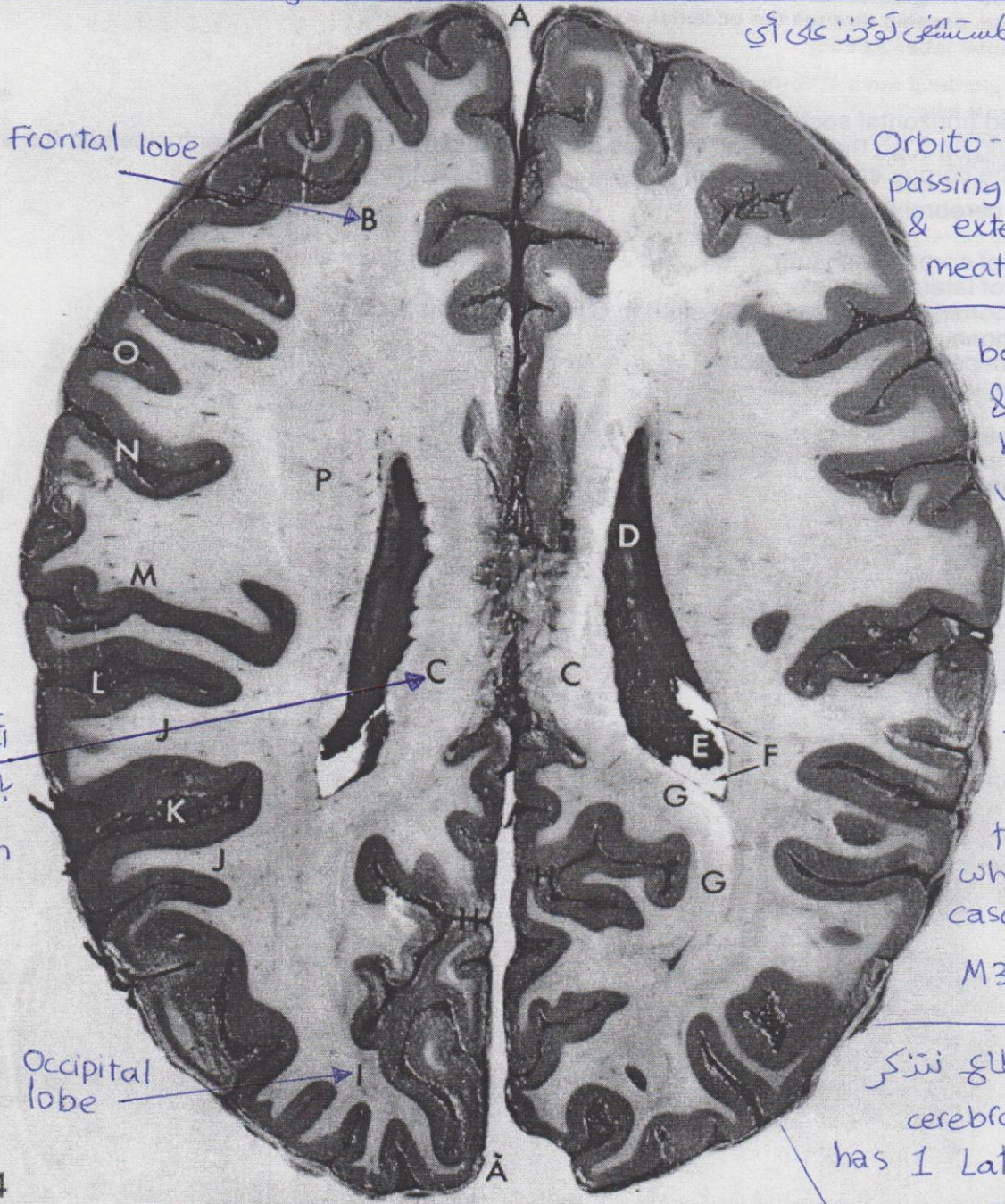


* AH-section of the cerebrum passing through the central parts of the lateral ventricle & the top of the trunk of corpus callosum. (D) = central part of Lat. ventricle. (C) = top of the trunk of corpus callosum (P) = corona radiata (B) = frontal lobe (M) = Parietal lobe (F) = Collateral trigone.. NO cerebellum

* الصور الطبقة في المستوي لوعدت على أي مستوى؟



Orbito-Meatal plane, passing through the orbit & external acoustic meatus.

* منطقة التقاء body & post. & inf. horn of Lat. (F) ventricle

TRIGONE - post. horn

← غالباً ما يبين لأنه يغير

- inf. horn
إذا برز يمر فيو لوزم يكون عارر بال temporal lobe, which is not the case in this section

M3nato trigone!

* الهدف من هذا القطاع نتذكر

انف كل cerebral hemisph.

