

# Neurosurgery

## MiniOSCE Collection



Collected BY:

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# FIRST EXAM

## 1. female presented with infertility, visual defect and galactorrhea:

A- what's the best neuroimage? MRI

B- which hormone should be measured? Prolactine.

C- on visual examination which finding you will find and explain why. Homonyms hemianopia due to mass effect of prolactinoma compressing the optic chiasm.

D- mention two lines of treatment?

Resection of the adenoma.

Medical therapy (bromocriptine)

## 2. MRI or CT scan i don't remember with case scenario of a male falling from 3rd floor:

A- mention the radiological findings?

Hyperdense left subdural lesion with midline shift

B- name the neuroimage type (i guess)

C- approach to treatment in ICU

## 3. lumbosacral and thoracic MRI T2 lesion besides T9 vertebra (not the disc) with a scenario of a heavy smoker and a mass on chest x-ray:




A- what's the most probable diagnosis? Metastatic tumor.

B- describe what you see? Osteolytic lesion extradural compressing the spinal cord.

C- mention other differential diagnosis that cause myelopathy?

Meningioma i guess.

Disc herniation.

Behaviour	Response
 Eye Opening Response	4. Spontaneously 3. To speech 2. To pain 1. No response
 Verbal Response	5. Oriented to time, person and place 4. Confused 3. Inappropriate words 2. Incomprehensible sounds 1. No response
 Motor Response	6. Obeys command 5. Moves to localised pain 4. Flex to withdraw from pain 3. Abnormal flexion 2. Abnormal extension 1. No response

## 4. patient open eyes on painful stimuli, incomprehensible words, flexes his left elbow on pain stimulus:

A- calculate the Glasgow coma scale? 7

B- determine which type of head injury according to Glasgow coma scale? Severe  $\leq 8$

C- management in ICU i guess..

## 5. a picture of a baby with macrocephaly and hydrocephalus:

A- what's the name of his eye's sign? Sunset eyes.

B- mention three physical findings when examining the head?

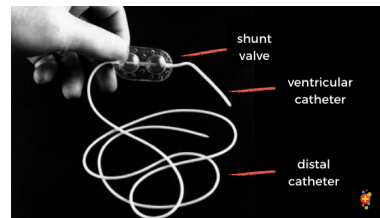
C- the most common type of hydrocephalus in pediatrics?

D- mention two surgical treatments?

## Second Exam

### 1. picture of VP shunt

- what is the name of this device
- what is the name of its component
- mention one indication ( name of the disease )
- 3 complication



### 2. Picture of subarachnoid hemorrhage

- what is the name of the image ( angiogram and CT scan
- what is the cause of this pathology ( according to the picture )
- management

### 3. picture of meningioma

- describe the image And what you see in each picture
- management

### 4. ( picture of lumbar canal stenosis )

- what is the dermatome affected
- what are the clinical sign you will see
- management
- one more question

### 5. Picture of cervical canal herniation + Hoffman

- describe the picture
- what you will see in physical examination
- what questions you will ask to the patient

- what is the name of the test and how you do this test
- what is the name of the surgery you will do
- complication of the surgery

## Third Exam

**Q1.**



What is the name of the test?

Is it passive or active?

When we call it positive test?

If positive what is that mean?

What is the best image to do?

**Q2.**

صورة لمریضة عندها cervical disc herniation

Describe the findings in the image

What is the name of the surgery? ACDF

name 2 complications-> dysphagia, hoarseness

What you need to ask the patient?

What is the provocative sign that you may find? Pain in the back upon spurling's test هيك الجواب أعتقد

**Q3.**

Describe what you see? dilated pupil directed outward and downward

What is the diagnosis? Uncal herniation

3rd CN palsy

How to treat the pt? Craniotomy (مش متأكد)

What is the best image to do to confirm the diagnosis?

**Q4.**

صورة ل parietal lobe tumor بال

Describe the findings in the image?

What is diagnosis? Glioblastoma

How to treat the patient?

