

六大核心能力 –DOPS



2016.05.07

Presenter: PGY莫心怡

Supervisor: Vs 蕭丞皓

Patient' s Profile

- Chart no./ Name: 00000000/ 000
- Age/ Gender: 70/ Female

Chief complaint

- Fever for 3 days

● Past/ Personal History ●

- Moyamoya disease (F/U at TPEVGH)
 - Intracerebral hemorrhage
 - Hydrocephalus
 - s/p EC-IC bypass, V-P shunt and tracheostomy on 2003
 - Vegetative status with bedridden
- Type 2 diabetic mellitus
- Drug allergy:
 - Penicillin
 - Aspirin
- Denied smoking, alcoholic or drug addiction

Present illness

2013

- Admitted to our nursing home
- Pneumonia >> admission * 3 times

2016/
4/9

DER OPD

- Fever happened on 4/1
- Occipital area cellulitis >> pus drainage
- Klabsella pneumonia.

4/27

FM OPD

- Fever 38°C noted for 1 day
- CBC, SMA, U/A

4/28

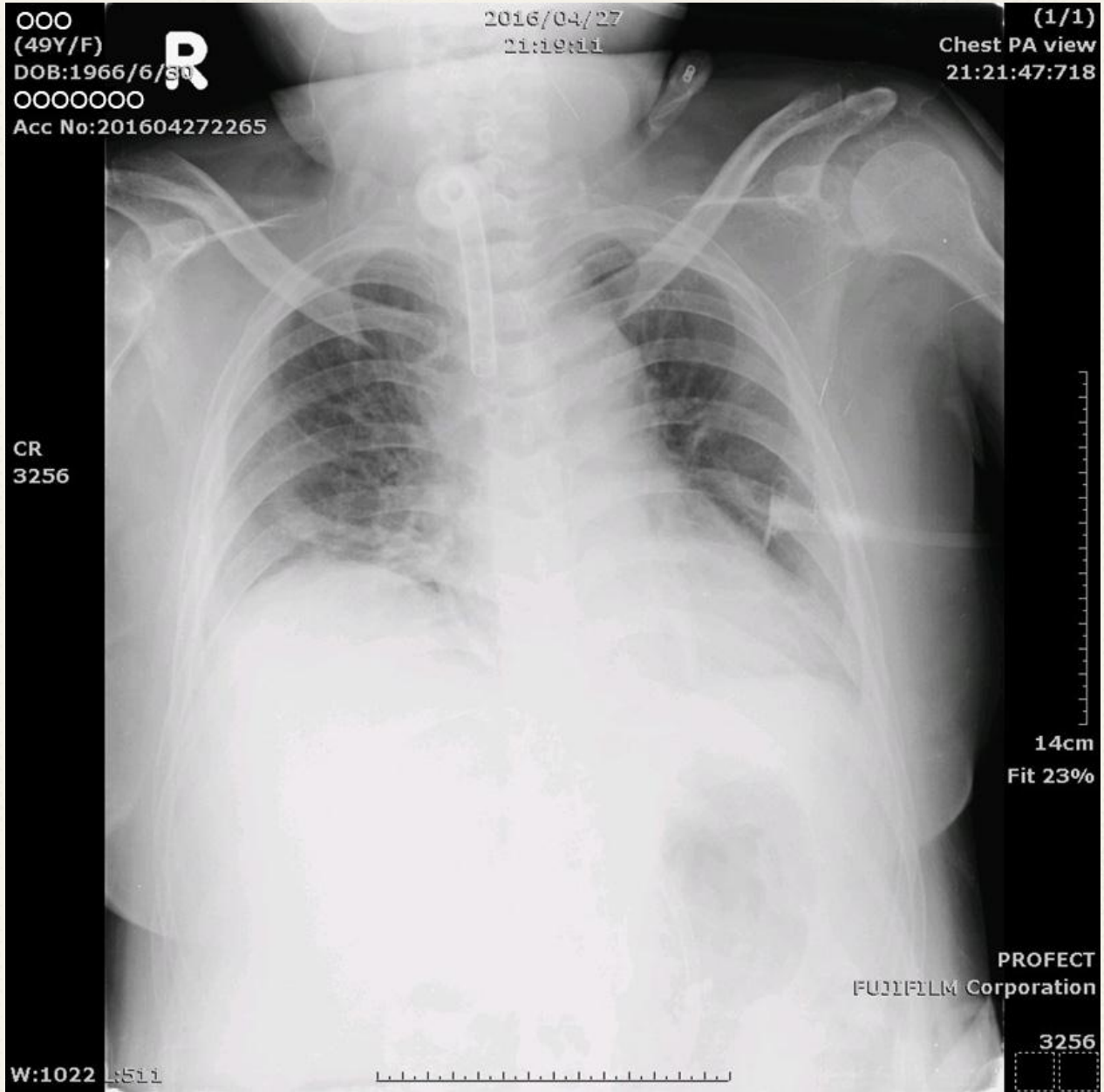
CS OPD

- Suggest admission

Lab data at OPD

CBC		Glucose AC	145	Urine Routine & Sediment		
WBC	18.6	BUN	6.7	Color	Yellow	
RBC	5.53	Creatinine	0.58	Turbidity	Clear	
HGB	15.5	eGFR	117	pH	6.5	
HCT	48.2	Albumin	2.7	Specific Gravity	1.028	
MCV	87.2	Total Bilirubin	0.61	Protein	30 (1+)	mg/dL
MCH	28.0	AST	35	Glucose	<30(-)	mg/dL
MCHC	32.2	ALT	36	Bilirubin	<0.35(-)	mg/dL
PLT	153	Na	138	Urobilinogen	3(1+)	mg/dL
DIFF		K	3.8	Nitrite	-	
NEUT%	68.2	CRP	3.19	Ketone	5(+/-)	mg/dL
BAND	2.7	%		Occult Blood	<0.015(-)	mg/dL
LYMPH%	18.2	%		Leukocyte esterase	<12.5(-)	WBC/uL
MONO%	10.0	%		RBC	2-5	/HPF
EO%	0.9	%		WBC	2-5	/HPF
BASO%	0.0	%		Epithelial Cell	5-10	/HPF
				Cast	-	/LPF
