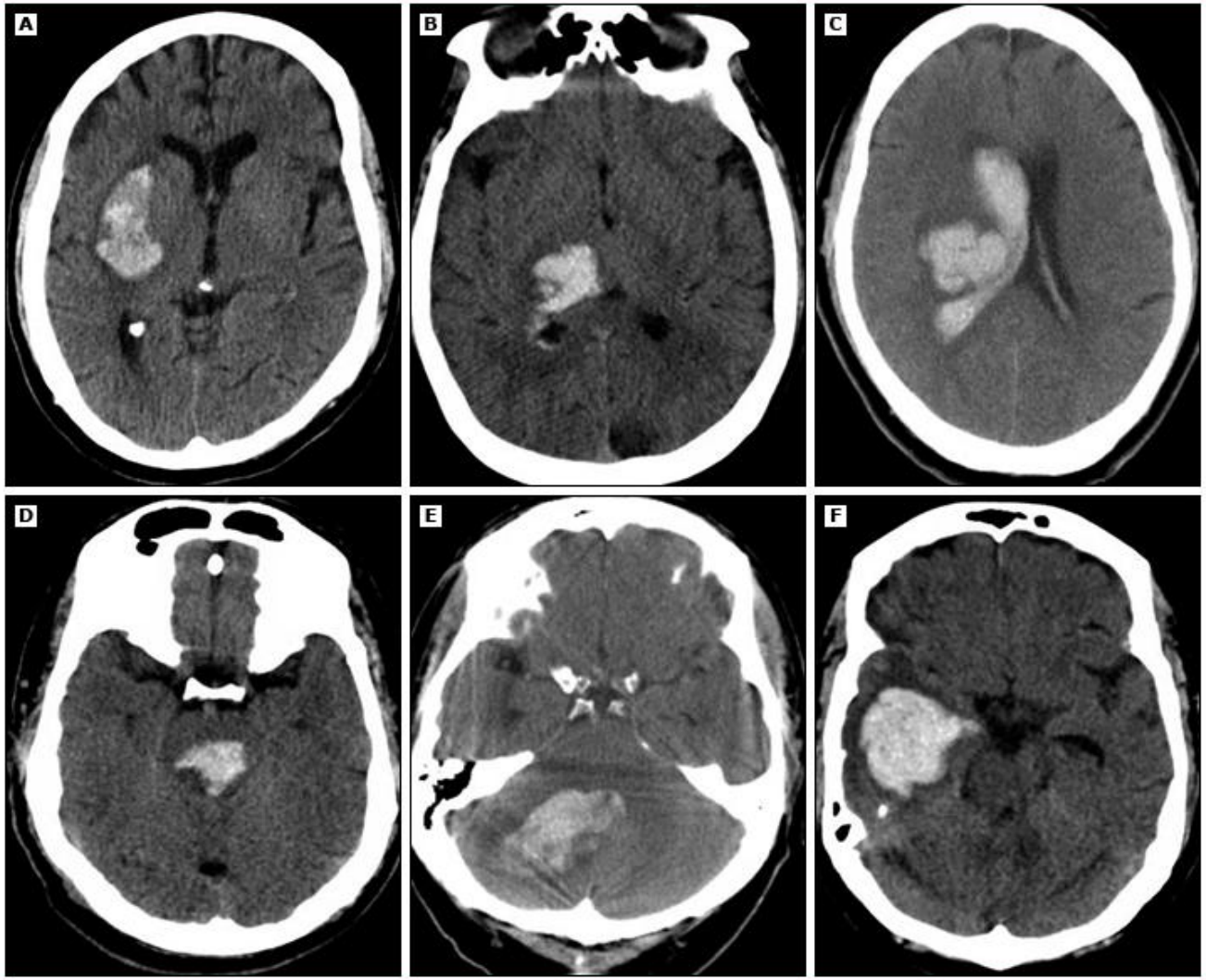
顱骨以內的構造



照護線上


C. Martins
RHOTON

Typical locations of intracerebral hemorrhage



Typical locations of hypertensive ICH are putamen (A), thalamus (B), subcortical white matter (C), pons (D) and cerebellum (E). Thalamic and subcortical hemorrhages often extend into ventricles (B and C). Cerebral amyloid angiopathy, drug abuse, or vascular anomaly often causes lobar hemorrhage (F).