What is the possible grade? High grade

اشي مثل هيك السؤال انه شو الاعراض الي رح تطلع على المريض بناءً على وجود الورم  
the patient will complain of? لobe بهاد ال

**Q5.**

صورة لمريض كان راسه مشقوق والجمجمة skull مبيينة وكانوا معطين معلومات عشان نحسب ال..GCS

Describe what you see?

GCS?

What is the classification according to GCS?

What is the management?

What is the best image to do?

## Fourth EXAM

### **Q1) picture of right foot drop**

1- Name the sign that the patient has ? Foot drop

2- Name four useful physical exam you can do for this patient ?

3-Which nerve root that is affected ?

L5

4- What is the best investigation ? Lumbosacral spine MRI

### **Q2) patient comes to ER after RTA , open eyes on painful stimuli, incomprehensible words, flexes his left elbow on pain stimulus . CT scan shows Acute epidural hematoma**

1- What is the diagnosis ? Acute epidural hematoma

2- Calculate the Glasgow coma scale? 7

3- Determine which type of head injury according to Glasgow coma scale? Severe head injury

4- What is treatment ? Craniotomy to evacuate clot

Mention also three measures you do in the ER: intubation and ABCs and then CT and admission

الاجوبة المتوقعة

**Q3) This a few hours old newborn who was delivered by C/S , he was diagnosed antinatally to have this congenital anomaly (pic of spina bifida)**

**He is unable to move his lower limbs spontaneously**

**His head circumference is 40**

السؤال ما كان بالصيغة هاي بالزبط لكن بنفس السيناريو

1- What is the diagnosis ? Myelomeningocele

2- Mention 2 risk factors associated with this anomaly ?

Folic acid deficiency , family history

3- What will happen to neurological function after doing surgical repair to this baby? It will not improve but decrease risk of infection

**Q4) Patient has cervical disc herniation at level C5/C6 , and picture (A) sagittal MRI**

**Picture (B) Axial MRI .**

1- Describe the image A and image B ?

A: T2 Sagittal MRI to cervicothoracic area

B: T2 axial MRI

And name the findings in each picture ?

A: Canal stenosis at C5/6

B: Disc herniation at C5/C6

2- What you need to ask the patient ?

3- Mention two provocative signs that you may find ? Pain in the back upon spurling's test , Lhermitte's sign

4- What is the name of the surgery ?

Anterior cervical discectomy with fusion

name 2 complications ? dysphagia, hoarseness of voice

**Q5) picture of brain tumor in the left frontal or " frontoparietal "**

1- describe the findings in the picture?

T2 Brain MRI that shows intraxial mass with heterogenous enhancement in the left frontoparietal lobe with midline shift

2- The patient will complain of ?

Right sided weakness , personality and behavioural problems , Broca's aphasia , Symptoms of raised ICP especially in morning

3- What is the diagnosis? Glioblastoma multiform

4- What is the treatment ? Surgical resection of tumor and post op chemotherapy and radiotherapy

## **Fifth EXAM**

**Q1. A 44-year-old patient presented with progressive lower back pain of 1 year duration radiating to his right lower limb. This is his picture (in the original picture, the mass was more white)**

1. Describe what you see in the picture.

A sagittal cut lumbosacral MRI T1 sequence .. it shows a hyperintense, oval-shaped, intradural, extramedullary mass at the level of L5.

\_\_\_\_\_

2. Mention other symptoms that this patient might complain of.

Right lower limb weakness & paraesthesia, urinary incontinence, cauda equina syndrome

\_\_\_\_\_

3. Give 2 possible diagnoses for this patient.

Meningioma, neurofibroma, schwannoma

\_\_\_\_\_

4. How would you treat this patient?

Surgical excision via laminectomy

**Q2. This is the picture of a patient who fell from the third floor & suffered the following lesion.**

1. What is the name of this appearance?

Raccoon eye appearance



\_\_\_\_\_

2. What is the cause of this appearance?

Basal skull fracture

\_\_\_\_\_

3. Mention 3 other signs you expect to find in this patient?

Rhinorrhea, subconjunctival hemorrhage, cranial nerve deficit

\_\_\_\_\_

4. What is the best diagnostic tool for this patient?

CT scan

\_\_\_\_\_

5. What are possible complications in this patient?

Epilepsy, hematomas, CSF leak, infections...