				Crystal	-	
				Bacteria	18-100(+/-)	/HPF
				Yeast-like	-	/HPF
				Others	Mucus (+)	

Image study



Treatment plans

- Empiric antibiotics therapy
- IVF hydration

Physical examination

Vital signs

38.6 °C

102 BPM

22 CPM

112/72 mmHg



Anicteric sclera
no pale conjunctiva

Carbuncle over posterior neck, about
1x1cm

Course breath sounds, bilateral
Asymmetric expansion, no wheezing

Tympanic percussion diffusely
Soft, normoactive bowel sound

No bilateral lower leg edema

Hospital course

4/28

- Antibiotic: Cirpoxin

- Consult INF

5/1

- Persisted abdomen distention and vomiting

- Consult GI

- Premiperan

- Abdomen sonograph

- Fatty infiltration of the liver

- R/O renal cyst (2.87 x 2.64cm) in the left kidney.

- Large amount of ascites.

- Ileus of bowel loops

000
(49Y/F)
DOB:1966/6/30
0000000
Acc No:201605010146

2016/05/01
13:59:34

(1/1)
Portable KUB
14:00:19:781

CR
2940

R

W:1022 L:511

PROFECT
FUJIFILM Corporation

2940

↑	10 ³ /uL
	10 ⁶ /uL
	g/dL
	%
	fL
	pg
	g/dL
	10 ³ /uL
	%
	%
	%
	%
	%
	%

14cm
Fit 23%

Sputum
STAIN :
bicellia cell (LPF), 10 -25
Neutrophil (LPF), >25
GNB (HPF), Found
GPB (HPF), Found
GNC (HPF), Found
GPC (HPF), Found
Pseudomonas aeruginosa (CRPA)

Hospital course

5/4

- Abdomen CT:

- Diffuse wall thickening of the whole duodenum is seen which causes dilatation of the stomach, and fat stranding and thickening of the para-duodenal space and the mesentery of the peritoneal cavity, and small amount abdominal ascites

