

- Name: 李 X 璇
 - Sex: Female
 - Age:41y/o
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- Chief Complaint

- Sudden onset of neck stiffness and severe headache since this afternoon



Present Illness

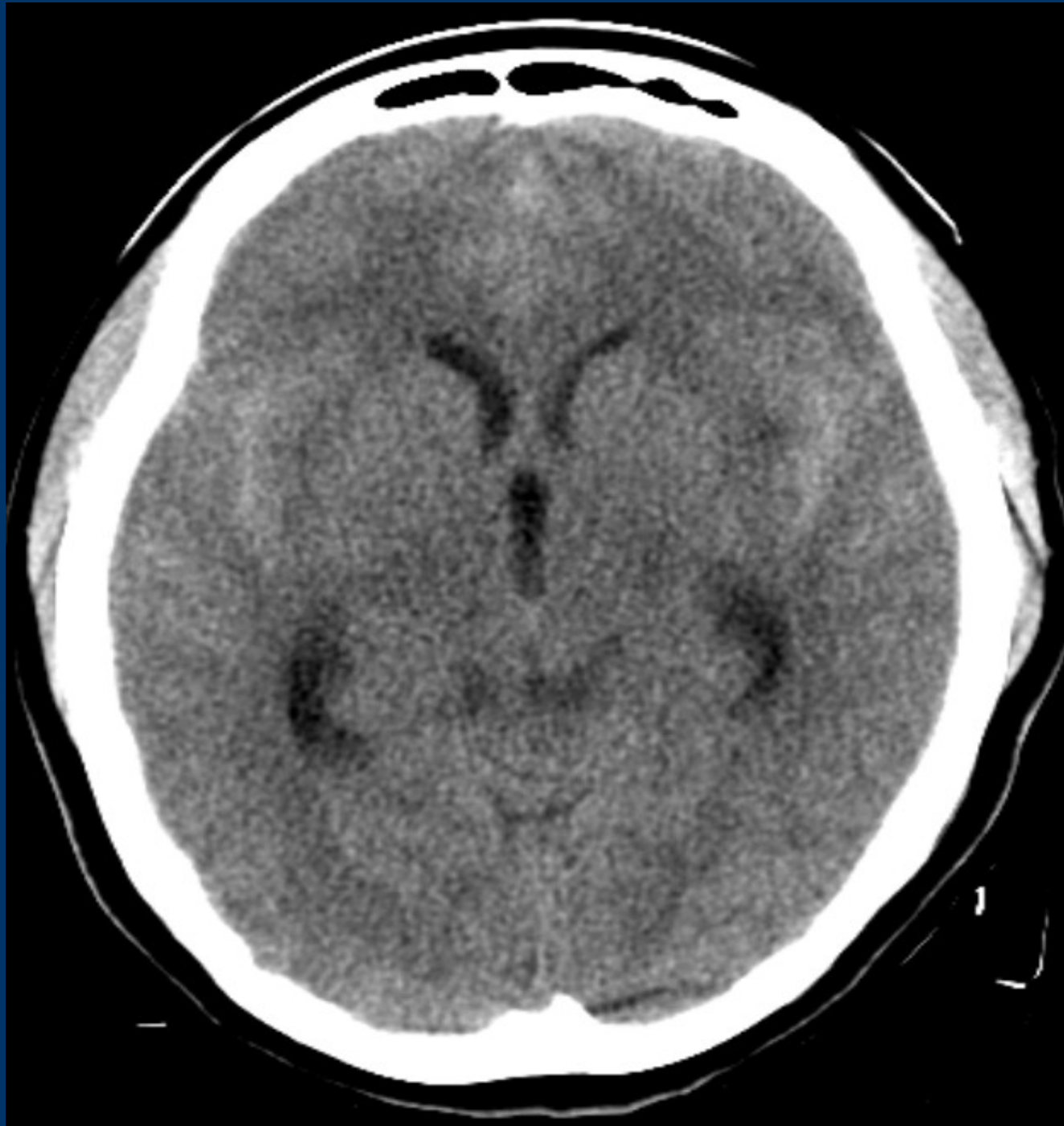
- Pregnancy for 28 wks
 - Sudden onset of neck stiffness and headache was found this afternoon
 - At ER, E4V5M6, piple size 3.0(+)/3.0(+)
 - Muscle power : full
 - No wound found
 - Brain CT : mild~moderate diffuse SAH
 - Angiography:A-com aneuryam was found
 - Admitted for surgery
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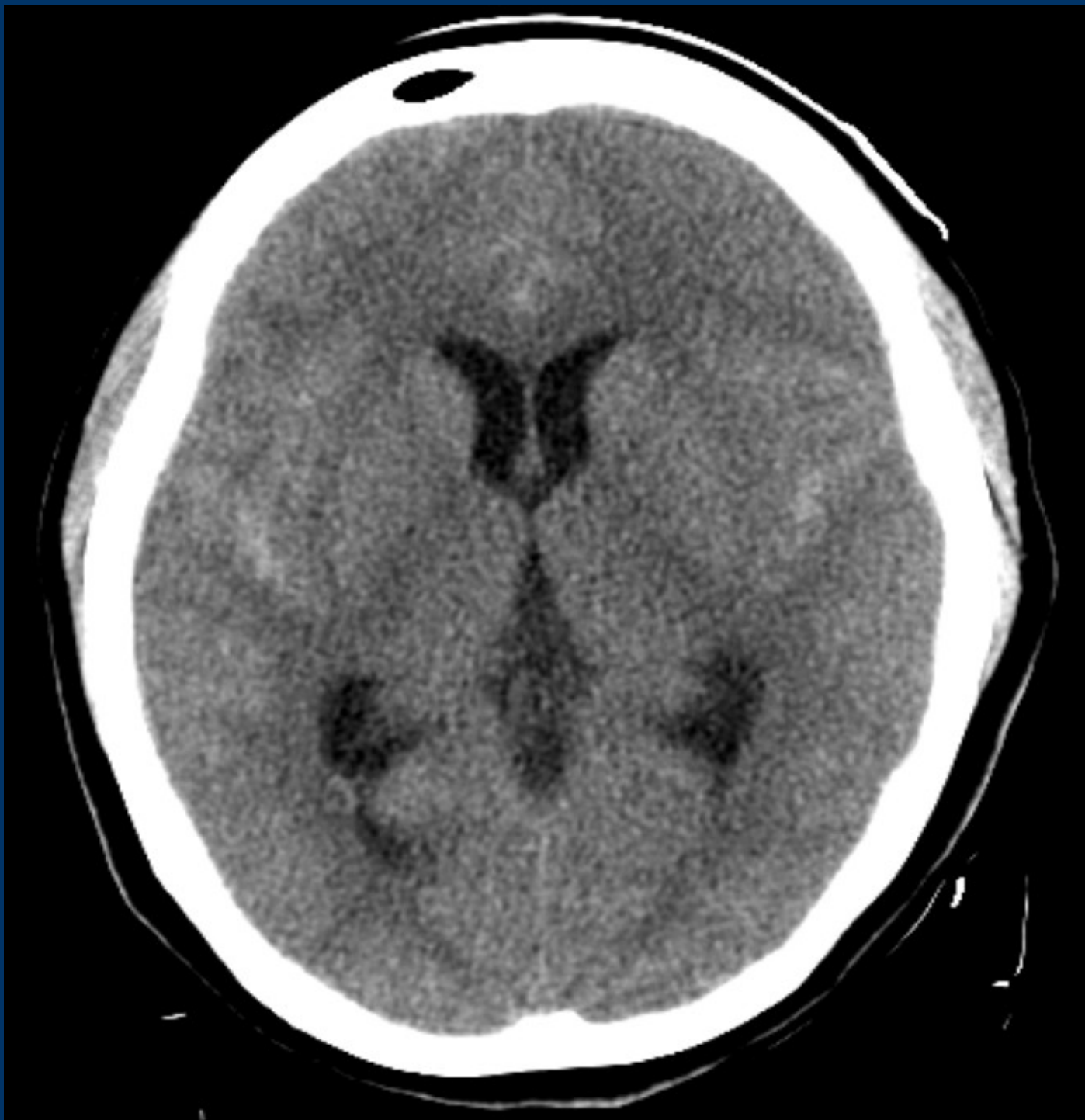
Lab Data