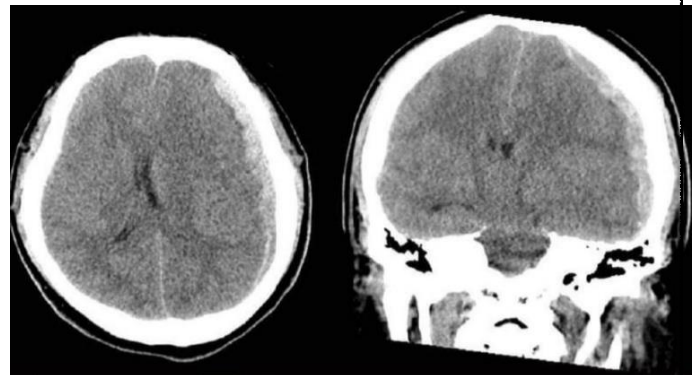
**Q3. A ~40-year-old patient suffered a head injury & fell unconscious. In the ER, his vital signs were stable.**

***The patient doesn't open his eyes in response to pain, he responds with incomprehensible sounds when you talk to him, & he flexes his elbow in response to pain.***

***This is his CT scan.***

1. Describe what you see in the pictures.

Axial (left) & coronal (right) brain CT .. they show crescent-shaped, subdural hyperdensity on the left side with midline shift to the right side.



\_\_\_\_\_

2. What is the Glasgow coma score for this patient?

E1V2M3 (GCS6)

\_\_\_\_\_

3. What is the type of injury depending on the GCS?

Severe brain injury

\_\_\_\_\_

4. How would you manage this patient in the ER & after admission?



-In the ER: ABCDE then craniectomy & evacuate the hematoma

-After admission: monitor in the ICU & give IV fluids

**Q4. A 40-year-old lady presented with neck pain radiating to the right upper limb, as well as difficulty walking that started 1 year ago. This is her picture.**

1. Describe what you see in the picture.

A sagittal cut cervical spine MRI T2 sequence .. it shows C5-C6 disc prolapse

\_\_\_\_\_

2. What are 4 questions that you should ask this specific patient?

-Does she have right upper limb weakness?

-Does she have right upper limb paraesthesia?

-Does she have urine incontinence?

-Does she have any muscle rigidity?

\_\_\_\_\_

3. Mention 4 signs of myelopathy?

-Positive Hoffmann's test

-Clonus

-Hyperreflexia

-Spasticity

\_\_\_\_\_

4. At what level is the upper motor neuron affected in this patient?

Below C6

\_\_\_\_\_

5. Name the surgical approach used to treat this patient & mention 2 complications.

ACDF .. hoarseness & dysphagia



**Q5. A 2-year-old patient is brought by his parents to the hospital as a case of hydrocephalus. This is his picture.**

1. What's the name of this sign?

Sunset sign

\_\_\_\_\_

2. Mention 4 other findings you'll find when examining the head of the patient.

- Tense/bulged fontanelle
  - Increased head circumference
  - Tense, shiny skin
  - Distended scalp veins
- \_\_\_\_\_

3. What's the most common cause of hydrocephalus in this patient?

Cerebral aqueduct stenosis

\_\_\_\_\_

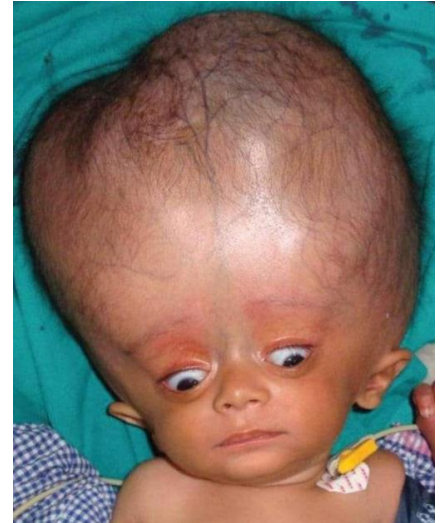
4. What is the best diagnostic method for the diagnosis of hydrocephalus?