has 1 Lat. ventricle

y3ni 2 Lat. ventricles

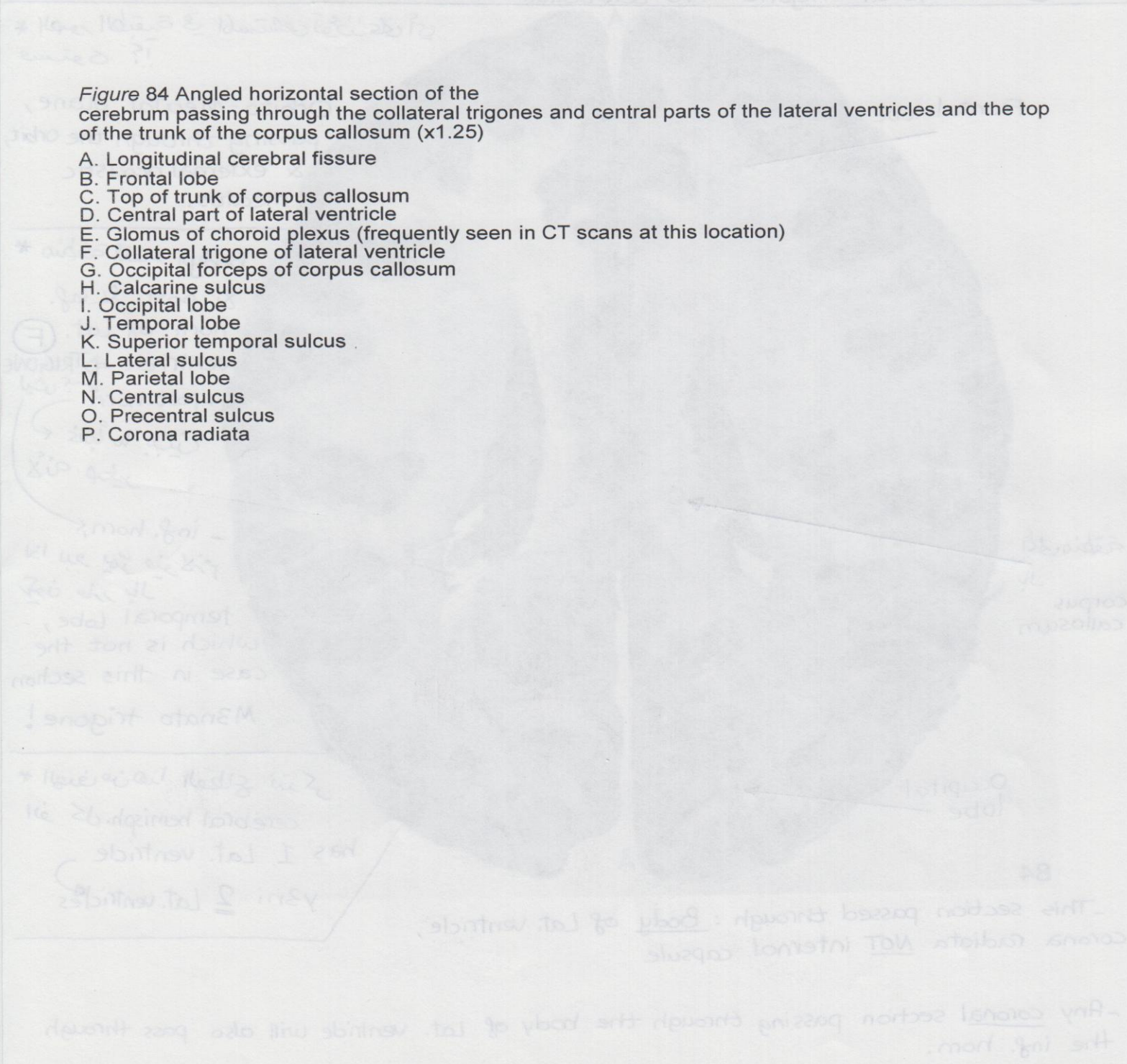
84

- This section passed through : Body of Lat. ventricle, corona radiata NOT internal capsule

- Any coronal section passing through the body of Lat. ventricle will also pass through the inf. horn.

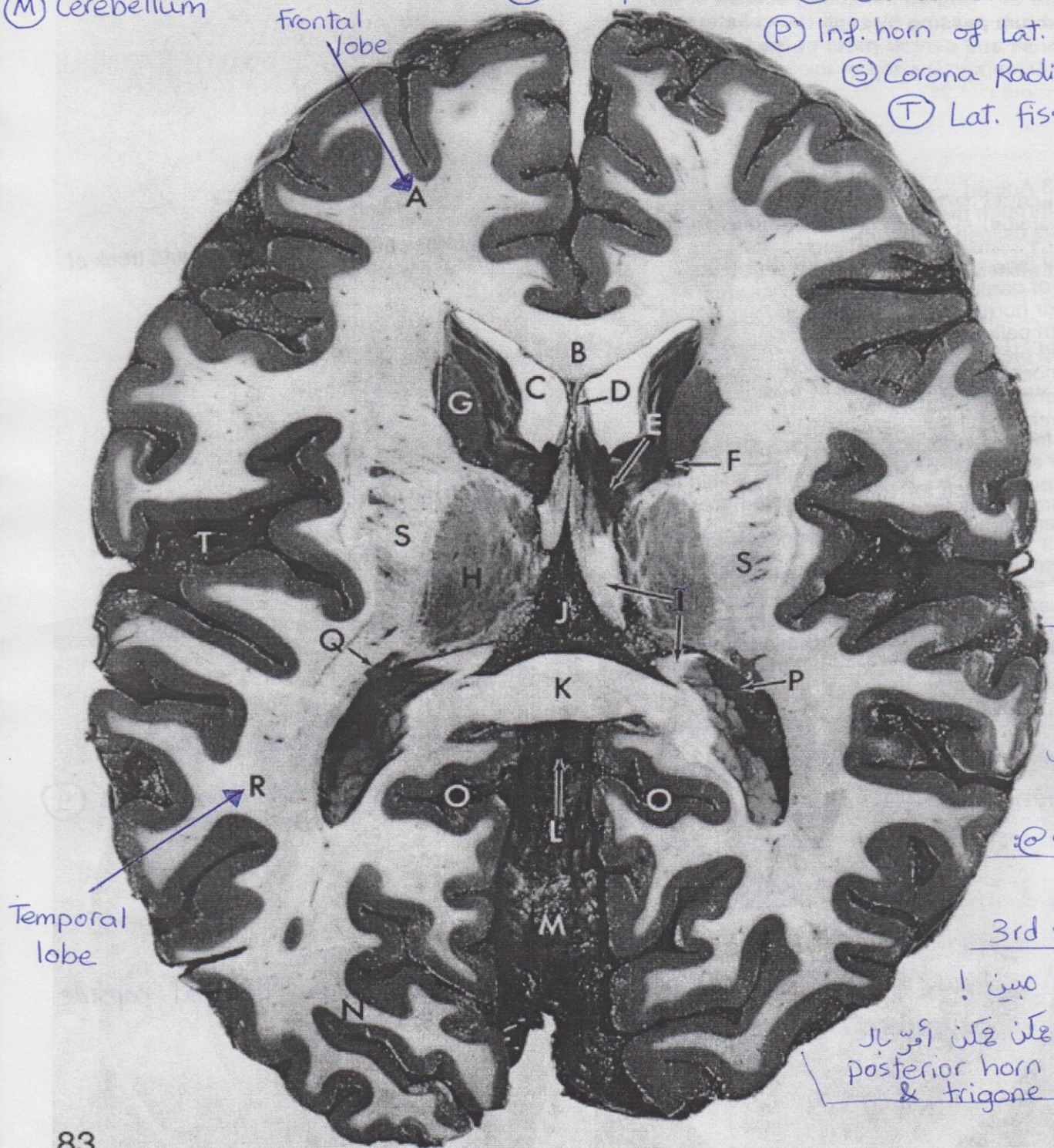
Figure 84 Angled horizontal section of the cerebrum passing through the collateral trigones and central parts of the lateral ventricles and the top of the trunk of the corpus callosum (x1.25)