- WBC: 17.1 x10.e3/uL
 - %NEUT : 88 %
 - Glucose(血液) : 152
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Brain CT



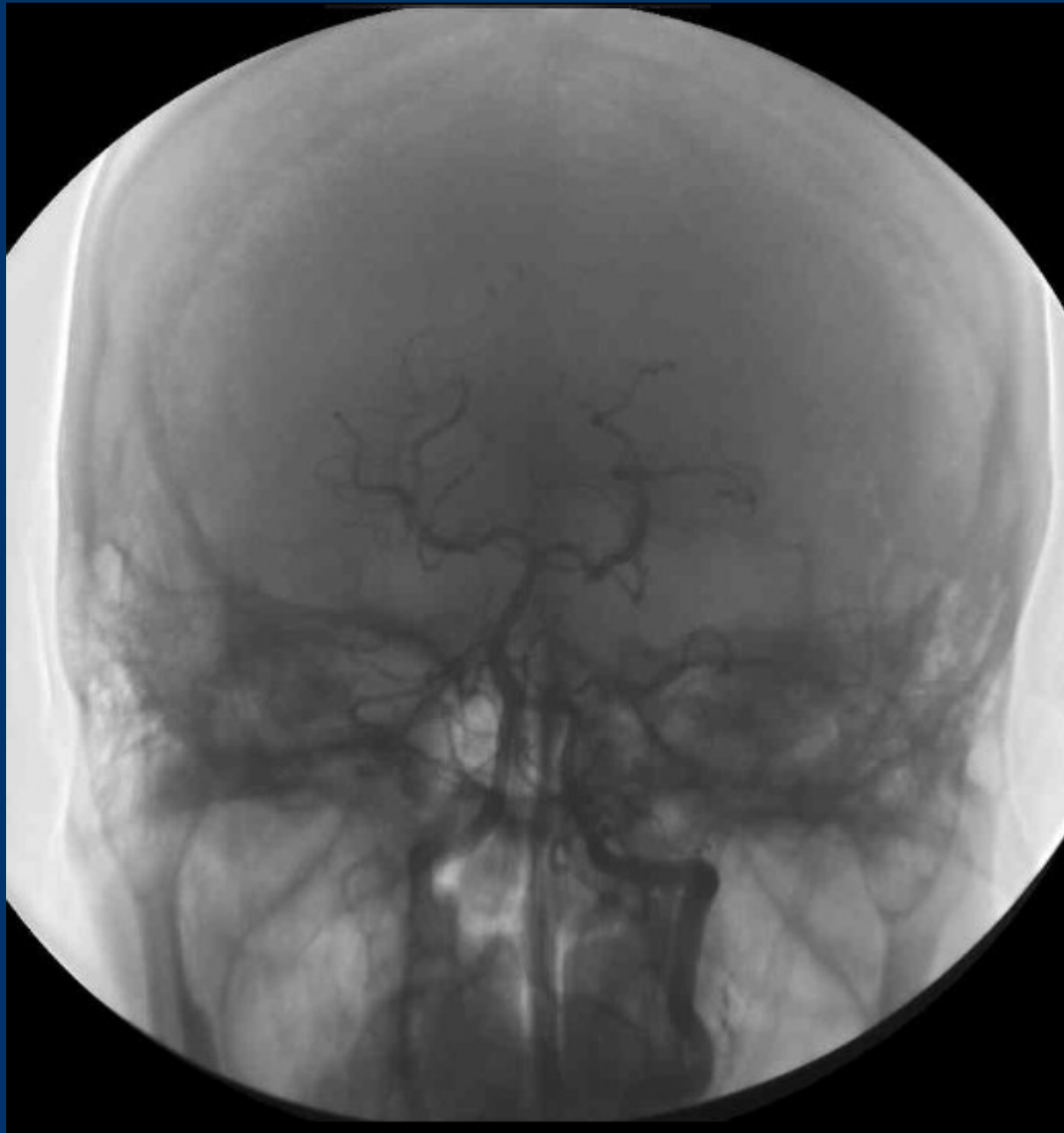


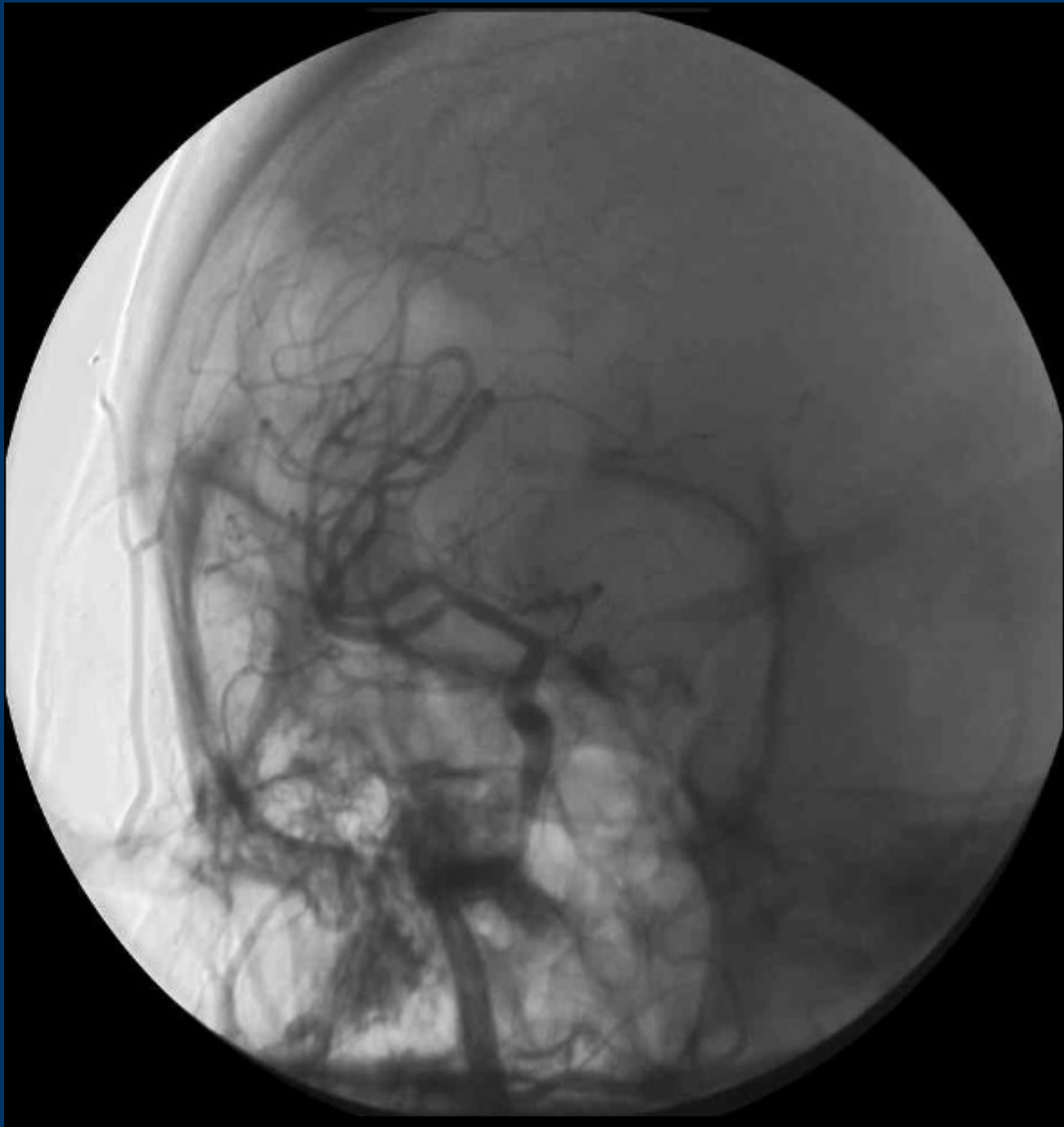


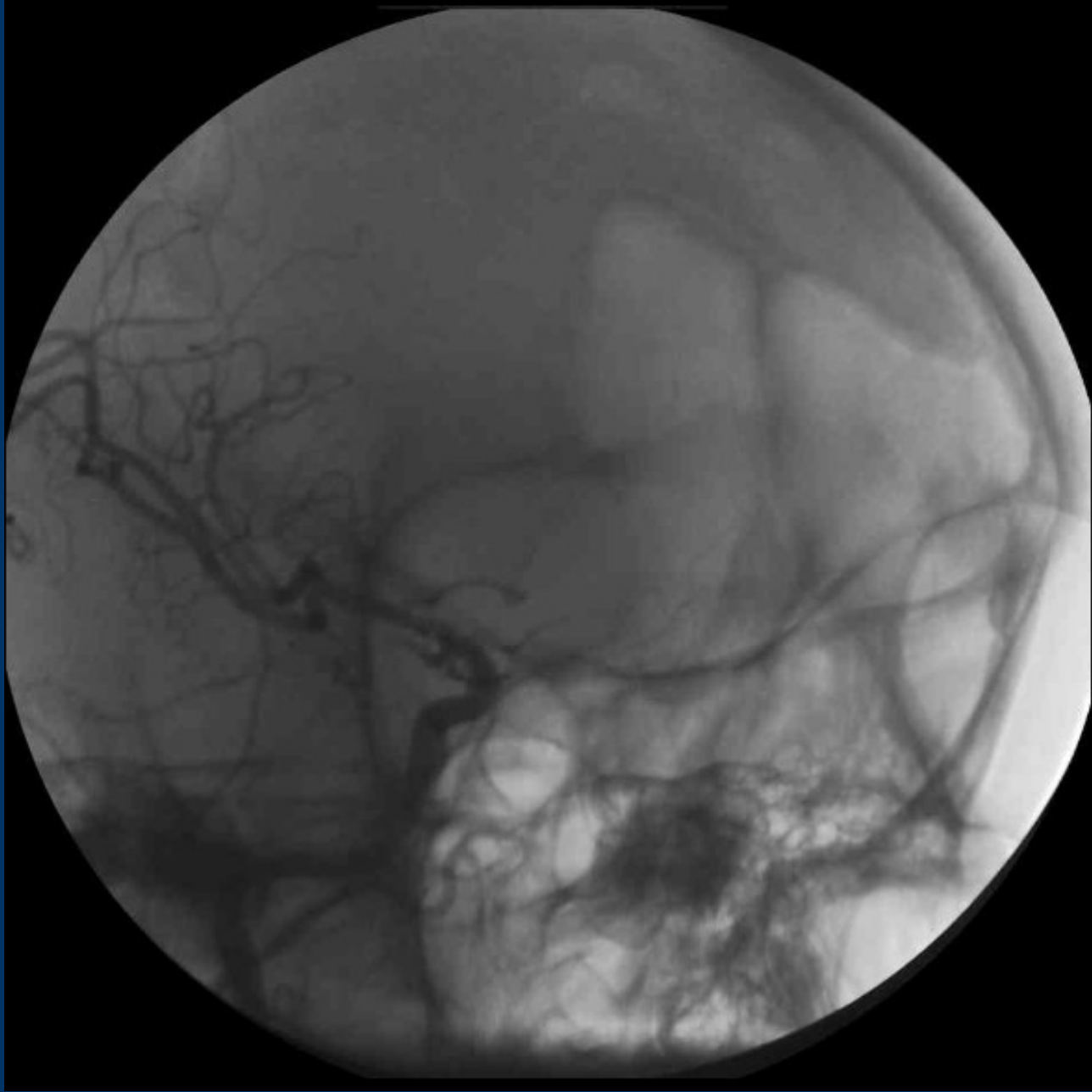


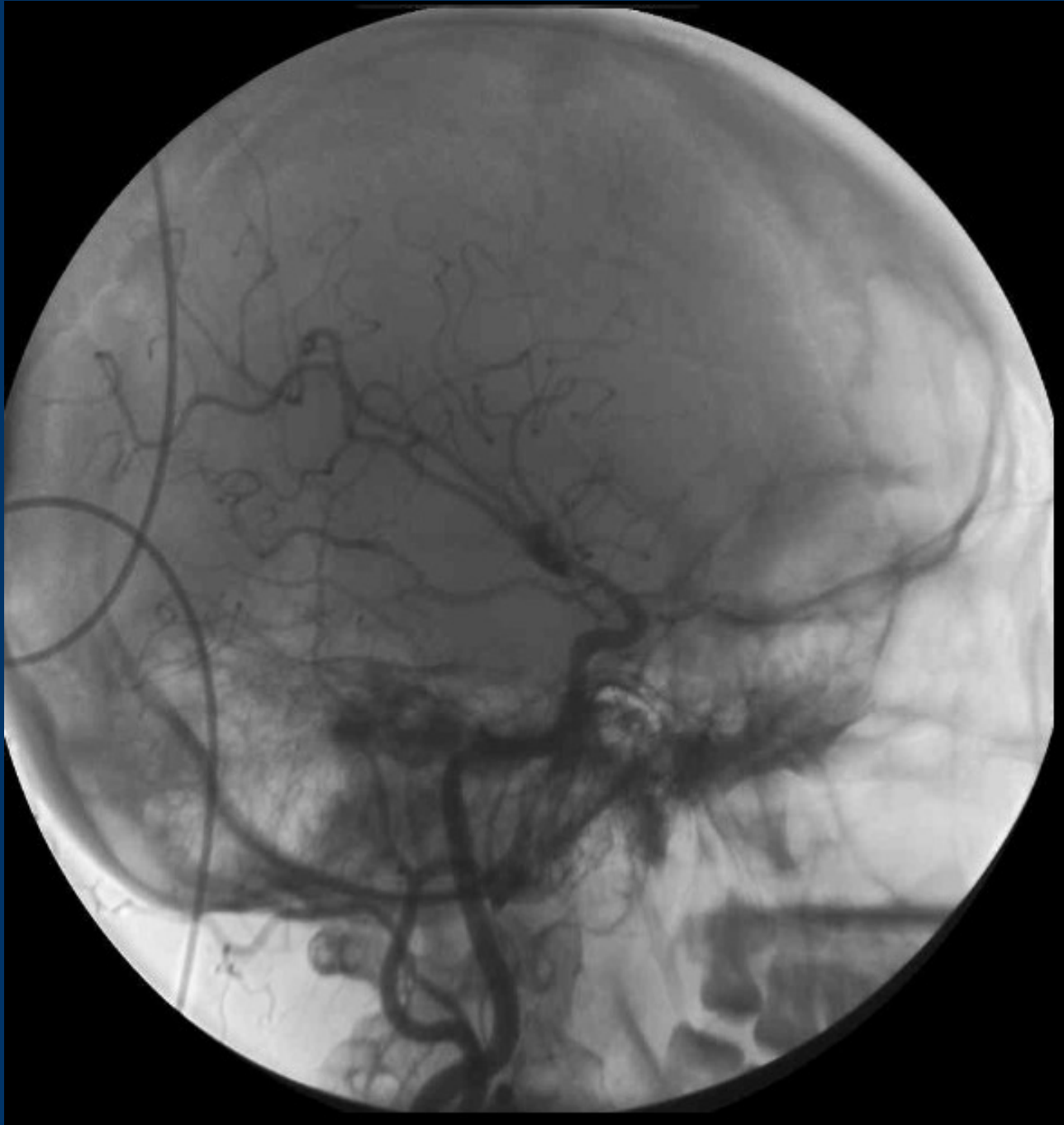
Angiography

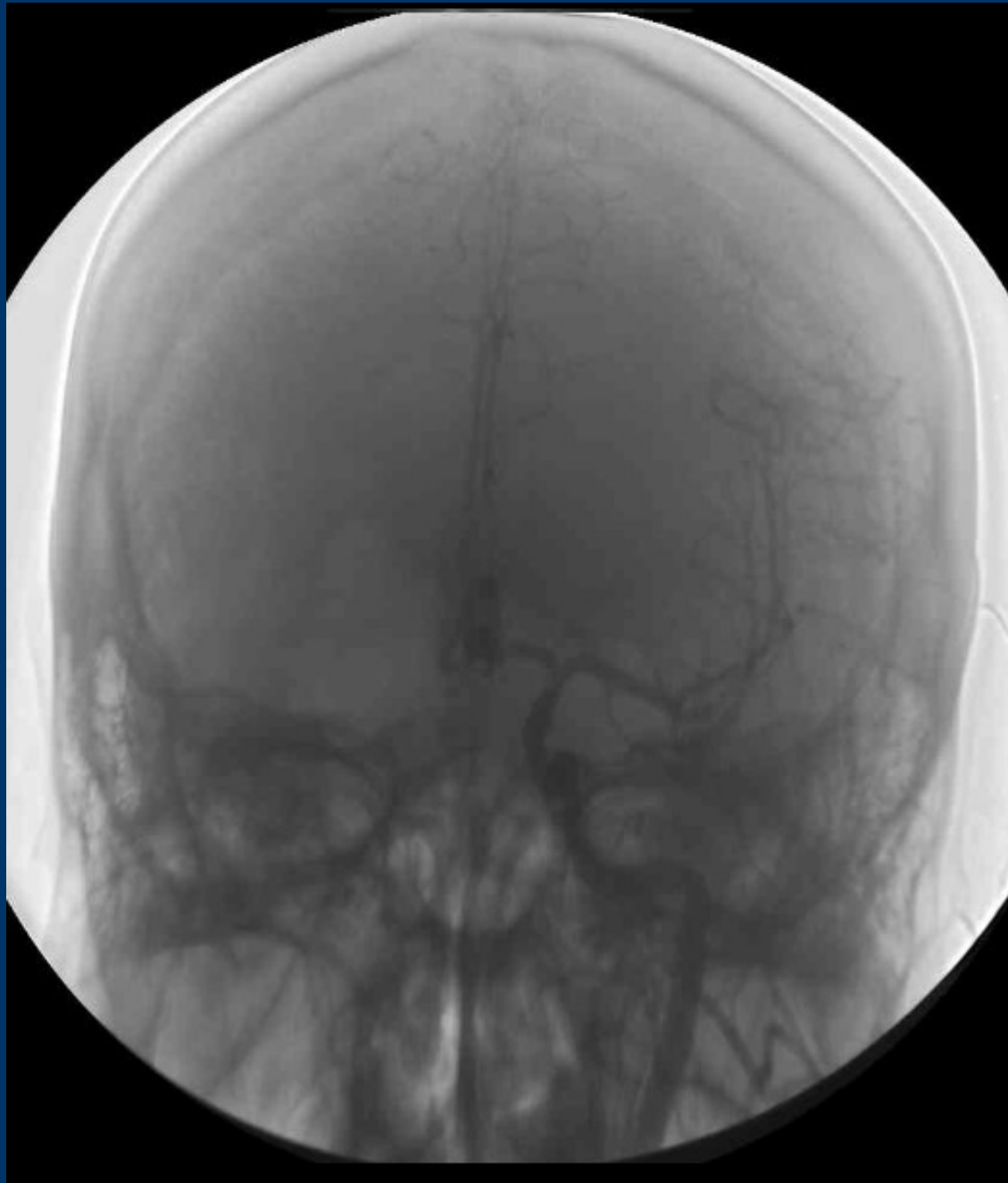


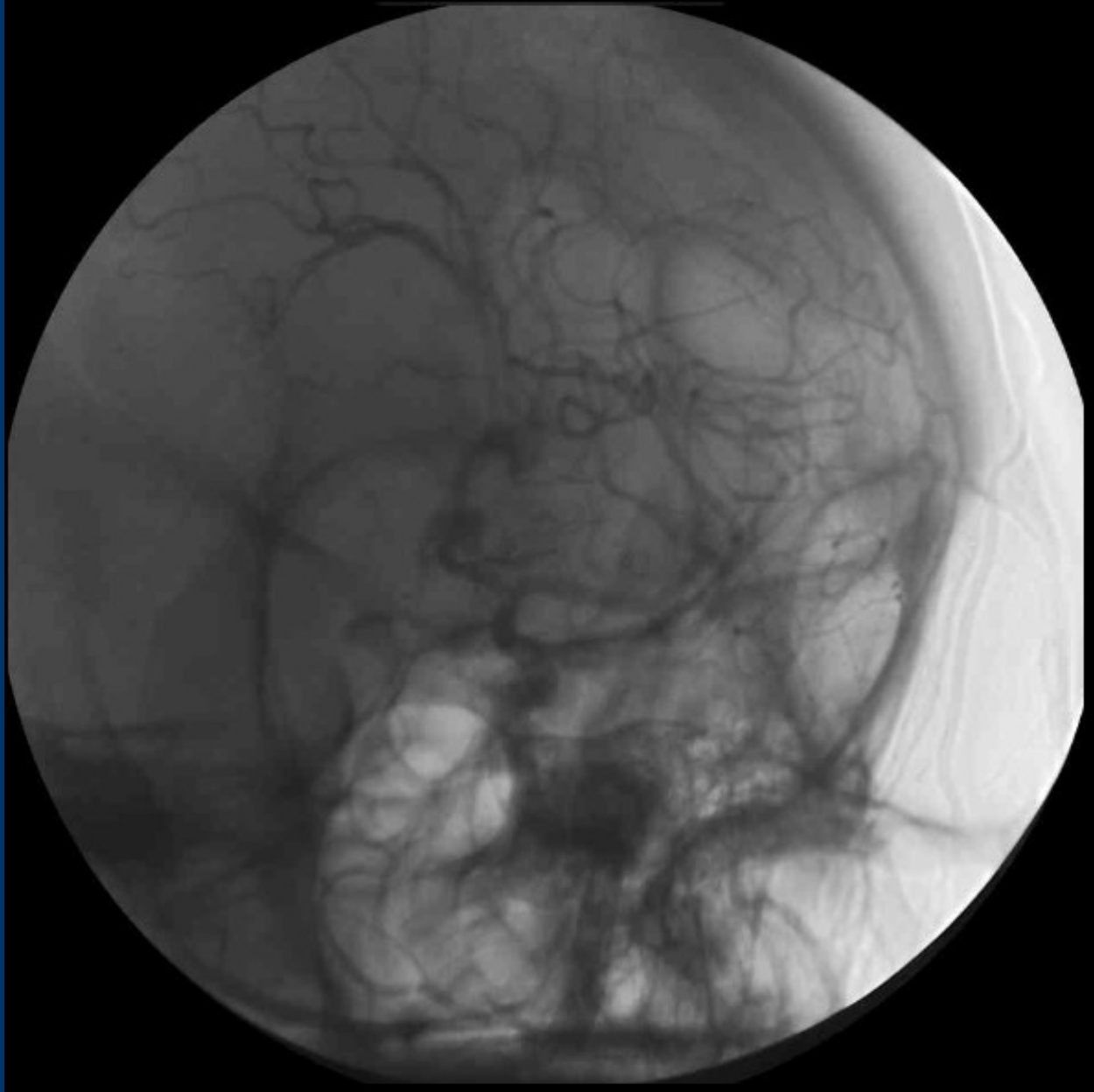


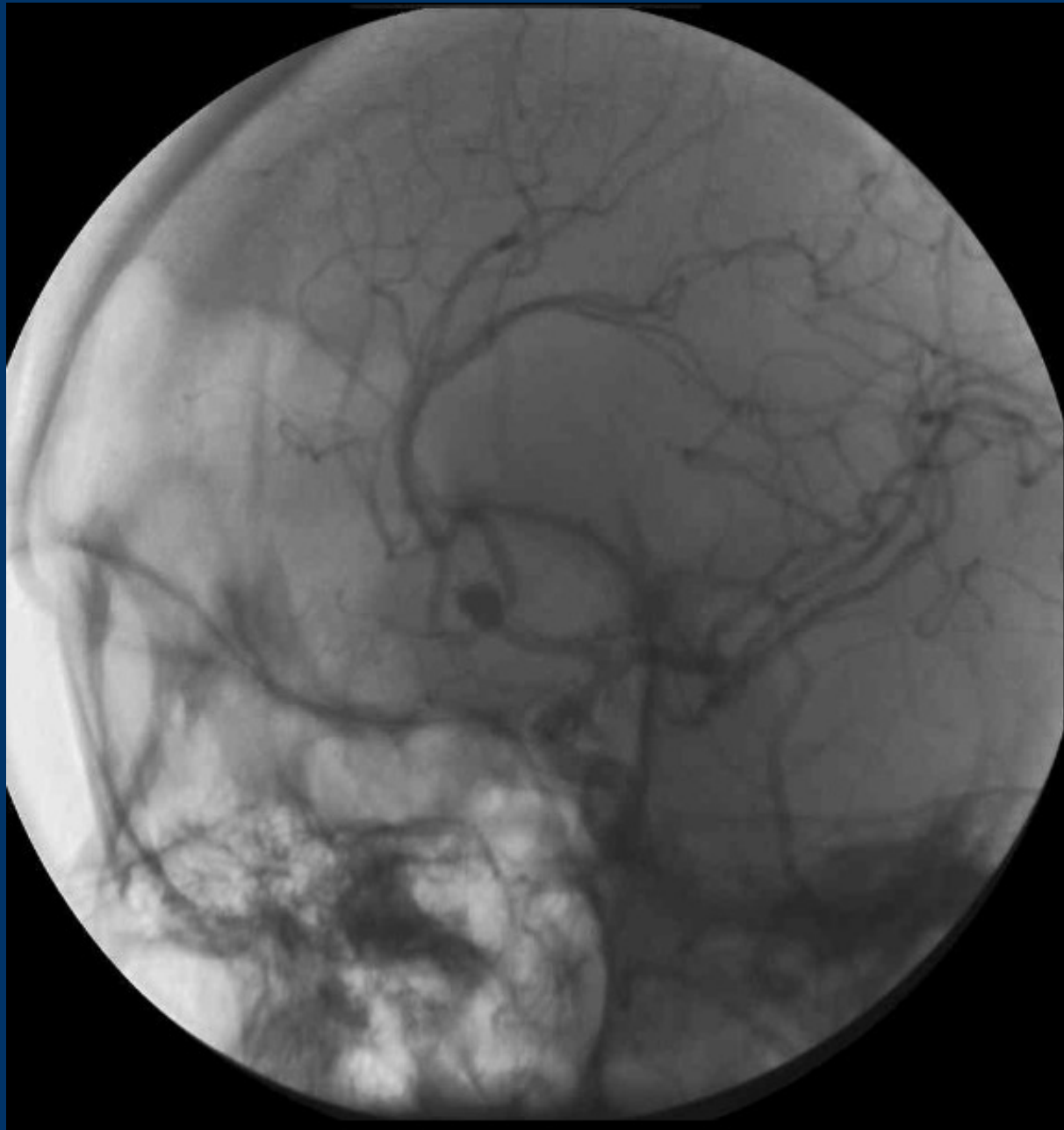