ICH: intracerebral hemorrhage.

Spontaneous ICH

- median 1-mo case fatality rate: 40%
- functional independence: 12~39%

Incidence, case fatality, and functional outcome of intracerebral haemorrhage over time, according to age, sex, and ethnic origin: a systematic review and meta-analysis. Lancet Neurol 2010;9:167-76.

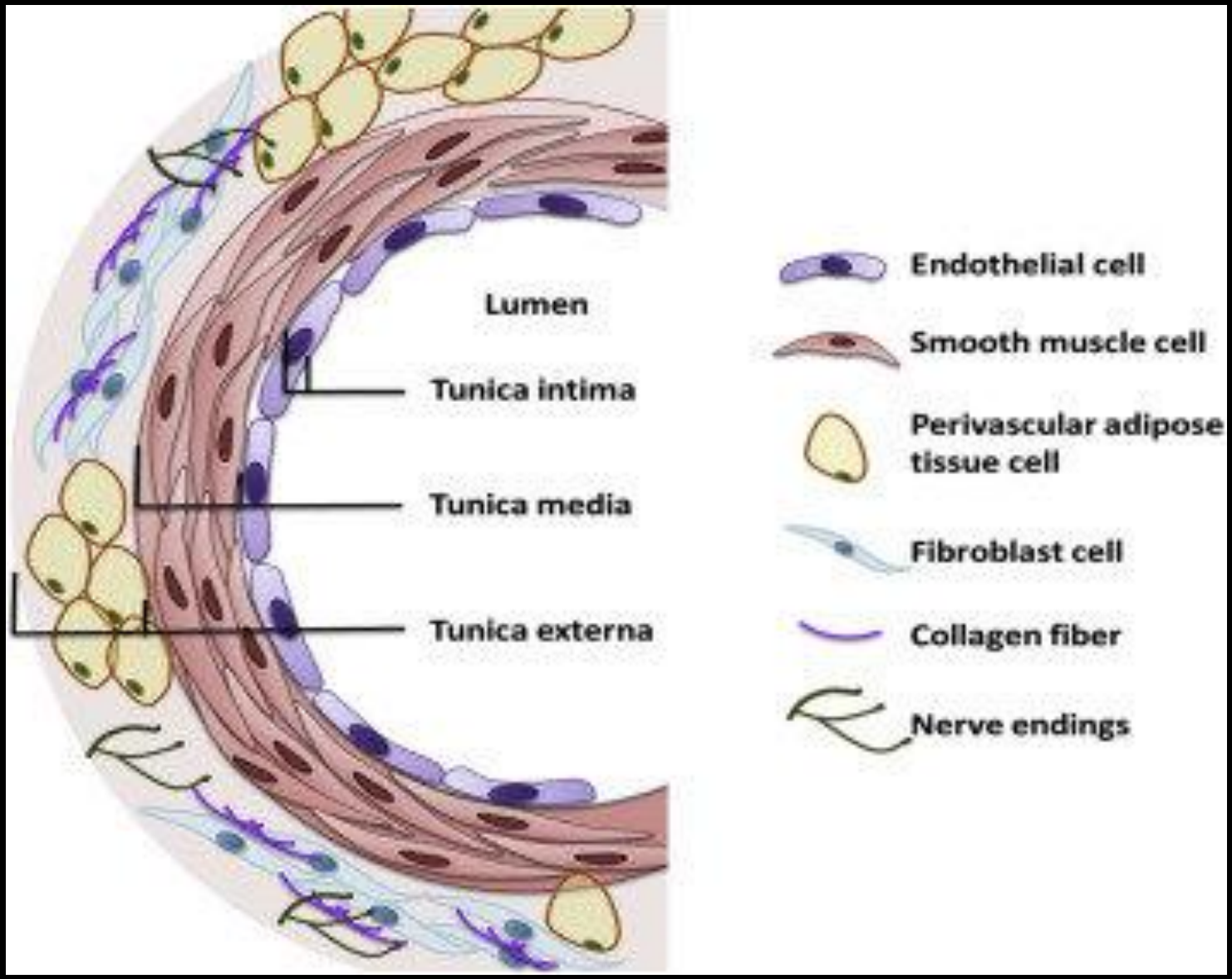
ETIOLOGIES

Hypertensive vasculopathy

- hypertensive occlusive disease
- diabetic vasculopathy

- **penetrator arteries**
  - pons and midbrain (basilar artery)
  - thalamus (thalamostriate a. from P1 & P2)
  - putamen and caudate (lenticulostriate a from M1)