- A. Longitudinal cerebral fissure
- B. Frontal lobe
- C. Top of trunk of corpus callosum
- D. Central part of lateral ventricle
- E. Glomus of choroid plexus (frequently seen in CT scans at this location)
- F. Collateral trigone of lateral ventricle
- G. Occipital forceps of corpus callosum
- H. Calcarine sulcus
- I. Occipital lobe
- J. Temporal lobe
- K. Superior temporal sulcus
- L. Lateral sulcus
- M. Parietal lobe
- N. Central sulcus
- O. Precentral sulcus
- P. Corona radiata



LAB ANATOMY 7-8

- (B) Body of corpus callosum
- (C) Ant. horn of Lat. ventricle
- (D) Septum Lucidum
- (G) Head of caudate nucleus
- (H) Thalamus
- (I) Crus of fornix
- (K) Splenium of corpus cal.
- (M) Cerebellum
- (N) Occipital lobe
- (O) Calcarine sulcus
- (P) Inf. horn of Lat. ventricle
- (S) Corona Radiata
- (T) Lat. fissure.



في عينة بتم
 بال ant. horn
 & post. horn
 متباينة ولا يعرف
 بينها @
 يمكن تكون هاي @

* الدكتور حكي
3rd ventricle

مع انه وش مابين !

* حكي كمان: يمكن يمكن اقر بال
 posterior horn .. ?!
 & trigone

83

* The section passed through the highest part of thalamus (H)

* fi fornix (I) Blymeen & fornix 3L shmal

- وين الكلايا الام ؟ : hippocampus
- وين بروج ؟ : Mamillary body - hypothalamus



Figure 83 Angled horizontal section of the brain passing through the splenium of the corpus callosum, crura of the fornix, septum pellucidum, and trunk of the corpus callosum (x1.25)

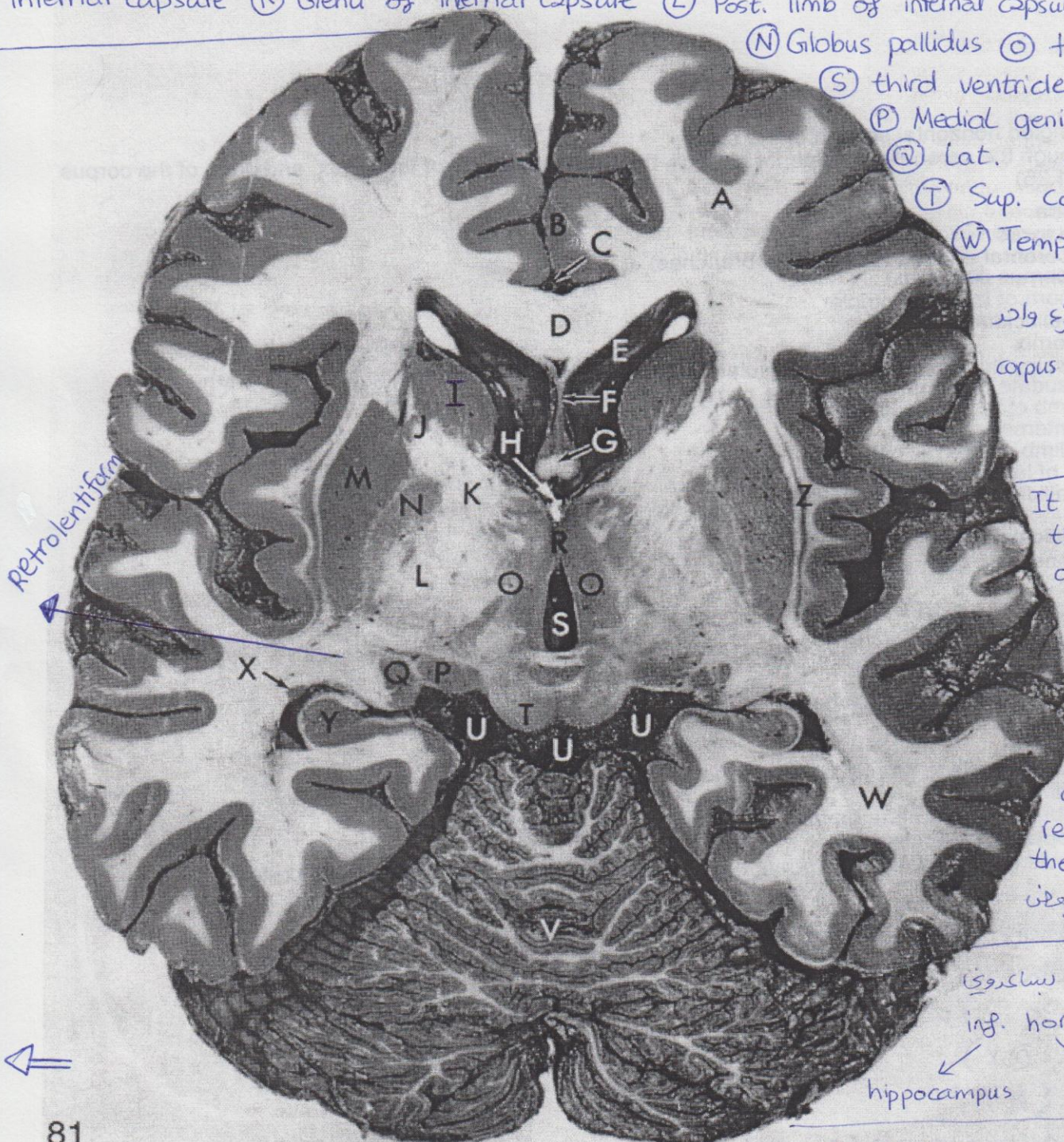
- A. Frontal lobe
- B. Trunk of corpus callosum
- C. Anterior horn of lateral ventricle
- D. Septum pellucidum
- E. Choroid plexus of lateral ventricle
- F. Thalamostriate vein
- G. Head of caudate nucleus
- H. Thalamus
- I. Crus of fornix (cut in two places)
- J. Anterior extension of superior cistern within the transverse cerebral fissure (contains the two internal cerebral veins, which are difficult to see here)
- K. Splenium of corpus callosum
- L. Great cerebral vein (within superior cistern)
- M. Superior surface of cerebellum N. Occipital lobe
- O. Calcarine sulcus
- P. Choroid plexus within inferior horn of lateral ventricle (frequently seen in CT scans at this location)
- Q. Tail of caudate nucleus R. Temporal lobe
- S. Corona radiata (just above internal capsule)
- T. Lateral sulcus (with several branches of middle cerebral artery within it)