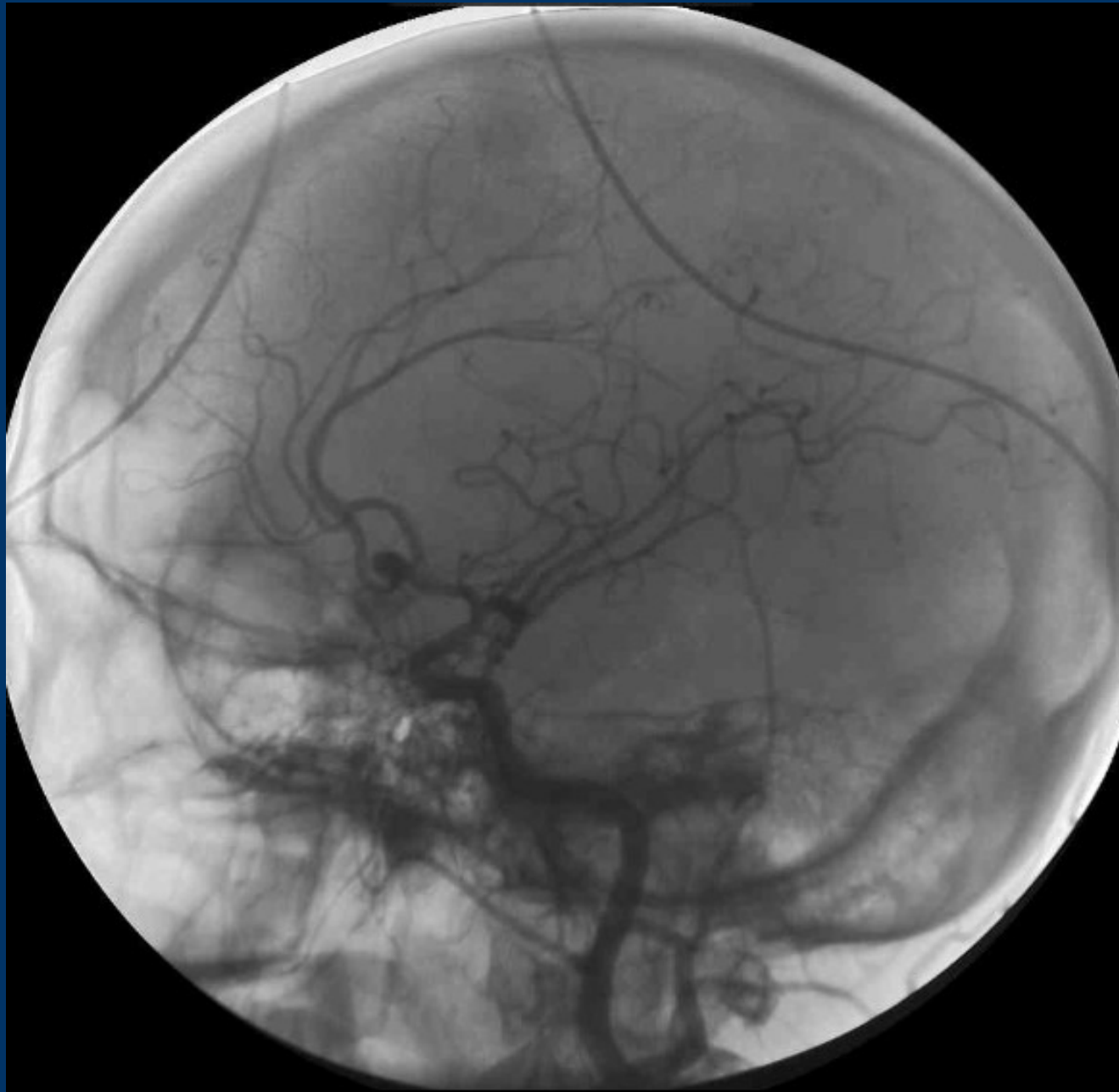


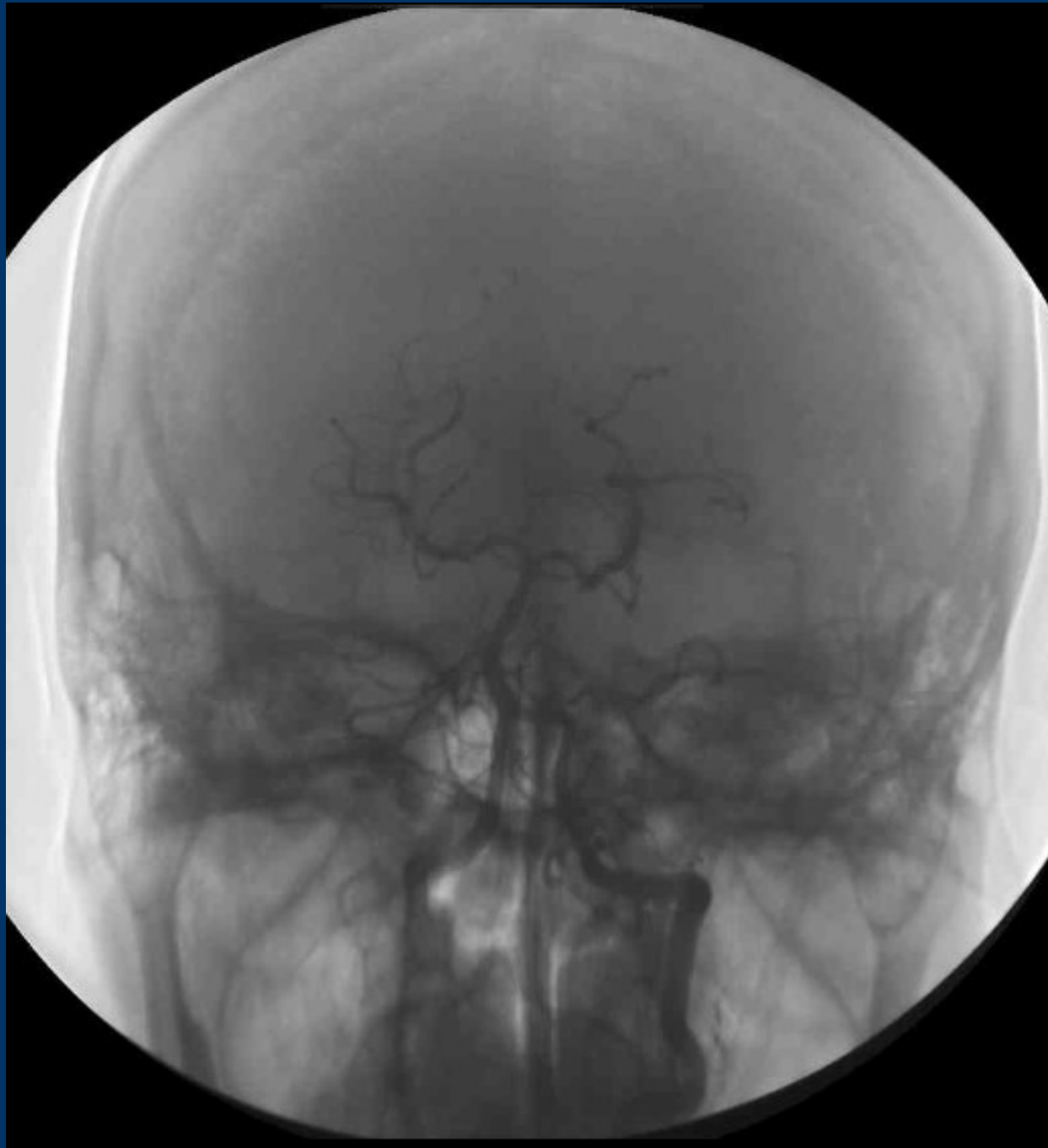












Image

- Brain CT focus on Routine : -
 - mild~moderate degree of diffuse SAH
 - interhemispheric fissure...centered on the midline
 - possibilities of hypertensive manifestation (AVM or aneurysm)

- Vertebral angiography:
an outpouching lesion at the A-com, projecting
right inferiorly, consistent with A-com
