Identification

- Age: 49 y/o
- Sex: Male
- Occupation: 醫療工作人員

Chief complaint

- Sudden onset of seizure attack on 88/12/07

Present illness

This 49 y/o male patient was working in our hospital. He was quite healthy before without any systemic or hereditary disease. No smoking, no drinking, and no seizure attacked history. According to himself, when he was sleeping at night on 88/12/07, sudden onset of seizure attacked happened to him. He had a voice of screaming at that time, and then involuntary mouth movement was noted. Because he never had this situation before, he came to our neurologic OPD for help on 88/12/13. Brain MRI and EEG was performed then, and meningioma was highly suspected. So he admitted on 88/12/20 for operation.

Past history

- DM (-)
- HTN (-)
- Brain injury : denied
- Operation history : denied
- Denied any other systemic or hereditary disease

Personal history

- Smoking: (-)
- Drinking: (-)
- Drug allergy: (-)
- Food allergy: (-)

Family history

- Not contributory

Physical examination

- Conscious: clear, E4V5M6
- Vital signs: stable, no fever
- HEENT: grossly normal, conjunctiva not pale, sclera not icteric
- Neck: supple, LAP(-), JVE(-)
- Chest: symmetric expansion, breathing sound clear, no wheezing, no rales

Physical examination

- Abdomen: soft and flat, no tenderness, normactive bowel sound
- Extrimity: freely movable
- Muscle power: normal (all are 5 points)
- Neuroexamination: not found in the chart

Blood routine

	88/12/20	88/12/24	88/12/25	88/12/26
WBC	9540	12340	15690	15970
Nutro %	67.1	77.5	88.5	88.8
Lym %	23.7	13.5	2.8	3.2
RBC	5.20	4.86	4.94	5.20
Hb	14.9	14.4	14.7	15.1
HCT %	43.5	42.0	43.0	42.3
PLT	277000	219000	208000	193000

Urine routine

	88/12/21
Specific gravity	1.010
pH	6.5
RBC	0-1
WBC	0-1
Epithel	0-1
Protein	-
Sugar	-
Ketone	-
Occult blood	-

Chemistry

	88/12/20
Glucose AC	95
Alb	4.1
Total protein	6.9
UA	6.7
Cholesterol	178
TG	186
ALP	106
GOT	15
GPT	18
rGT	35

Chemistry

	88/12/20	88/12/24	88/12/25	88/12/26
Bun	18	8	7	11
Creatinine	1.1	0.9	0.8	0.7
Na	140.0	137.0	138.0	136.0
K	3.80	3.60	4.00	4.10
Ca		8.0	8.7	9.5
Cl		109.0	109.0	106.0

Brain MRI (88/12/14)

- R/I meningioma at right temporal lobe with mass effects


JOE SUN-RONG
A
49:03M
1999/12/14 14:38:4
Ax. T1W
@PS @PM
P
WW216 WL+249
TAIPEI MED. COLLEGE HOSP
JOE SUN-RONG
A
49:03M
1999/12/14 14:38:
Ax. T1W


160766
JOE SUN-RONG
A
49:03M
1999/12/14 16:24
Ax. T1W +C
@PS @PM
P
TAIPEI MED. COLLEGE HOSP


160766
.01 NO C
JOE SUN-RONG
A
49:03M
1999/12/14 14:30
AX. T2W
@PS @FC
P
TAIPEI MED COLLEGE


HF+01°
6.00mm
R
A
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3
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cm
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EEG (88/12/16)