- Exception: cerebellar hemorrhage
  - lacunar infarctions uncommon in deep cerebellar nuclei



The penetrator vessels in patients with chronic hypertension develop intimal hyperplasia with hyalinosis in the vessel wall; this predisposes to focal necrosis, causing breaks in the wall of the vessel.

Cerebral amyloid angiopathy

- asymptomatic
- important cause of **primary lobar ICH**
- older patients
- congophilic material
  - small- to medium-sized blood vessels

Other causes

- Arteriovenous malformation
- Dural arteriovenous fistula
- Hemorrhagic infarction (cerebral venous thrombosis)
- Septic embolism, mycotic aneurysm
- Brain tumor
- Bleeding disorders, liver disease, thrombolytic therapy
- CNS infection
- Moyamoya disease
- Vasculitis
- Cerebral hyperperfusion syndrome
- Reversible cerebral vasoconstriction syndromes (RCVS)
- Drugs (cocaine, amphetamines)

PATHOGENESIS

Cerebral microbleeds

- microscopic pseudoaneurysm formation
  - subclinical leaks of blood
- hyalinosis or amyloid deposition
- more prevalent:
  - advanced age and male sex

Cerebral microbleeds

- associated with:
  - hypertension (OR 3.9)
  - diabetes mellitus (OR 2.2)
  - cigarette smoking

  - COPD:
    - risk factor for prevalent and incidental microbleeds (OR 3.3 and 7.1, respectively)
      - Rotterdam study.

Mechanisms of brain injury

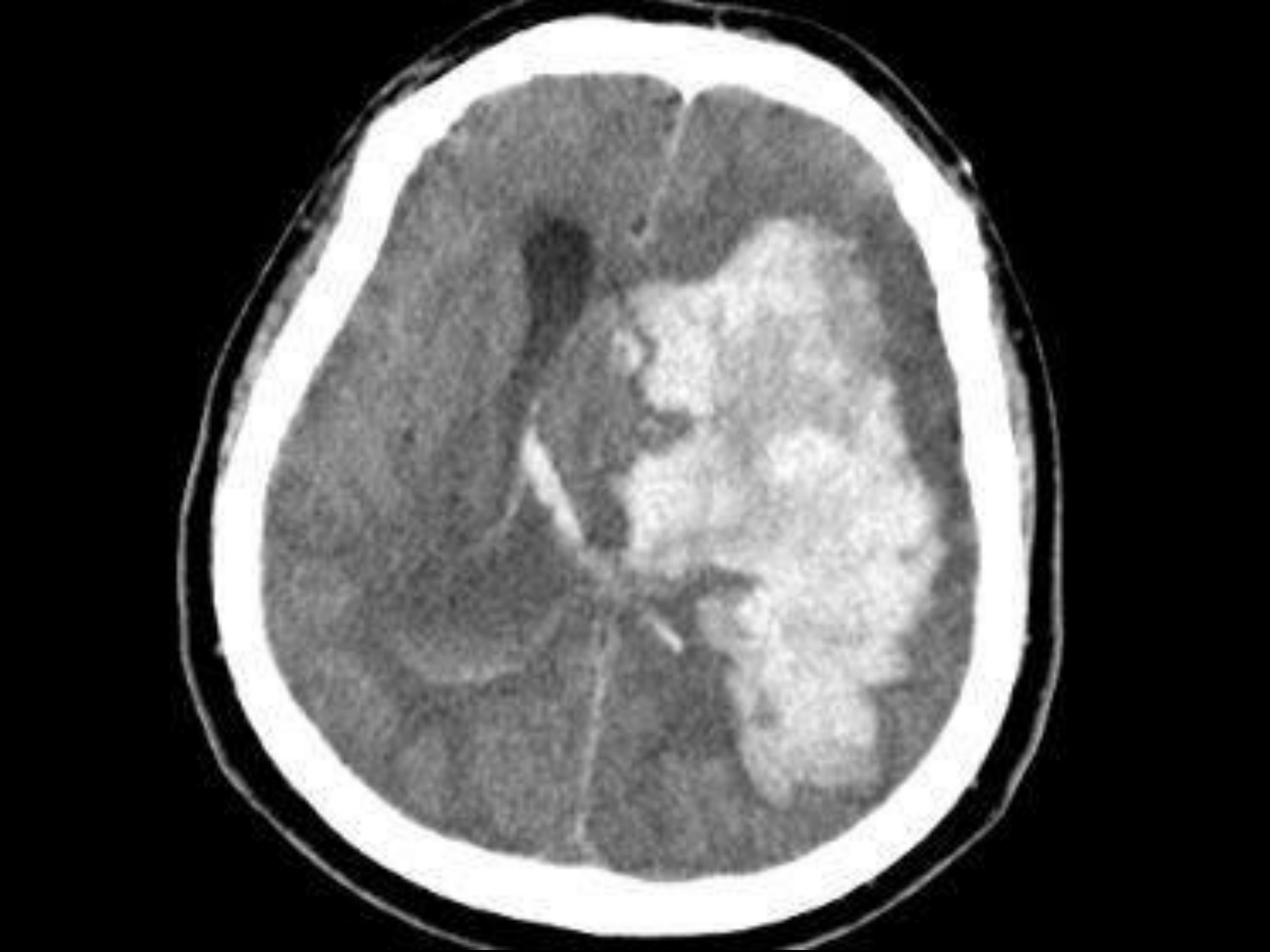
- primary direct mechanical injury
  - expanding clot & cytotoxic perilesional edema
    - ✓mass effect & IICP
    - ✓reduced cerebral perfusion & ischemic injury
    - ✓cerebral herniation