aneurysm.....(Impression: A-com aneurysm)
 - R+L Carotid angiography
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Diagnosis

- A-com aneurysm rupture and spontaneous subarachnoid hemorrhage
- Pregnancy for 30 wks

Operation

- Craniotomy with clipping of aneurysm at 95/4/19



SAH



Clinical Presentation

- Sentinel leak : focal/generalized headache
 - Mass effect :
 - 1.P-com/internal carotid a.: Focal/progressive retro-orbital headache, CN III palsy
 - 2.MCA:contralateral face or hand paresis ,aphasia, contralateral visual neglect
 - 3.A-com:bil. legs paresis and bilateral Barbinski sign
 - 4.Basilar artery apex : vertical gaze, paresis,coma
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- 5. intracranial vertebral artery/posterior inferior cerebral artery: vertigo, component of lateral medullary syndrome
 - Emboli: transient ischemic attack
sudden onset of severe headache
nausea/vomiting
symptoms of meningeal irritation
photophobia/visual change
sudden loss of consciousness
seizure
-
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	腦梗塞	腦出血	動脈瘤	動靜脈畸型	不明原因 蜘蛛膜下腔出血
總數	3949(100%)	2630(100%)	194(100%)	90(100%)	161(100%)
頭痛	498(12.6)	662(25.2)	143(73.7)	65(72.2)	104(64.6)
頭暈	1143(28.9)	563(21.4)	46(23.7)	24(26.7)	41(25.5)
嘔吐	505(12.8)	810(30.8)	113(58.3)	50(55.6)	69(42.9)
意識障礙	952(24.1)	1517(57.7)	109(56.2)	42(46.7)	94(58.4)
運動障礙	3018(76.4)	1669(63.5)	29(15.0)	25(27.8)	31(19.3)
知覺障礙	538(13.6)	262(10.0)	7(3.6)	8(8.9)	3(3.3)
視覺障礙	160(4.1)	71(2.7)	9(4.6)	3(3.3)	3(1.9)
語言障礙	1224(31.0)	540(20.5)	5(2.6)	5(5.6)	7(4.4)
失禁	270(6.8)	297(11.3)	10(5.2)	1(1.1)	10(6.2)
抽搐	84(2.1)	60(2.3)	13(6.7)	13(14.4)	7(4.4)
精神異常	37(0.9)	8(0.3)	0(0.0)	0(0.0)	3(1.9)
其他	131(3.3)	53(2.0)	7(3.6)	13(14.4)	9(5.6)