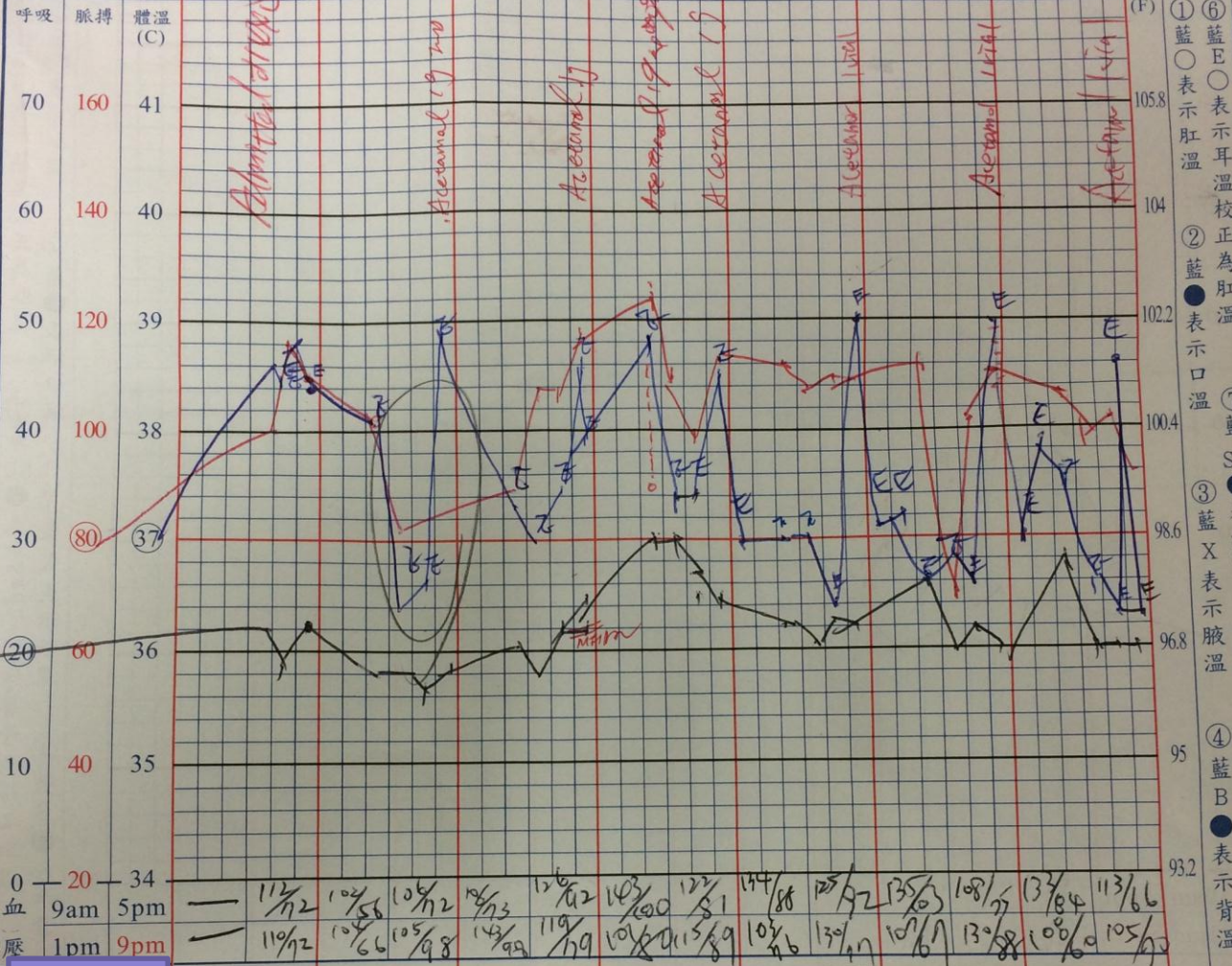
- Multiple variable-sized small calcified nodules in the whole pancreas is seen, especially in the head and the uncinate process which is in favor **chronic calcified pancreatitis**

- Antibiotic: Brosym

BUN	22.4
Creatinine	0.55
eGFR	125
Na	137
K	3.9
CRP-HS	29.29 ↑



日期 年 4 月 28 日 年 12 月 9 日 年 3 月 30 日 年 5 月 / 日 年 月 2 日 年 月 3 日 年 月 4 日
 住院 / 手術日期 1 / 2 / 3 / 4 / 5 / 6 / 7 / 附註



- ① 藍 ○ 表示耳溫 校正為肛溫
- ② 藍 ● 表示口溫
- ③ 藍 X 表示 Swan-Ganz 導管測得之血溫
- ④ 藍 B ● 表示背溫
- ⑤ 藍 E ● 表示脈搏
- ⑥ 藍 ○ 表示耳溫 校正為肛溫
- ⑦ 藍 SG ● 表示 Swan-Ganz 導管測得之血溫
- ⑧ 紅 ● 表示脈搏
- ⑨ 黑 ● 表示耳溫