- Note: The thalamus is evident, so is the head of caudate. **BUT** I can't see the lentiform nucleus.. therefore, Lateral to the thalamus (S) is NOT the internal capsule → الجزء الذي فوقها

Corona Radiata ↙ ↘

..Y3ni : When I see Lentiform (or part of it) → Internal capsule
 otherwise → Corona radiata.

- (A) Frontal lobe (B) Cingulate gyrus (D) Genu of corpus callosum (E) Ant. horn of Lat. ventricle
- (F) Septum Lucidum (G) Body of fornix (I) head of caudate nucleus (J) Ant. limb of internal capsule
- (K) Genu of internal capsule (L) Post. limb of internal capsule (M) Putamen (N) Globus pallidus (O) thalamus (ثَلَامُوس)
- (S) third ventricle (P) Medial geniculate body (Q) Lat. " " (T) Sup. Colliculus (tectum) (W) Temporal lobe.



(*) القطاع مر. بجزء واحد
 ون corpus callosum
 ↓
 Genu

It didn't pass (*)
 through the
 occipital or
 the parietal
 lobes

The temporal
 lobe is
 always
 related to
 the inf. horn
 بـفهم مع بعض

يعني شغلين يساعدي
 افتر ال
 inf. horn
 hippocampus
 Temporal lobe

81

(Y) → Hippocampus , (X) Tail of caudate

Inf. horn of : لا بينها
 Lat. ventricle.

* We saw the lentiform nucleus, m3nato
 this (J) - (K) - (L) is the internal capsule
 NOT corona radiata.

طالما بين (cerebellum) معارح بين
 occipital lobe, and splenium

Figure 81 Angled horizontal section of the brain passing through the cerebellum, superior colliculi, third ventricle, body of the fornix, and genu of the corpus callosum (x1.25)

- A. Frontal lobe
- B. Cingulate gyrus
- C. Anterior cerebral arteries (pericallosal branches)
- D. Genu of corpus callosum
- E. Anterior horn of lateral ventricle
- F. Septum pellucidum
- G. Body of fornix
- H. Arrow passing through the interventricular foramen (from lateral ventricle to third ventricle)
- I. Head of caudate nucleus
- J. Anterior limb of internal capsule
- K. Genu of internal capsule
- L. Posterior limb of internal capsule
- M. Putamen of lentiform nucleus
- N. Globus pallidus of lentiform nucleus
- o. Thalamus
- P. Medial geniculate body
- Q. Lateral geniculate body)

- R. Interthalamic adhesion
- S. Third ventricle 1 D
- T. Superior colliculus (lower tip)
- U. Superior (or quadrigeminal) cistern
- V. Cerebellum
- W. Temporal lobe
- X. Tail of caudate nucleus (in roof of *inferior horn of lateral ventricle*)
- Y. Hippocampus and its fimbria (in floor of *inferior horn of lateral ventricle*)
- Z. From the putamen lateralward: external capsule (white), claustrum (gray), extreme capsule (white), and insula (gray cortex)

⊗ Questions :-

→ This section passes through :-

Frontal lobe (✓)

Temporal " (✓)

Occipital (X)

Parietal (X)

2 parts of Lat. ventricle (✓; ant. & inf. horn)

→ Caudate & Putamen = Striatum

→ Does this section pass through parts of the limbic system/Lobe? How Many?