Mechanisms of brain injury

- perihematomal edema
  - > 1/2 pts in imags
  - maximum volume 7 to 12 days after onset
- concomitant acute ischemic lesions
  - DWI
  - not contiguous to ICH

Hemorrhage enlargement

- Serial CT:
  - first three hours after onset
    - ✓ In a prospective series of 103 patients with ICH, significant hemorrhage growth (>33% volume increase) occurred in 38 % of patients over the first 24 hours
  - into intraventricular space (IVH)
    - ✓ 40 to 60 %
    - ✓ associated with complications and worse outcomes



EPIDEMIOLOGY

Nontraumatic ICH

- 9-27 % of all strokes globally
- incidence: 12 to 31 per 100,000 people
  - doubling every 10 years after age 35
- highest in Asians, intermediate in blacks, and lowest in whites

Global Burden

- systematic review
  - death and disability
  - incidence of ischemic stroke: twice as great

- decreasing in high-income countries
- increasing in low-/middle-income countries
  - highest incidence in Asia and Southern Sub-Saharan Africa
  - lowest incidence in North America, Western Europe, Latin America, and Oceana.

RISK FACTORS

Hypertension

- most common etiology
- most important risk factor
- more than doubles the risk of ICH

Antithrombotic therapy

- Warfarin – two- to fivefold
  - INR >3
    - risk factor for larger initial hemorrhage volume
    - as well as poorer outcomes after ICH