輸	注射量	600	760	1310
入	輸血量	-	-	-
排	飲食量	420	200	130
	小便量	250	440	900

Hospital course

5/5

- Amylase 251 U/L
- Lipase 97.4 U/L
- Gabexate(Foy) 100mg BID
- Consult GS

No surgical indication in current status, due to high mortality rate

- Septic shock
- On critical status

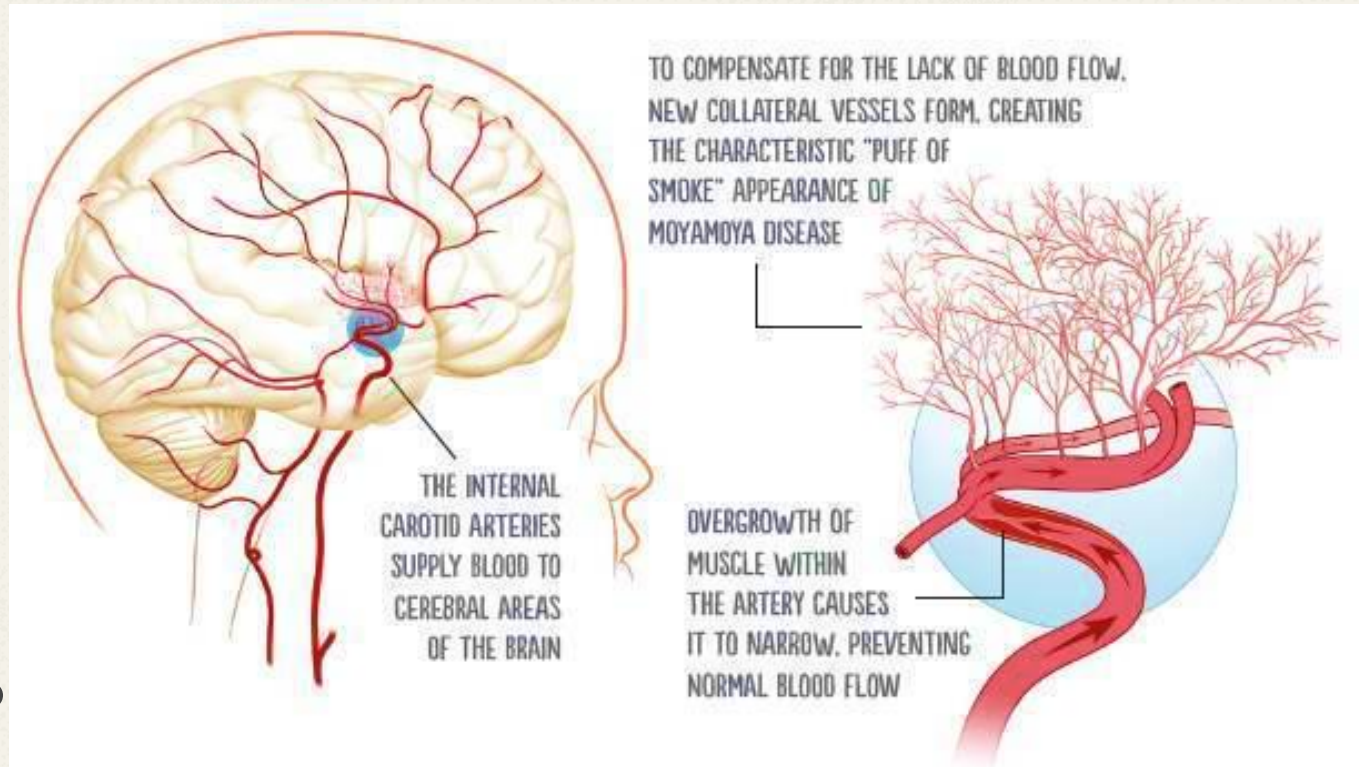
5/6

- Transferred to ICU

CBC		
WBC	13.1	10 ³ /uL
RBC	3.89	10 ⁶ /uL
HGB	10.6	g/dL
HCT	33.3	%
MCV	85.6	fL
MCH	27.2	pg
MCHC	31.8	g/dL
PLT	316	10 ³ /uL
DIFF		
NEUT%	64.6	%
LYMPH%	21.9	%
MONO%	10.9	%
EO%	2.4	%
BASO%	0.2	%

Current diagnosis

- Chronic pancreatitis with acute exacerbation
 - Septic shock >> ICU care
- Right lower lung pneumonia