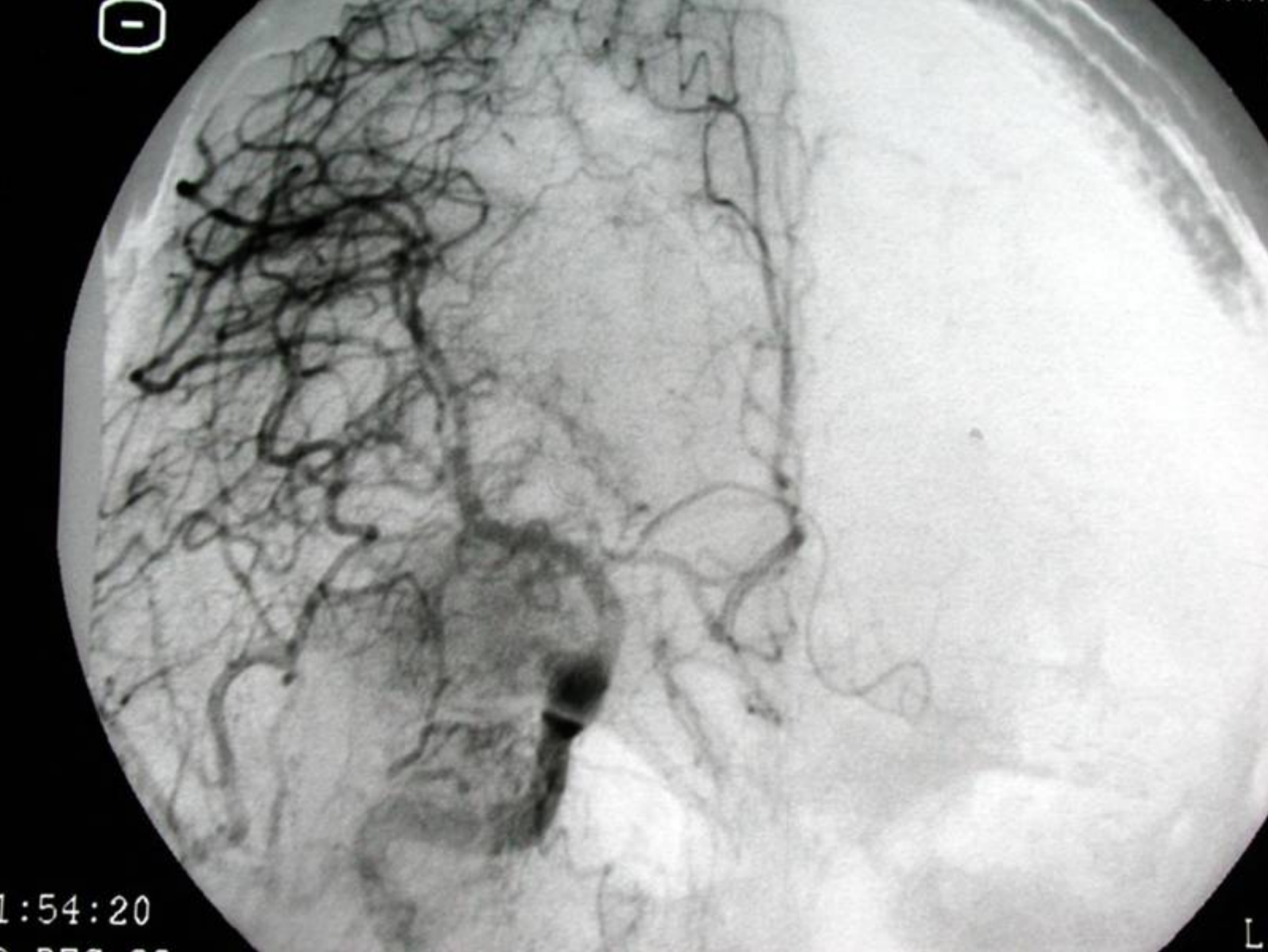
- This EEG was performed while the patient was awake and at rest. The background activities consist of symmetric alpha rhythm (9Hz, 20-35uv) mainly over the posterior head regions with adequate alerting response to eye opening. There are theta waves, 6-7Hz, 20-35uv over right temporal region. No paroxysmal spike is seen. Hyperventilation causes no significant change.