Other risk factors

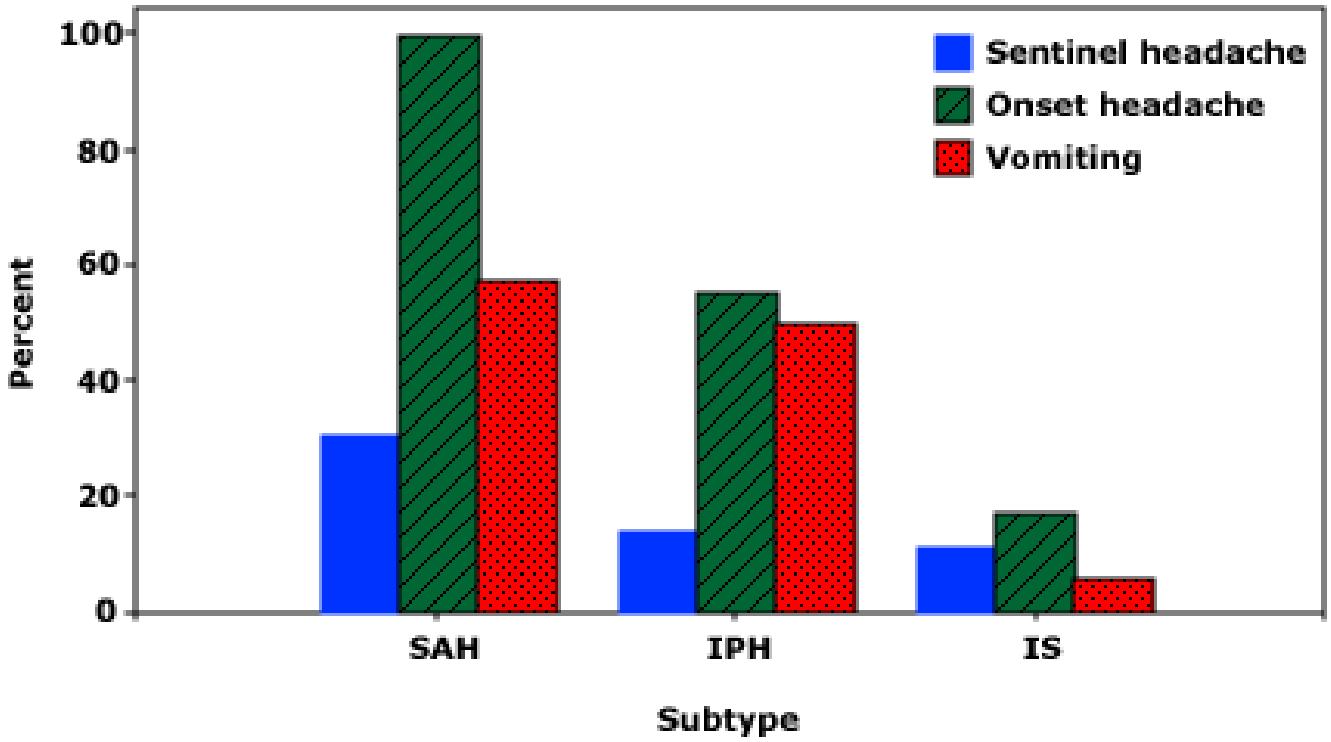
- **High alcohol intake**
- **Black race**
- **Lower cholesterol and lower LDL cholesterol**
- **Genetic variation** APOE genotype

CLINICAL PRESENTATION

Onset and progression

- exertion or intense emotional activity
  - routine activity
- symptoms and signs
  - increase gradually over minutes or a few hours
    - in contrast to brain embolism and SAH
      - maximal at onset
  - Headache & vomiting
    - one-half