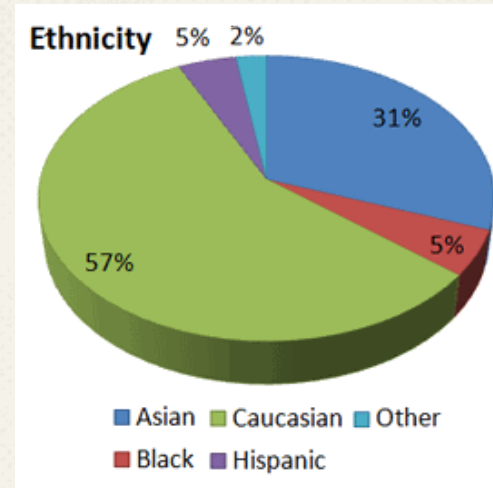


Moyamoya disease

Moyamoya disease

- Spontaneous occlusion of the circle of Willis
- A chronic, occlusive cerebrovascular disease of unknown etiology
- Steno-occlusive changes at the **terminal portion of the internal carotid artery (ICA)**
- Its etiology is still unknown, recent genome-wide and locus-specific association studies identified **RNF213** as an important susceptibility gene of moyamoya disease among East Asian population

Epidemiology



Stroke 2014;45:1258-1263.

CGMH, 2000 to 2011, 422 patients

- An annual incidence of 15/1,000 person-years
- There were two peaks of incidence: 9-10 and 30-40 years old
 - The incidence of MMD has increased in adults
- Female-to-male ratio increased over time from 1.1 (2000 to 2005) to 1.7 (2006-2011)

Clinical features

- Cerebral hypoperfusion due to progressive major vessel occlusion results in repeated hemodynamic TIAs or ischemic strokes
- The infarct pattern was more often in atypical region
 - Gyrus
 - <20 years old patient
 - Honeycomb
 - stage of arteriopathy
 - changes of abnormal collateral pathways

J Neurol Neurosurg Psychiatry 2011;**82**:1 38-40

Clinical features

- ~30% of MMD patients present with intracerebral hemorrhage
 - Less frequently in Asian, adult

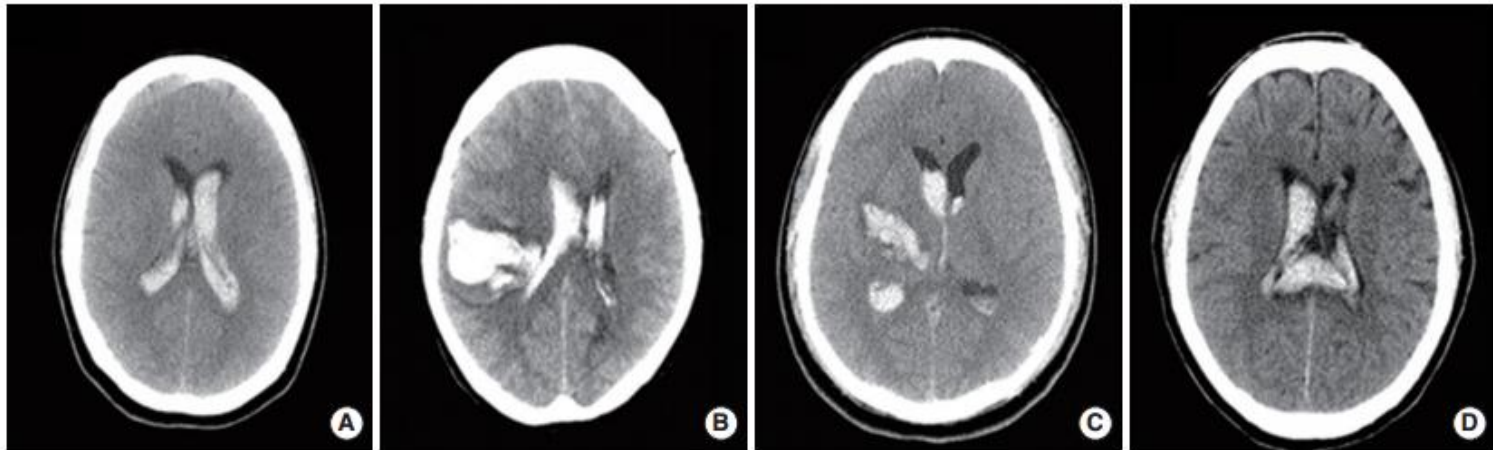


Figure 4. Representative patients with moyamoya disease-related hemorrhage. (A) Primary IVH; (B) lobar hemorrhage with IVH; (C) putaminal hemorrhage with IVH; (D) callosal hemorrhage with IVH. IVH, intraventricular hemorrhage. (From: Nah HW, et al. Moyamoya Disease-Related Versus Primary Intracerebral Hemorrhage: Location and Outcomes Are Different. *Stroke* 2012;43:1947-1950).