EEG (88/12/16)

- Interpretation: Regional cortical dysfunction over right temporal region

Angiography (88/12/20)

- Bilateral carotid artery, vertebral artery
- Highly concern of right dural meningioma, at the left lower temporal area with intracranial extended and involved. Nothing significant cortical gyral local invasion; advise neurosurgical intervention.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T.A.E (88/12/22)

- Impression: Massive dural meningioma, right lower temporal are without active bleeder, by intervention blockage the tumor vessel smooth; finally, patient tolerated this procedure smooth.

Operation (88/12/24)

- Craniotomy + Removal of brain tumor

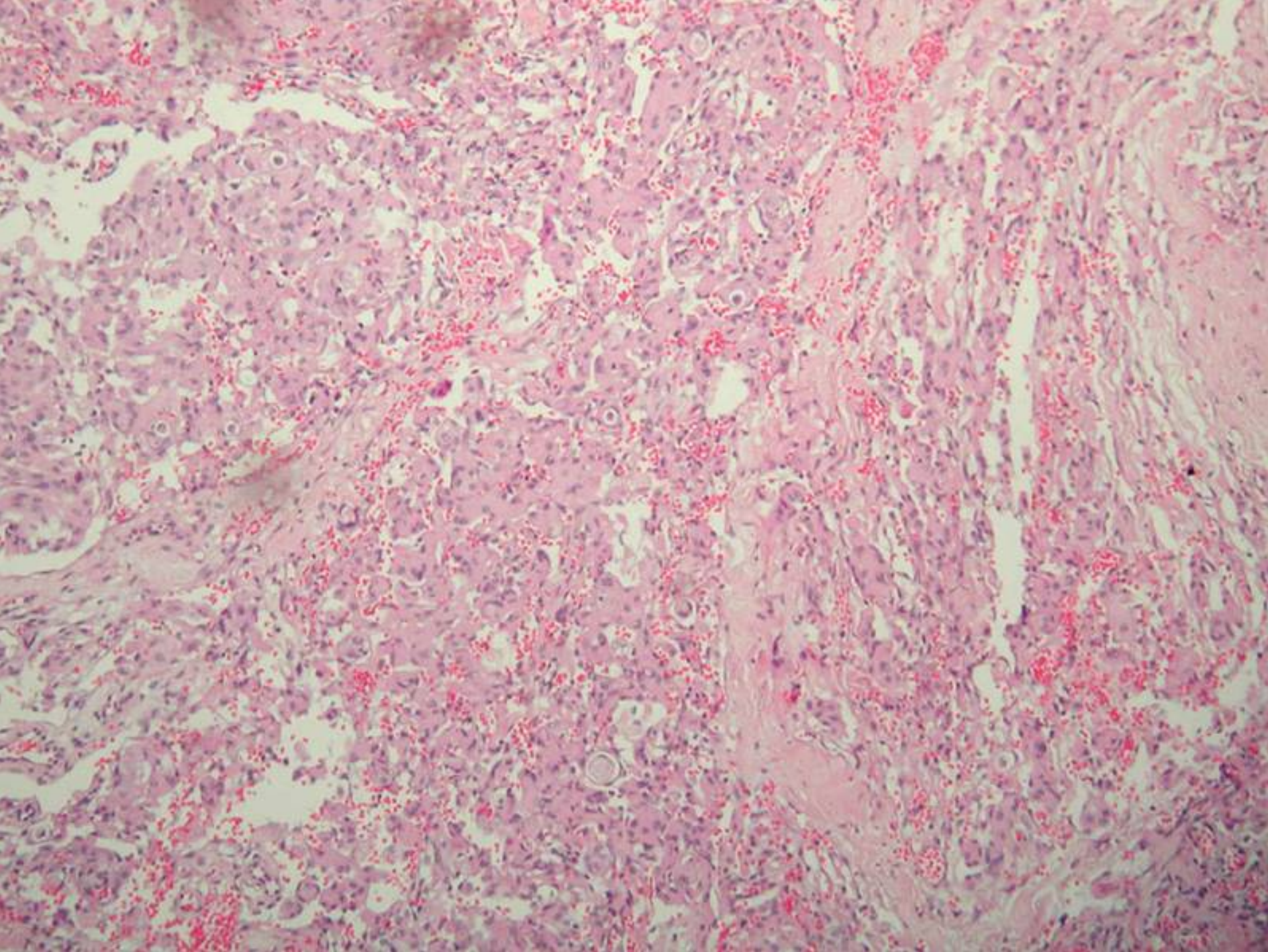
Pathologic report

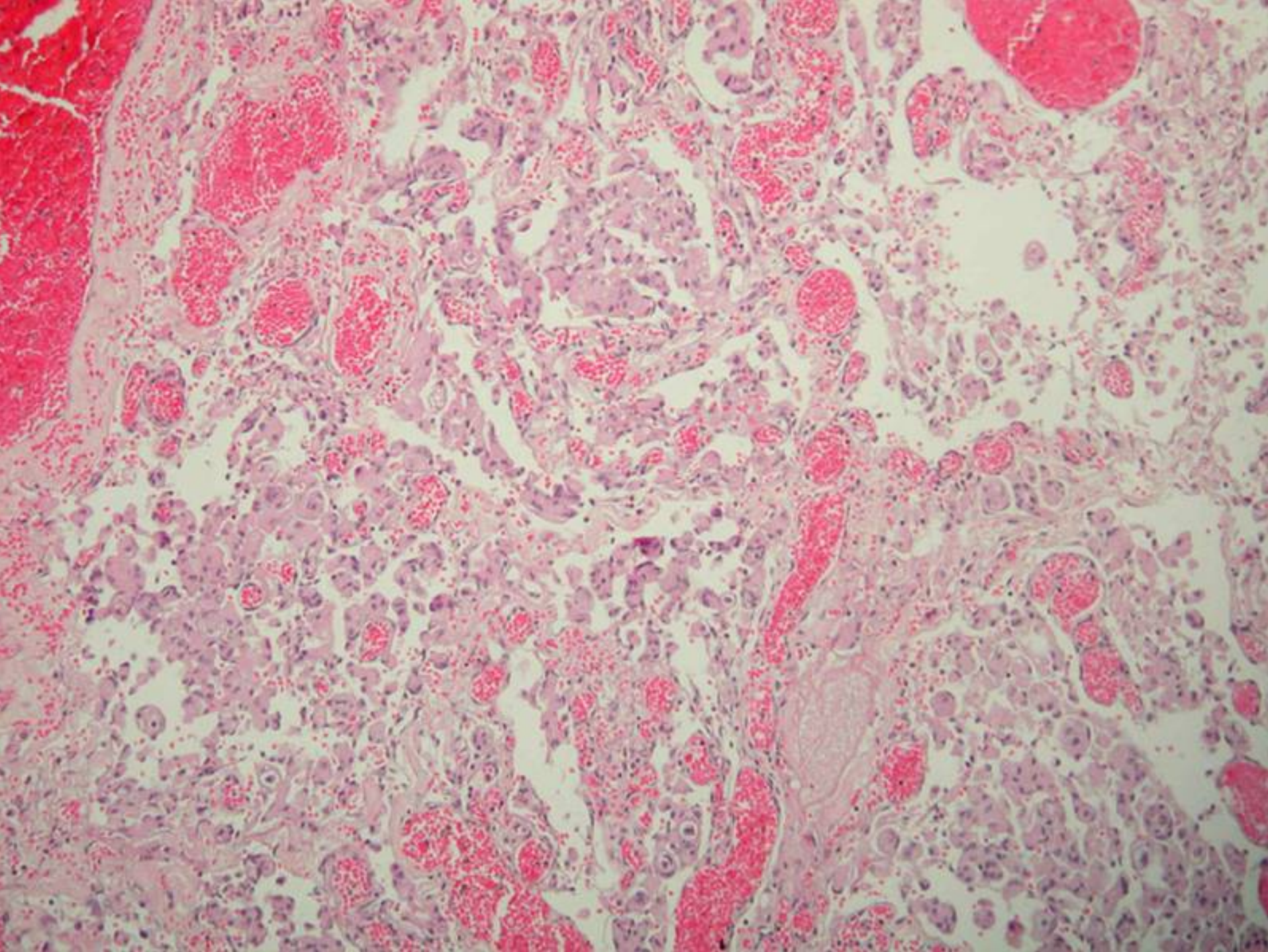
- 檢查診斷 => Meninx, dura, temporal right, craniotomy and removal, meningioma
- 病理診斷 =>