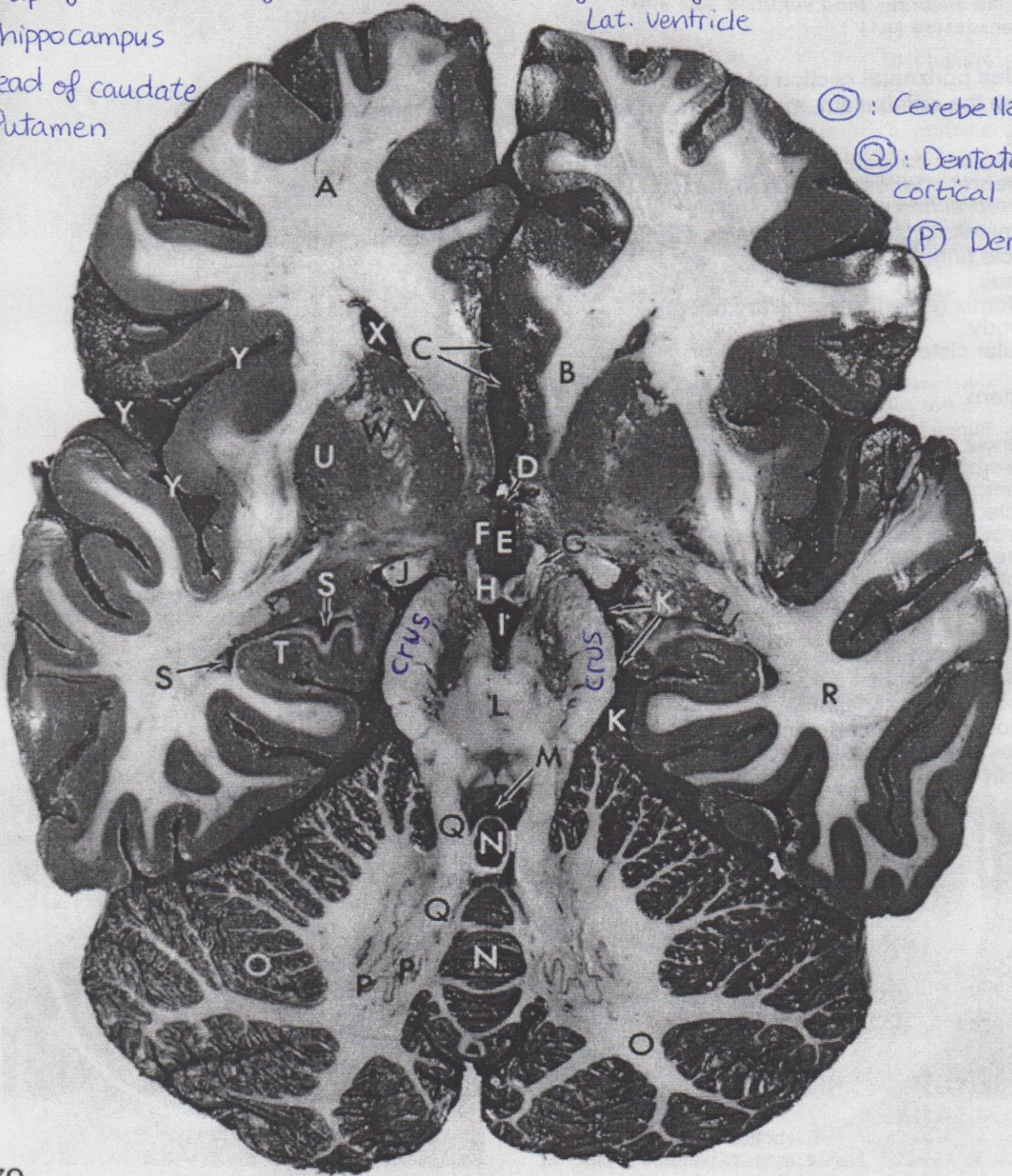
Hippocampus, Parahippocampal gyrus, cingulate gyrus,

AH - section of the brain passing through the cerebrum, cerebellum & midbrain.

- (A) Frontal lobe (R) Temporal lobe (L) Midbrain - notice
- (X) Tip of ant. horn of Lat. ventricle (S) Inf. horn of Lat. ventricle
- (T) hippocampus
- (V) head of caudate
- (U) Putamen

crus cerebri : motor pathways
 substantia nigra (medial to the crus, كالمين وكالمال الشبي أسود)

- (O) : Cerebellar hemisphere
- (Q) : Dentatorubro thalamo cortical tract.
- (P) Dentate nucleus.



79 - There is no parietal or occipital lobes mbyneen

* Note how caudate (V) and putamen (U) have come close, so as to fuse & form the striatum.

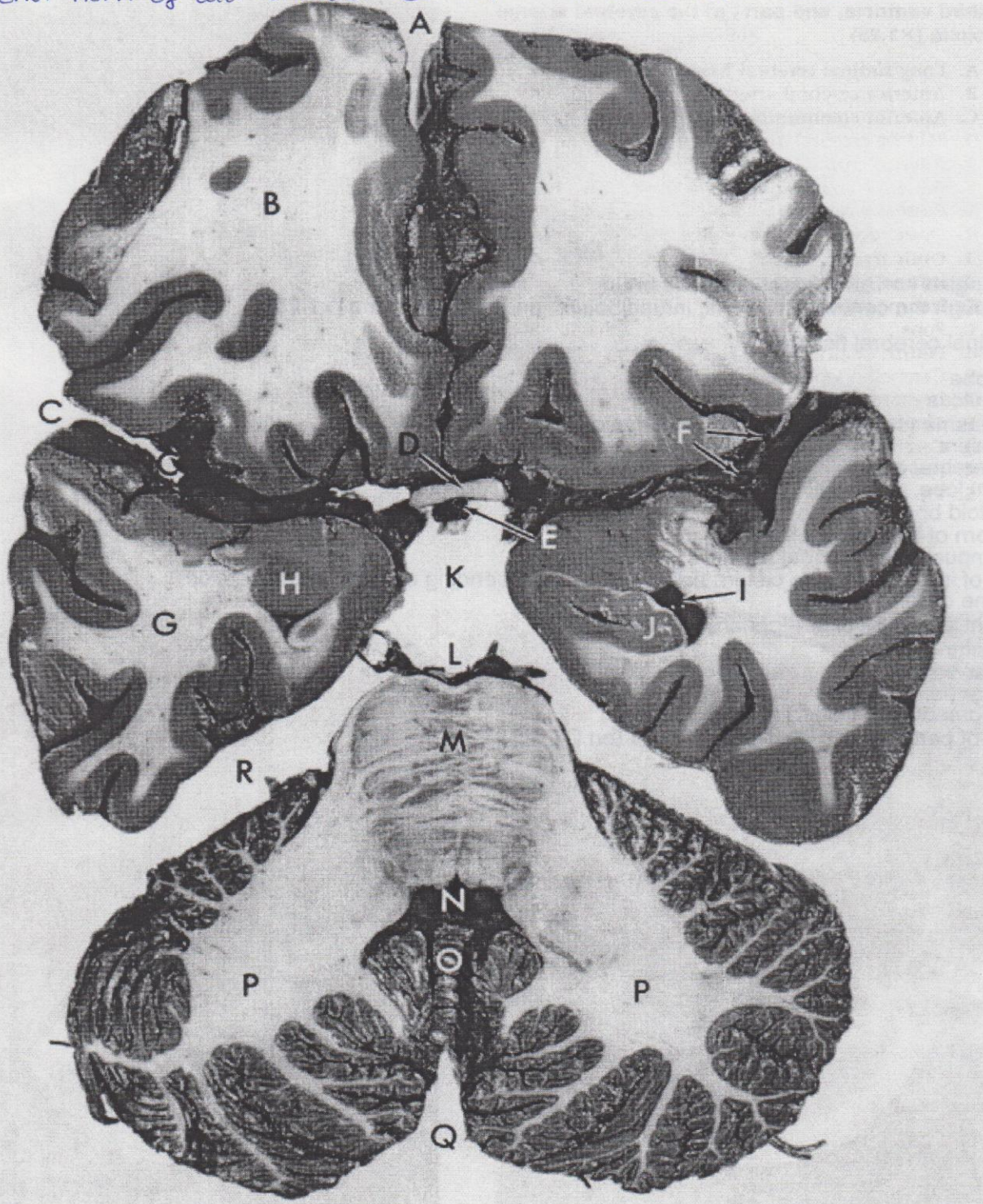
* الجزء الأمامي من caudate ⊕ putamen ← nucleus accumbens