Table 1: Diagnostic criteria for moyamoya disease²⁴

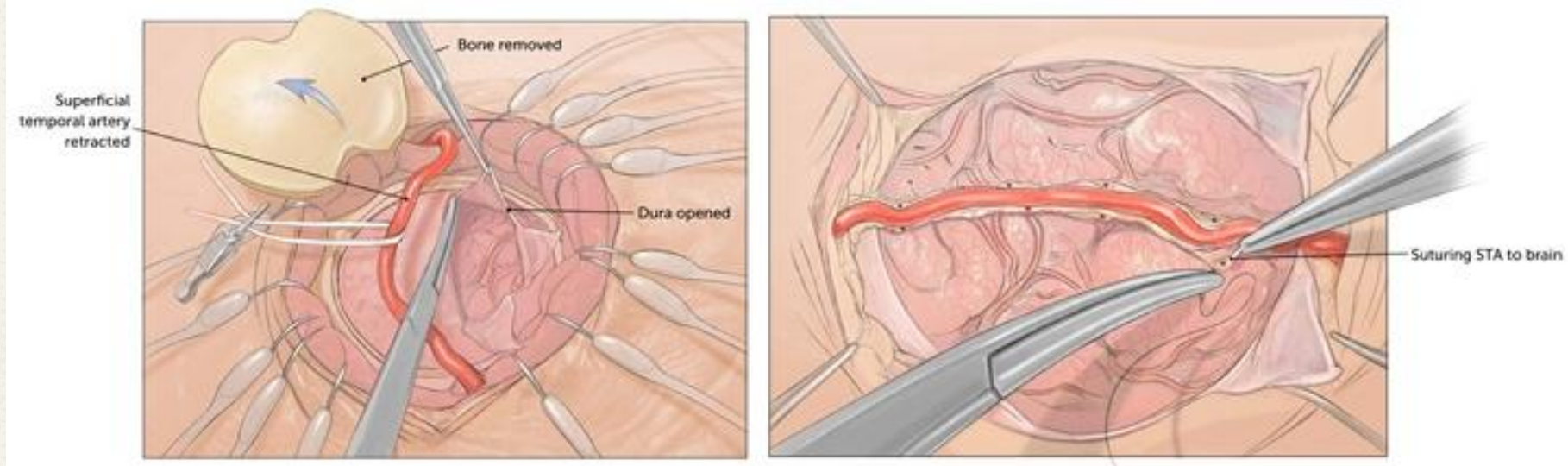
- (1) **Cerebral angiography** is indispensable for the diagnosis and should present at least the following findings:
 - 1) Stenosis or occlusion at the terminal portion of the internal carotid artery and/or at the proximal portion of the anterior and/or the middle cerebral arteries.
 - 2) Abnormal vascular networks in the vicinity of the occlusive or stenotic lesions in the arterial phase.
 - 3) These findings should present bilaterally.
- (2) When **MRI and MRA** clearly demonstrate all the findings described below, conventional cerebral angiography is not mandatory.
 - 1) Stenosis or occlusion at the terminal portion of the internal carotid artery and at the proximal portion of the anterior and middle cerebral arteries on MRA.
 - 2) An abnormal vascular network in the basal ganglia on MRA. Note: an abnormal vascular network can be diagnosed when more than two apparent flow voids are seen in one side of the basal ganglia on MRI.
 - 3) 1) and 2) are seen bilaterally. (Refer to the Image Diagnostic Guidelines by MRI and MRA.)
- (3) Because the etiology of this disease is unknown, cerebrovascular disease with the following basic diseases or conditions should thus be eliminated:
 - 1) Arteriosclerosis; 2) autoimmune disease; 3) meningitis; 4) brain neoplasm; 5) Down syndrome; 6) Recklinghausen's disease; 7) head trauma; 8) irradiation to the head; 9) others.
- ➔ (4) Instructive pathological findings:
 - 1) Intimal thickening and the resulting stenosis or occlusion of the lumen are observed in and around the terminal portion of the internal carotid artery usually on both sides. Lipid deposits are occasionally seen in the proliferating intima.
 - 2) Arteries constituting the circle of Willis such as the anterior and the middle cerebral and the posterior communicating arteries often show stenosis of various degrees or occlusion associated with fibrocellular thickening of the intima, a waving of the internal elastic lamina, and an attenuation of the media.
 - 3) Numerous small vascular channels (perforators and anastomotic branches) are observed around the circle of Willis.
 - 4) Reticular conglomerates of small vessels are often seen in the pia mater.