Headache and vomiting in stroke subtypes

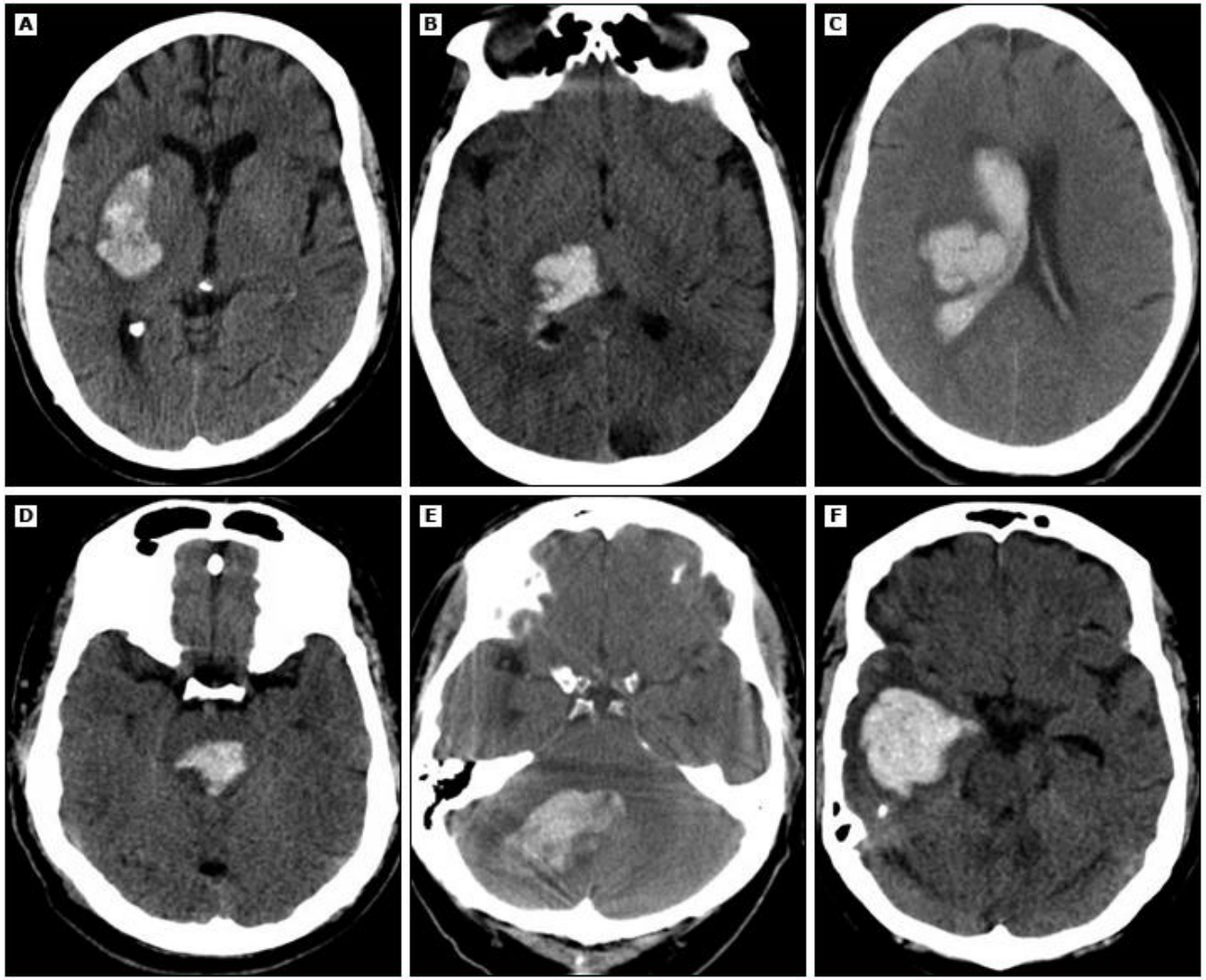


The frequency of sentinel headache, onset headache, and vomiting in three subtypes of stroke: subarachnoid hemorrhage (SAH), intraparenchymal (intracerebral) hemorrhage (IPH), and ischemic stroke (IS). Onset headache was present in virtually all patients with SAH and about one-half of those with IPH; all of these symptoms were infrequent in patients with IS.

Data from: Gorelick PB, Hier DB, Caplan LR, et al, Neurology 1986; 36:1445.

CT for brain: 1972-73
CT for whole body: 1975

Typical locations of intracerebral hemorrhage



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ICH: intracerebral hemorrhage.


OOPS!