Figure 79 Angled horizontal section of the brain passing through the cerebellum, midbrain, mamillary bodies, and lamina terminalis (x1.25)

- A. Frontal lobe
- B. Rostrum of corpus callosum
- C. Anterior cerebral arteries (running in the longitudinal cerebral fissure)
- D. Lamina terminalis (*cistern of the lamina terminalis* is just anterior to this structure)
- E. Third ventricle (inferior part)
- F. Hypothalamus
- G. Column of fornix (entering mamillary body)
- H. Mamillary body
- I. Interpeduncular cistern
- J. Optic tract
- K. Ambient cistern
- L. Midbrain
- M. Fourth ventricle
- N. Cerebellar vermis
- o. Cerebellar hemisphere
- P. Dentate nucleus of cerebellum
- Q. Dentatorubrothalamic tract (leaving the dentate nucleus and ascending, via the *superior cerebellar peduncle*, to the midbrain)
- R. Temporal lobe
- S. Inferior horn of lateral ventricle
- T. Hippocampus
- U. Putamen of lentiform nucleus
- V. Head of caudate nucleus
- W. Anterior limb of internal capsule
- X. Tip of anterior horn of lateral ventricle
- Y. Lateral sulcus (with branches of middle cerebral artery in it)

AH- section of the brain passing through the cerebrum, cerebellum & pons.

- (B) Frontal lobe (G) Temporal lobe (M) Pons (P) Cerebellar hemisphere - middle cerebellar peduncle (MCP)
 (I) Inferior horn of lat. ventricle. (J) Hippocampus (D) Optic chiasm



77

- No ant. horn, bs inf horn
- MCP → formed of pontine nuclei of the opposite side

Figure 77 Angled horizontal section of the brain passing through the cerebellum, pons, infundibulum, and optic chiasma (x1.25)

- A. Longitudinal cerebral fissure
- B. Frontal lobe
- C. Lateral sulcus
- D. Optic chiasma (surrounded by the chiasmatic cistern)
- E. Infundibulum
- F. Middle cerebral artery
- G. Temporal lobe
- H. Amygdaloid body
- I. Inferior horn of lateral ventricle
- J. Hippocampus (hippocampal digitations, head, or pes)
- K. Position of interpeduncular cistern or sella turcica (depending on level of the section)
- L. Prepontine cistern
- M. Pons (just above level of trigeminal nerves)
- N. Fourth ventricle
- o. Cerebellar vermis
- P. Cerebellar hemisphere
- Q. Cerebellomedullary cistern (cisterna magna)
- R. Position of petrous part of temporal bone (on CT scan)

77
 - No ant. horn, bc inf. horn
 - MCP → 8 formed of pontine nuclei of the opposite side

* Lab Anatomy 8 : العينة :

① شريفة : Passing through the lowest part of thalamus - highest part of midbrain: **Section-3**

- Genu : ✓ , Splenium : X ; it passed through the cerebellum

- ← طالما مرّ فيه ، قطعة لن يمر بال parietal ، ولا ال occipital

* I can see : Ant. horn in the frontal lobe

Inf. horn " " temporal "

↳ كيف يعرفه؟ : By the hippocampus.

* I can also see the internal capsule, كيف يعرفها؟ → If the section shows the

4 parts: ← caudate & lentiform

ant. limb, post. limb,
genu & retrolentiform part

← معناته بقدر أميز صود ال internal capsule

* Note: the tectum.

② **Section 4**:

- Note the crus & substantia nigra of the midbrain

- " " hippocampus.

بامتحان ال 2nd باذن الله ح كملك ياها ونسألك ايض الي ظاهر و ايض الي مش ظاهر

- Note how caudate & putamen fused forming: Nucleus accumbens

خ HaHaHa لينة اللاب يستهلوني يستهلوا هالشيبه

- Through the crus cerebri only MOTOR fibres. Sensory fibres pass through the midbrain wara el crus.