Treatment

- No effective drug treatments
- Anti-clotting drugs (*Aspirin*)
 - Prevent the formation of blood clots
- Calcium channel blockers
 - Decrease in blood pressure
 - Reduce the severe headaches and TIAs

Surgical treatment in pediatric patient

- Direct arterial bypass surgery
 - Superficial temporal artery - Middle cerebral artery bypass



Direct surgical treatment



Figure 2. Post-operative angiography of the external carotid artery. Black arrowheads indicate the superficial temporal artery (donor artery). The tip of the black arrow is the anastomosis site to the angular artery (recipient artery). The middle cerebral artery is supplied from the superficial temporal artery with a reverse direction (white arrowheads).

- To reinforce posterior cerebral artery (PCA) blood flow, the **occipital artery (OA)** has been used as a donor for anastomosis to the PCA cortical branch

Surgical treatment in pediatric patient

- Indirect procedural
 - Encourage and introduce new blood vessel growth to the brain over time
- EDAS (encephalo-duro-arterio-synangiosis)
 - Superficial temporal artery sewed to the dura
- EMS (encephalo-myo-synangiosis)
 - Attached temporalis muscle to the surface of brain
- Omental transposition/transfer
- Dural inversion

Indirect surgical treatment

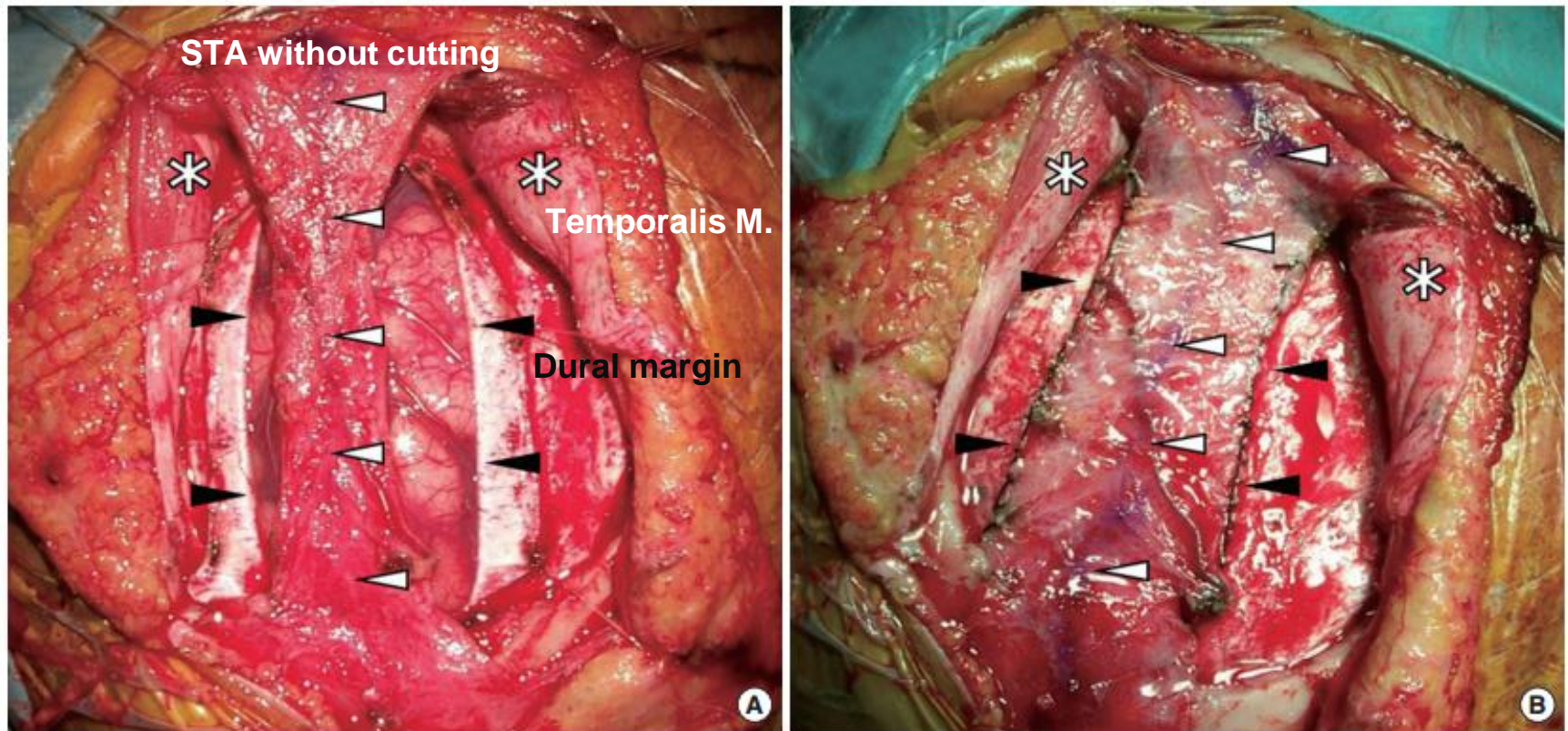


Figure 4. Intraoperative photos show the surgical procedure of encephalo-duro-arterio synangiosis (EDAS). (A) The formation of the arterial flap containing the parietal branch of the superficial temporal artery (STA) and surrounding galea tissue as a cuff shape. Under the flap, the cortex is exposed through the ovoid craniotomy and durotomy. (B) Completed suture with dural margin. The proximal and distal end of the STA is kept connected without cutting (white arrowheads = the parietal branch of the STA; black arrowheads = the dural margin being sutured with the cuff of flap water-tightly; asterisk = the temporalis muscle split vertically and reflected).

● Treatment outcome ●

- Direct revascularization for adult and pediatric patients seems to **be effective for preventing stroke**
- The incidence of **newly developed cerebral infarction** after indirect revascularization was reportedly higher than for the direct method.
- Indirect revascularization for **hemorrhagic** MMD has shown effectiveness in pediatric patients

6 Core Competencies



Patient Care

What You Do to the patient?



Medical Knowledge

What You Know?



