

陳俞蓉學習內容摘要

	SAH	ICH	Infarction
Cause/Risk factor	外傷/ICH 後/自發性 (Aneurysm/AVM/Vasculitis) #遠端動脈瘤->感染性 Mycotic aneurysm	Chronic HTN*/Amyloid angiopathy/AVM/Tumor bleeding/ Bleeding tendency/Willis cycle 外的 Aneurysm/ Trauma (頭皮腫+ICH 在 cortex + brain tissue edema) *Atherosclerosis: large vessel; Hyaline Arteriolosclerosis: small vessel; Charcot-Bouchard microaneurysm #Young stroke -> AVM, aneurysm, etc #Tumor bleeding- >以為是剛發生的急性中風但 ICH 周圍有 白質水腫->懷疑血塊內有 tumor (CT 打顯影劑後 tumor 出 血處會由灰白變白) #Bleeding tendency: 任何位置/多個出血	三高/Moyamoya/Aortic dissection # 分類 A 1. Emboli: Heart (AF, valve), Carotid a. 2. In situ thrombosis: 顱內小穿通血管->Lacunar stroke 3. Hypoperfusion: stenosis of 顱內/顱外血管->Watershed infarction # 分類 B :TOAST 1.Large vessel: 顱內/顱外動脈 embolus/reduce flow 2.Cardioembolism (範圍可大可小) 3.Small vessel (Lacunar stroke, 必須符合特定位置)
Type	Pure SAH (70%), SAH+ICH (25%), Pure ICH (5%)		
Location	1. Suprasellar cistern (ACoA, ICA/PCoA, tip of basilar a.) 2. Sylvian fissure (bifurcation of MCA) 3. Interhemispheric fissures (SAS) 4. Foramen magnum (vertebral a., basilar a.)	1. Deep hemorrhage: Putamen -> Thalamus -> Pons -> Cerebellum -> Subcortex of cerebrum -> Caudate nuc. #深/大的 ICH 易破入腦室(變白) 2. Lobar hemorrhage (+反覆 -> amyloid angiopathy)	1. Large infarction: Triangular, wedge-shaped 2. Lacunar infarction(3-20mm): Putamen, Thalamus, Pons, Caudate nucleus, Internal capsule, Corona radiata 3. Watershed infarction (1)Cortical/External -> triangular shape (2)Subcortical/Internal->rosary-like/confluent (corona

			radiata) ->要想到 MCA/ICA stenosis (3)Mixed
Other	1. SAH+ICH: Lobe -> aneurysm location 2. Temporal horns 擴大 ->Mild Hydrocephalus (也可能是腦膜炎)	1. Small vessel disease sign (1) Deep and Subcortex: (HTN) Lacunar infarction, Leukoaraiosis (WM lucency), Microbleed (2) Cortex: (Amyloid angiopathy) 2. 腦室擴大->Hydrocephalus (但若水腫會壓迫腦室) 3. ICH 演變: 血塊周圍逐漸出現 white matter edema (2-14 天最嚴重) -> 血塊吸收+edema 消失 -> Linear cavity (可能中間含水/周圍 Hemosiderin)	
CT	出血是白色	出血是白色，周圍若白質水腫是灰黑色；之後血塊吸收 hematoma 會變灰暗；慢性期 linear cavity(全黑) # <c.f.>生理性鈣化: bil. globus pallidus, dentate nuclei (cerebellum), pineal gland, choroid plexuses of lat. ventricles # CT+C: 看異常血管	Cytotoxic edema:灰暗 # Sign: (1) Loss of insular ribbon sign (灰白變灰暗) (2) Loss of gray-white matter differentiation sign (3) Effacement of cortical sulci sign (4) Obscuration of lentiform nucleus sign (Putamen 灰白變灰暗) (5) Inverted putaminal sign (MCA territory)(變灰暗) (6) Bright MCA sign (內有白 thrombus) # Hemorrhagic transformation (變白)

			# Old infarction: 腦萎縮->腦室拉開、 Cortex cavitation(黑) # White matter lucency: 白質呈灰暗(可能在腦室周圍)
MRI		(1)SWAN: microbleeds (黑洞) /出血(黑) (2)FLAIR: Leukoaraiosis (白點/片) (3)T2WI/FLAIR: 血塊暗,edema 白 之後中間亮,周圍暗(2 週後) (4)T1+C: 出血(白) (5)T1WI: lacunar infarct (黑洞)	Cytotoxic edema: (1)DWI:亮(約亮一個半月) (2)ADC:暗 (3)T2WI/FLAIR:白 (4)T1WI:暗 # Leukoaraiosis/Old lacunar infarction: FLAIR 白但 DWI 沒有訊號改變
CTA/DSA	找動脈瘤	# Young stroke -> AVM (bag of worms sign)* *CTA source image: ICH 附近不正常擴張血管(亮) # Lobar hemorrhage/Young stroke/無 Risk factor ->建議做	
Symptoms	(似腦膜炎) 劇烈頭痛、頭暈、嘔吐、畏光、意識差、頸僵	Putamen ICH: 對側無力(internal capsule) Thalamus ICH: 麻+對側無力(internal capsule) Cerebellum ICH: 頭痛/吐/步態不穩	對側無力、感覺異常等
Complication	(1) Vasospasm -> ischemic infarction (2) Communication hydrocephalus (3) Superficial siderosis (小腦/腦幹)	因癱瘓皮質脊髓徑萎縮: Wallerian degeneration (大腦腳)	(1) 水腫致 uncal/transtentorial herniations: 蝶鞍上腦池/四疊體腦池消失(2-7 天壓力最大) (2) 癲癇 (3) Wallerian degeneration