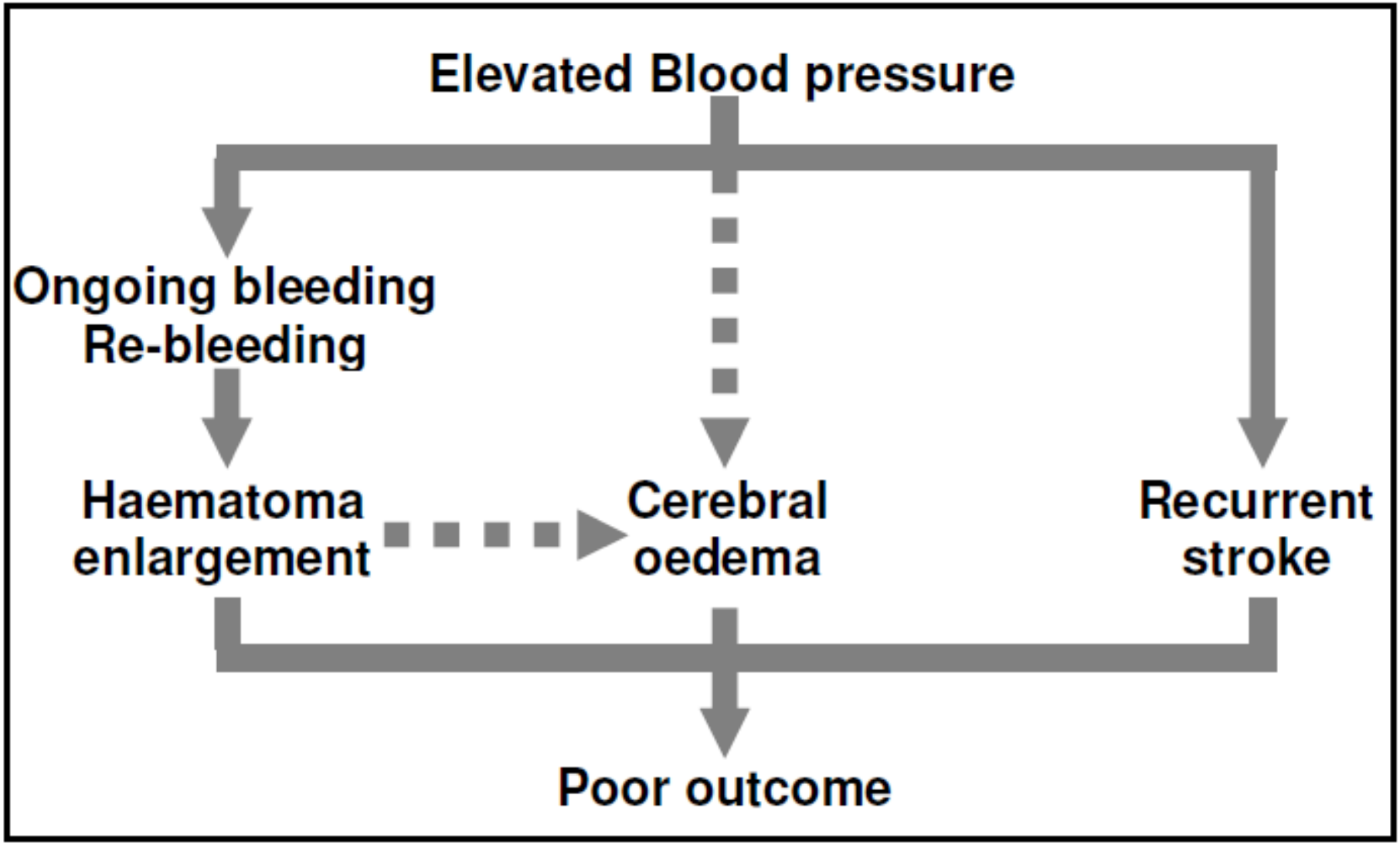

Figure 1. The mechanism by which higher blood pressure levels may lead to a poor clinical outcome in patients with intracerebral haemorrhage

Outcomes???

HOW LOW CAN

YOU GO?

BP: Recommendations

1. **For ICH patients presenting with SBP between 150 and 220 mm Hg and without contraindication to acute BP treatment, acute lowering of SBP to 140 mm Hg is safe *(Class I; Level of Evidence A)* and can be effective for improving functional outcome *(Class IIa; Level of Evidence B)*.** (Revised from the previous guideline)
2. **For ICH patients presenting with SBP >220 mm Hg, it may be reasonable to consider aggressive reduction of BP with a continuous intravenous infusion and frequent BP monitoring *(Class IIb; Level of Evidence C)*.** (New recommendation)

Take Home Message

- **BP lowering in acute ICH is safe!**
  - **Go early** (get IV drug)
  - **Go intensive** (target 140mmHg, but not to 120mmHg)
  - **Go sustained** (for 7days)