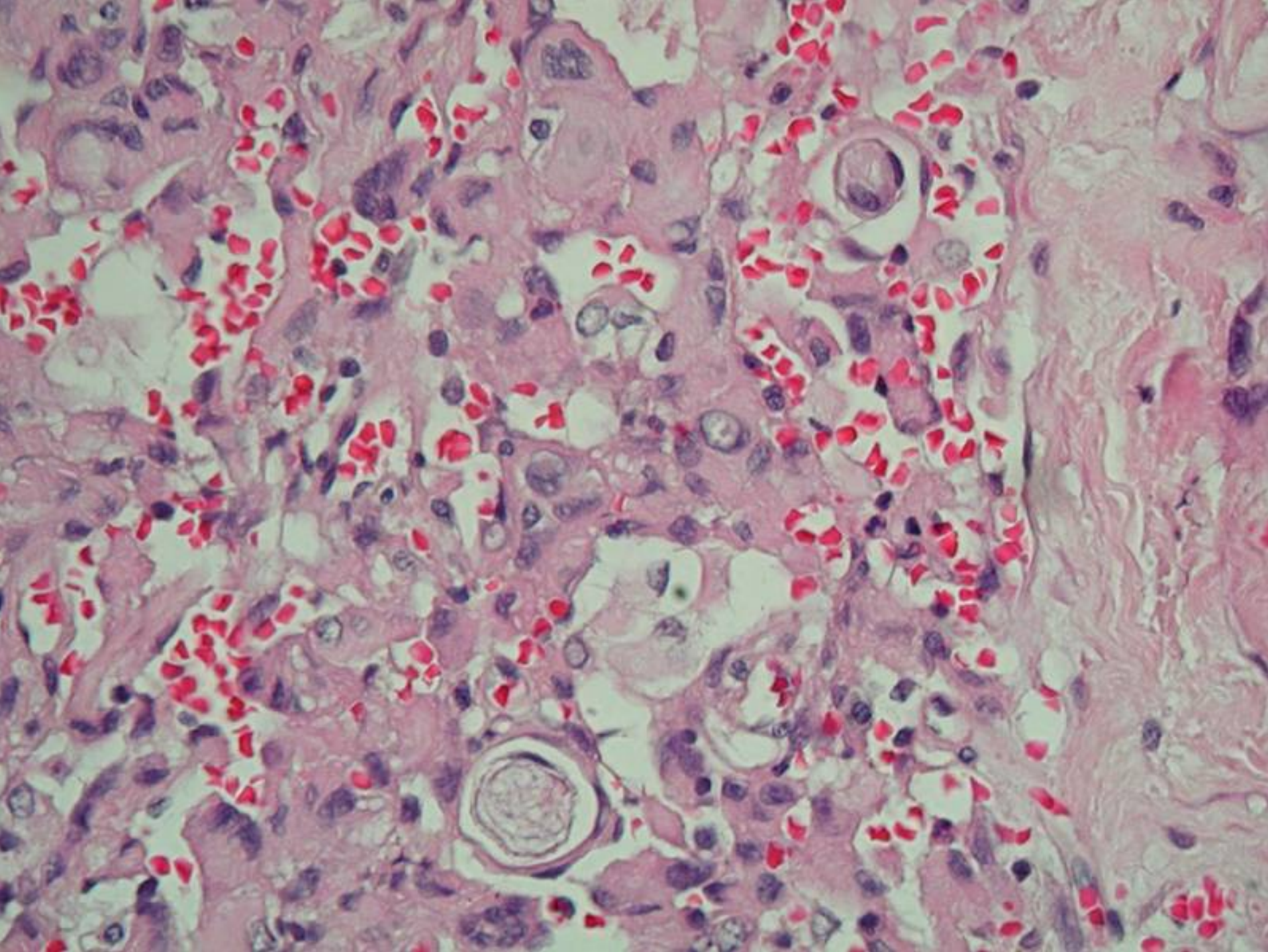
- The specimen submitted consists of more than ten tissue fragments measuring up to 1.5 x 1.2 x 0.7 cm in size, fixed in formalin.
- Grossly, they are brown and soft to elastic.
- All for section after sectioning and labeled as: A to C