③ **Section 5** : شوبشوف؟

- Frontal & temporal lobes

- Pons → تبعث أذرع

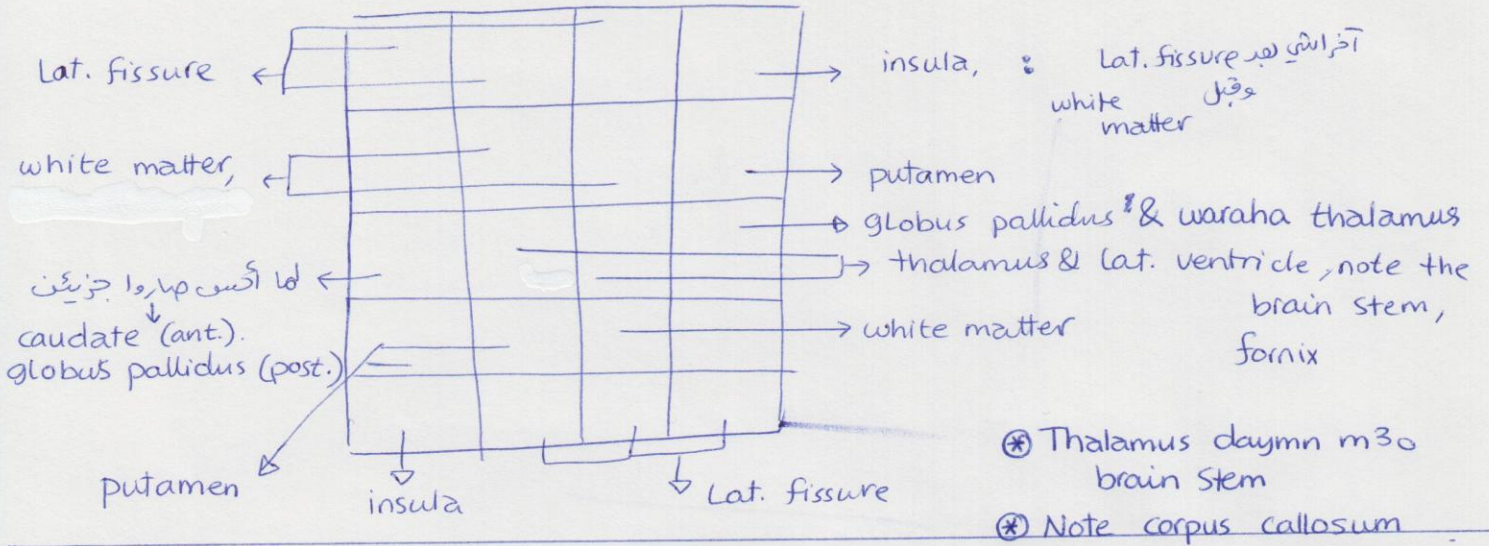
(MCP)

→ Middle cerebellar peduncles , → peduncles كالبية

Each MCP originates from the ←
pontine nuclei of the opposite side

* Lab Anatomy 9 : عينة

① MRI : اللى فيها كآزة ، الصورة صغيرة



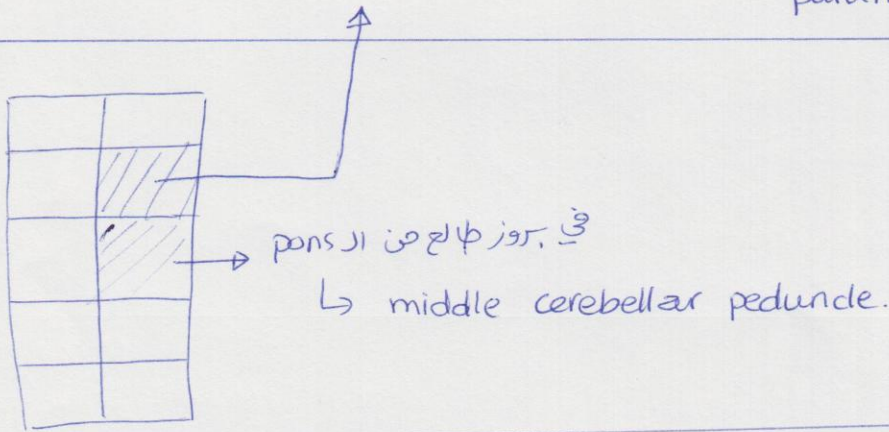
② MRI - coronal:

بين فيني: 2 Thalamus, benhom 3rd ventricle, Body of Lat. ventricle, pons, midbrain, corpus callosum, cingulate gyrus,

-As long as the section passes through the body of Lat. ventricle

M3nato kman → it passes through the inf. horn, hippocampus جوة parahippocampul gyrus جة.

③



④ Angled Horizontal Section : ماعرف شو هي :

Ant. horn of Lat. ventricle, head of caudate, 2 thalami, internal capsule 4 parts

* Lab Anatomy 10 : عينة

- منقول اذا في قطاعات معينة بين فيها ال ant. horn , inf. horn ... الخ ، لازم اقدر اتميز .

① Typical AH-section: يمر ب : ورتناكم ياه :

- Genu, splenium,
- Ant. horn, post. horn

↓
in between septum Lucidum & fornix

- NO cerebellum.
- Head of caudate
- Lentiform nucleus
- 2 thalami, behind third ventricle

- internal capsule : أهم اشي
 - ant. limb : between caudate & lentiform
 - post. limb : " thalamus & "
 - genu : عالزاوية
 - Retro lentiform part

سؤال

- What passes here? Optic radiation ,
- A lesion affecting this area will result in:
Contralateral Homonymous Hemianopia
نفتد الرؤية في نصف ال Field

BUT: Also a lesion affecting the optic tract will result in

طب .. كيف نتميز؟! By light reflex, which is lost in optic tract injury

② You have to differentiate between AH-section passing through pons, & a section passing through the midbrain

③ رج عاد MRI الي فيها الصورة .

شو بستفيد من هاي الصورة؟!

I can identify tumors ← cerebellum
if it's dark in color m3nato ← Atrophy
hemorrhage

Lab Anatomy 11 : كنية

① Internal Carotid Arteriogram : Zy k2nha sagittal section,

- Note: The canula, inserted in the internal carotid (خط رفيع أبيض)

- (1) → Cervical part of internal carotid
- (2) → Petrous part
- (3) → Cavernous " , Carotid ciphone
- * → cerebral part : آخر جزء من قشر دماغ
- (6,6) → branches of middle cerebral
- 7 - (8) → " " anterior "
- (5) → ophthalmic art., a branch mn elinternal carotid immediately after it leaves the cavernous sinus

↳ Supplies the orbit, gives off a branch:

Central Artery of Retina : لو انسد لادى

↳ Sudden Blindness ← إذا فقدت كم ساعة ورجع يشوف المرين معناه
Transient ischemic attack

↳ إذا استمر اكثر من 24 ساعة معناه :

Stroke

* Anterior cerebral art. → supplies the medial surface

* Middle " " → " the superolat. "



- Does it supply a motor area (yes)

- Kol elmotor area? (No, it doesn't supply the sphincter or face)

- Does it supply area 6 (Yes)

- " " " " 312 (yes)

- " " " Wernick's area (?)