Professionalism

How You Act?



Interpersonal and Communication Skill

How You Interact with Others?



System-Based Practice

How You Work Within the
System?



Practice-Based Learning and Improvement

How You Get Better?

Direct Observation of Procedural • Skills

操作型技能直接觀察評量

What' s DOPS ?

- 評估的是procedural skills，而不是clinical skills (Hx, PE...)，對其他臨床技巧如病史詢問、理學檢查技巧、諮商衛教等較不合適
- 評估的是特定一次的技術操作，而不是長時間的觀察
- DOPS 以真實臨床狀況，並以真實病人為考題

振興醫療財團法人振興醫院

操作型技術評量表 (Modified DOPS)

2個月外科 1個月婦產科 1個月選修 _____ 科

受評住院醫師(PGY): 評量日期: 民國 年 月 日

評量地點: 開刀房 一般病房 加護病房 急診 門診 其他: _____

技術名稱: _____

擔任助手: 第 _____ 次 獨立操作: 第 _____ 次

自覺技術複雜程度: 低 中 高 _____ 進行時間: _____ 時 _____ 分

	評量項目	未達 預期標準	達到 預期標準	超過 預期標準	無法 評估
1	適應症、相關解剖位置、操作技巧	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	取得病患同意或同意書	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	適當的操作前準備	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	對比劑注射準備	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	操作的技術能力	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	無菌操作的技術	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	需要協助時能尋求協助	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	影像重建	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	專業素養	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	溝通技術	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	整體表現	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

回饋

表現良好的項目	建議加強的項目

臨床教師簽章 (年/月/日): _____

受評住院醫師(PGY)簽章 (年/月/日): _____

2個月外科1個月婦產科1個月選修____科

受評住院醫師(PGY)：

評量日期:民國 年 月 日

評量地點：開刀房 一般病房 加護病房 急診 門診 其他： _ _ _

技術名稱：_____

擔任助手：第__次 獨立操作：第__次

自覺技術複雜程度：低 中 高 進行時間：__時__分

	評量項目	未達 預期標準	達到 預期標準	超過 預期標準	無法 評估
1	適應症、相關解剖位置、操作技巧	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	取得病患同意或同意書	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	適當的操作前準備	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	適當的麻醉/止痛鎮靜處置	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	操作的技術能力	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	無菌操作的技術	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	需要協助時能尋求協助	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	術後處理	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	專業素養	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	溝通技術	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	整體表現	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

回饋

可評估項目

- 基本傷口縫合技術
- 基本外科傷口照料
- 引流管置入照護
- 無菌衣穿著及無菌鋪單
- 氣管插管
- 中央靜脈導管(CVP)插入與照護
- 燙傷緊急處理
- 石膏與副木固定
- 其他

THANKS FOR YOUR ATTENTION!