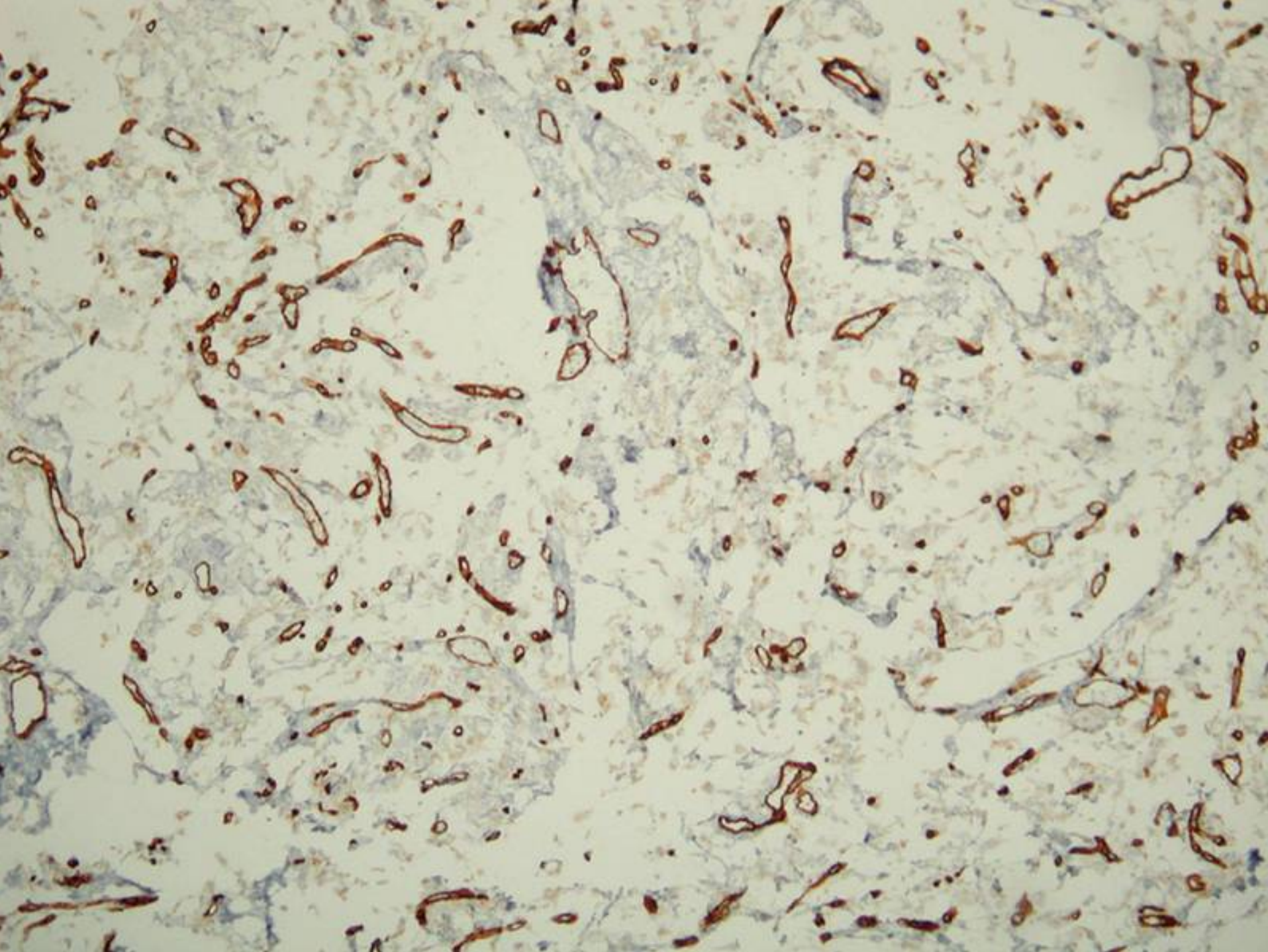
Pathologic report

- Microscopically, it shows a picture of meningioma angiomatous type, made up of syncytial and spindle-shape meningotheliomatous cells arranged in whorl-pattern. In addition, many vascular channels are noticed.









Follow up of brain MRI after operation (90/10/16)

- Precontrast (T1W1, T2W1, Flair) and post-contrast (T1W1) brain MR are performed

1. This is a patient of meningioma, s/p op. right temporal lobe atrophy with focal dilated temporal horn of lateral ventricle are seen.
2. There are recurrent meningiomas situated at walls of right middle cranial fossa, right para-cavernous region, right cerebello-pontine cistern and along the right tentorium.
3. Recurrent meningiomas are seen as iso-signal intensity on T1W1 and T2W1 with homogeneous, intense enhancement.

Differential diagnosis

Intracranial tumor ----
classification according to site

Cerebral hemispheres

Extrinsic

- Meningioma
- Cyst (dermoid, epidermoid, arachnoid)

Intrinsic

- Astrocytoma
- Glioblastoma
- Oligodendroglioma
- Ganglioglioma
- Lymphoma
- Metastasis

Sellar/Suprasellar region

- Pituitary adenoma
- Craniopharyngioma
- Meningioma
- Optic nerve glioma
- Epidermoid / dermoid cyst

Skull base and sinuses

- Carcinoma ---- nasopharyngeal, sinuses, ear
  （→carcinomatous meningitis）
- Chordoma
- Glomus jugular tumor