Broca's area (?)

لو انسد ال middle cerebral art. في بياينه ، ما النتيجة ؟

↳ Extensive Infarction.

⊗ If Broca's area was injured (by ischemia) ⇒ motor aphasia, non-fluent aphasia, expressive aphasia

ما كاني بس يفهم ، كاني

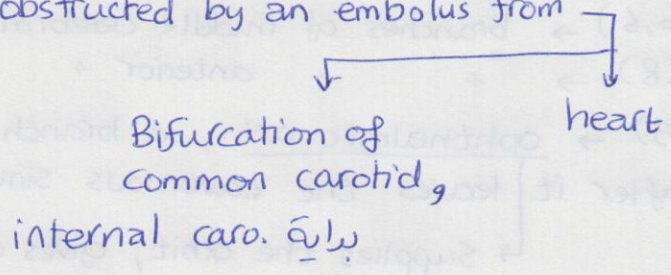
Lab Anatomy 11:

كثير حكي متقطع فحش مفهوم

* If Wernick's area was injured → Sensory aphasia, fluent aphasia
 The patient can't comprehend : ما يفهم

GLOBAL APHASIA ← middle cerebral artery ، المنطقية بتأثروا
 ↓
 كلامه يعيب ويفهمش

* The middle cerebral is commonly obstructed by an embolus from



- If it's not obstructed by an embolus, it may be affected by (congenital) narrowing of internal carotid ... منقدر نصلحوه ؟

Surgically,
 لقطع الجزء المبتسر.

* If a patient has motor aphasia, قلن يكون عنده شلل والا لا ؟
 of course, bcoz motor areas are next to Broca's,
 والي قطع الدم عن هاي بقطع عن ... شش هيك

Q. : Motor Aphasia is not uncommonly present with hemiparesis, monoplegia true.

* Sensory Aphasia m3ha hemiparesis ? No, unless it is an extensive injury (mid. cerebral art. برائته)

* A patient with aphasia, No paralysis embolic غالباً الاصابة

استاهل هادا المريض لفله ECG ؟! ... ودرزي منخبطه anticoagulant
 نعم، عشان نتأكد انه ال embolus وش طالعة من القلب

Lab Anatomy 11:-

② Section - k2nha VertebroBasilar System, [⊗] والعنى لولا :

(1) → Vertebral art. from subclavian, it ascends through the foramina transversarium, بالتوالي lateral mass of atlas, enters foramen magnum,

at the lower border of pons both arteries fuse

Basilar art. : بمازج كال pons ويعين لينقسم إلى

↳ 2 post. cerebral art. : Before this bifurcation, it gives off a branch ⇒ Superior Cerebellar art.

oculomotor nerve بيني بينهم ↓ might be affected by an aneurysm

Anterior Inferior Cerebellar ← Basilar في فرع -
Posterior " " → From the vertebral

Obstruction of this blood vessel will result in:

① Ipsilat. loss of pain & temp. from the face (✓)
② Contralat. " " " " " " " " (✓)
③ Vertigo (✓) ④ Horner's Syndrome (✓)

هذه الاعراض تظهر اذا
سدت الابن (PICA)
أو الابن (vertebral)

- الاصابة الوحيدة التي تفقد فيها الاحساس من الوجه من ناحية والجسم من الناحية الأخرى.

* Posterior cerebral → supplies visual areas, uncus.
↳ it has small perforating branches that supply the thalamus & hypothalamus

- Basilar art. → supplies Pons.
↳ has a branch: Labyrinthine art.

* Check Slides after , لا تلي لسوة فادرسه هاي
(: الماكدة

⊗ Are the internal carotid & verteobasilar systems connected ? YES

→ Ant. communicating art. → Between the 2 ant. cerebral art.

→ Post. " → في واحد منهم أثنين من الثاني

عشان هناك :

Circle of Willis is largely incomplete.

In the subarachnoid space at the base of the brain. ←
وجوده وين ؟

إذا انفجرت فيها شريان بوجل :
Subarachnoid Hemorrhage.

- Note the optic nerve.. What is peculiar to this nerve?

- It is surrounded by meninges,

أعرج -> central artery

Lab Anatomy
12

Spinal Cord عصب:

- Note how the dorsal & ventral roots increase in length as we descend in the spinal cord, so that each spinal nerve exits through:

أسفل الفقرة التي تليها : أعرج , أعرج , أعرج

- Motor fibres -> الأعرج الأمامي ? -> In the ventral horn of spinal cord

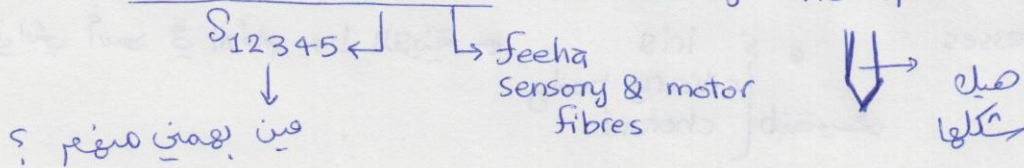
- Sensory " -> " " " ? -> Dorsal root ganglion

⊗ Note Cauda Equina: which is formed of lower lumbar & sacral nerves

- Lazm ne3raf dermatomes of the lower limb.

- Disk prolapse -> most commonly in the lumbar region

- Note: Conus Medullaris: The end of the spinal cord (النهاية العصبية)



S₂₃₄: Innervation of the urinary bladder