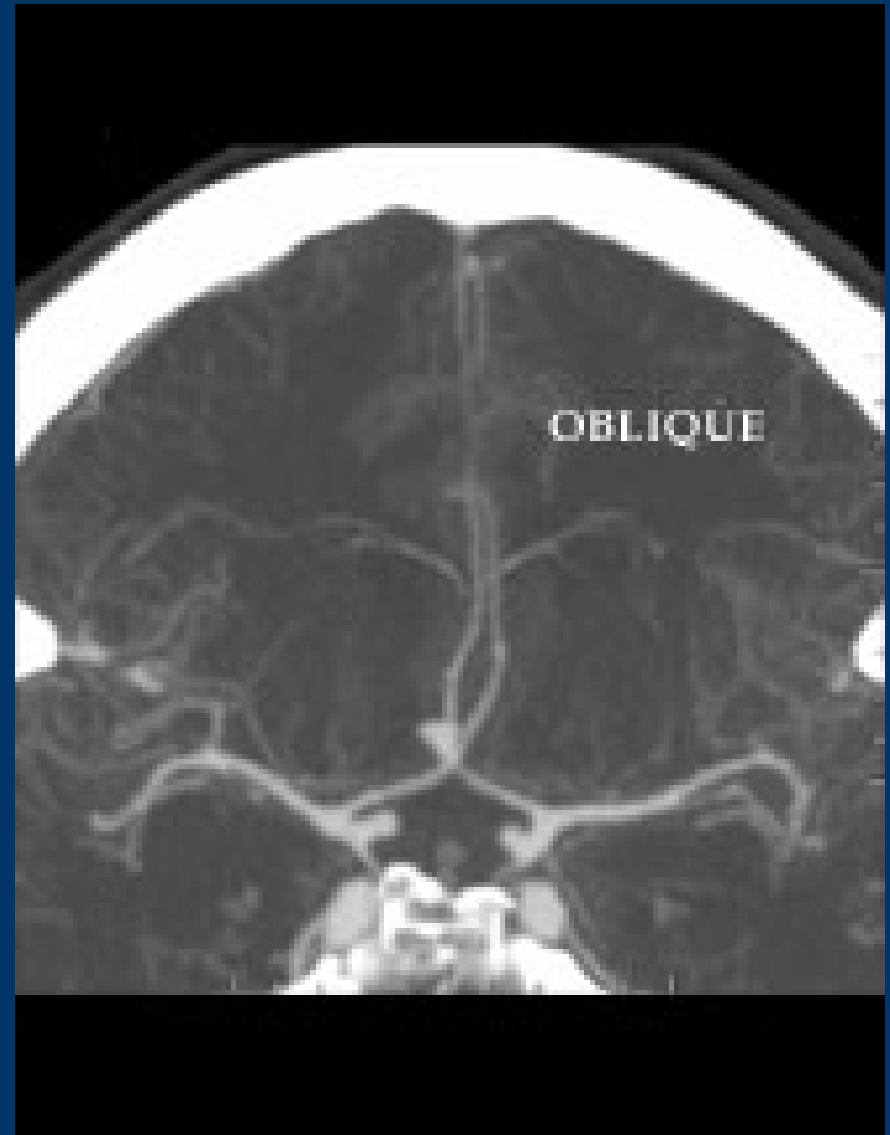
Image Diagnosis

- **CT**：在**出血性中風早期診斷上最準確**，有助於臨床分類，病情演變和預後的評估。在蛛網膜下腔出血病人並同時發現腦內出血，而其出血位置有助於動脈瘤所在處的研判，如腦前葉的血塊、可能是前交道動脈瘤破裂向腦部拓展而成。電腦斷層血管攝影(**CT Angiography**) 亦可提供有關顱內外血管狹窄的情況，有助於診斷及將來之治療
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- MRI：是比電腦斷層更敏感的造影技術，擴散（DWI）及灌注（PWI）造影，更能早期偵測缺血性腦中風的變化。
 - 可在中風發生的後數十分鐘便可發現異常之處。
 - 計算出那些潛在性可以救活的腦部區域，及早給予血栓溶解劑之治療
 - 磁共振血管造影（MR Angiography）亦可用來評估顱內外血管狹窄的情況。此外，MRA 也可以評估腦部之靜脈回流系統及動脈瘤的情形。
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- **Angiography**：用在診斷無法確定及考慮手術（頸動脈內膜切除術及分流手術）之患者，此亦為診斷動脈瘤的最後工具
 - 可精確地看出其形狀、大小、單一性及多發性，及血管痙攣的現象，
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SAH



AVM



Aneurysm



Treatment

- Traditional treatment to cerebral aneurysm rupture :
 - BP control(restrict water,anti-hypertensive therapy)
 - Anti-HTN drug: beta-blocker / CCB / Hydralazine (when MAP > 130mmHg)

Prevent and Treat for Complication

- Rebleeding
 - Vasospasm
 - Hydrocephalus
 - Hyponatremia
 - Seizures
 - Pulmonary complication
 - Cardiac complication
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- Rebleeding:
Bedrest, Analgesia, Sedation, Stool softeners
, Antifibrinolytics
 - Vasospasm:
Maintenance of normovolemia/oxygenation
Oral nimodipine (CCB)
rTPA (after the clipping of aneurysm)
- Vasospasm become symptomatic.... HHH
therapy (Hypertensive, Hypervolemic, Hemodilu
tional)
-
-

- Hydrocephalus: drainage
- Hyponatremia : fluid support
- Seizures : phenytoin, phenobarbital,



Surgery

- Direct aneurysm clipping
 - GDCs(Guglielmi Detachable Coil system)
 - Balloon/Coil embolization
 - Proximal ligation of the patent artery or trapping of aneurysm
 - Wrapping or coating aneurysm
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Prognosis

- Mortality : 50 % per year (despite advances in medical or surgery therapy)
 - Survival is inversely proportional to SAH grade.
 - 70%- Hunt and Hess grade 1
 - 60%- Hunt and Hess grade 2
 - 50%- Hunt and Hess grade 3
 - 20%- Hunt and Hess grade 4
 - 10%- Hunt and Hess grade 5
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- 25% survivors have persistent neurologic deficit.
- Most survivors have permanent or transient cognitive deficit.
- The magnitude of the bleed, age, comorbid condition, medical complication