- Osteoma (→mucocele)

Ventricular system

- Colloid cyst
- Choroid plexus papilloma
- Ependymoma
- Germinoma
- Teratoma
- Meningioma
- Pineal cytoma/blastoma
- Astrocytoma

Hypothalamus

- Astrocytoma

Posterior fossa

Extrinsic

- Neurilemmoma(VIII, V)
- Meningioma
- Epidermoid / dermoid cyst
- Arachnoid cyst
- Metastasis

Intrinsic

- Metastasis
- Hemangioblastoma
- Medulloblastoma
- Astrocytoma

CT scan for meningioma

- Before iv contrast => well circumscribed lesions of a density usually greater than, or equal to brain with a surrounding area of low attenuation (edema). Calcification may be evident.
- After iv contrast => A dense, usually homogenous enhancement occurs after contrast injection.
- CT is more sensitive than MRI in meningioma detection.

MRI for meningioma

- On T1 weighted images most meningiomas are isointense with brain, but after gadolinium injeciton, they diffusely and strikingly enhance.
- T2 weighted images give useful preoperative information by identifying major vessels and showing their relationship with the tumor.

Angiography for meningioma

- Characteristically shows a highly vascular lesion with a typical tumor “blush”, but with the availability of MRI, its main value is in selective catheterisation and embolisation of external carotid feeding vessels to reduce tumor vascularity and diminish operative risks from excessive hemorrhage.