MRI

\_\_\_\_\_

5. What are 2 definite surgical treatments for this patient?

- VP shunt
- Endoscopic third ventriculostomy



## **sixth EXAM**

**Q1. A 65 year old pnt came to hospital after he fell from stairs, on examination , he was flexing his hands and produce inappropriate words and open eyes to pain: his ct scan is shown**

A-Calculate his GCS? 8

B-Mention 4 Acute complications of his condition ?Hydrocephalus,herniation.....

C-Describe what you see on his CT scan.?

D-What is the best surgery for this pnt?



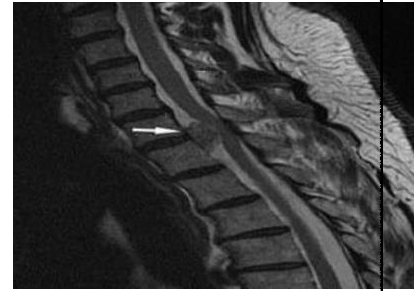
**Q2. a 56 year old lady present with low back pain ,examination shows she has myelopathy. Question contained 2 pictures shown babinski sign picture and MRI**

A- Describe? Intraspinial intradural extramedullary mass compressing spinal cord.

B-Most likely diagnosis? Meningioma.

C-Other 3 myelopathy signs of lower limb? Hyperreflexia , clonus ,spasticity

D\_ what does this sign indicate (babinski sign) ? UMNL.



**Q3. A pnt came with low back pain. Five days later he had urinary incontinence. MRI picture were shown.**

A-Describe MRI pic? There was disk herniation in L5 S1

B-mention 5 specific questions for his case? Saddle anesthesia , impotence , weakness .....,

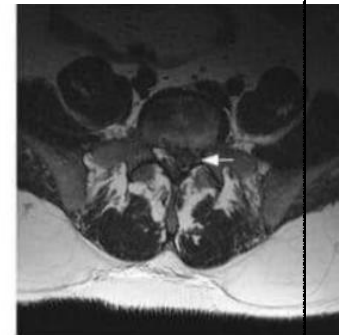
C- What's the best surgical intervention?

D- mention two signs seen on examination?

E- which dermatome, reflex are affected?



A



B

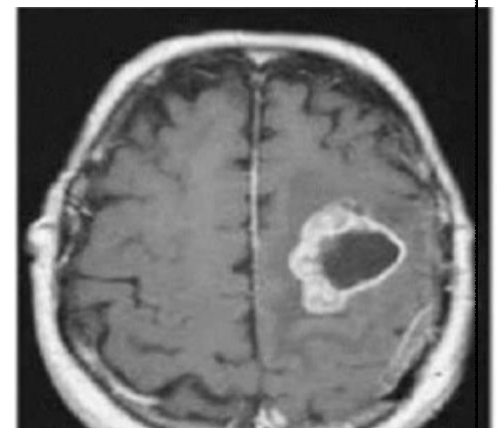
**Q4. A 68 year old pnt. has a of history of lung cancer had a seizure recently , his MRI was shown (pnt is right handed).**

A- Describe MRI findings ? There was mass irregular border in the frontoparietal area.

B- Diagnosis? brain metastasis

C-Other finding on p/e? agraphia, acalculia,.....

C- What are the lines of treatment for this pnt?



**Q5. A pnt came to hospital due to severe headache . her vitals were significant for BP of 180/110. Her labs show Na levels of 122 .**

A-Describe changes on CT?

B-What is the most common cause in her case? .

C-What is the next step in confirming diagnosis?

D\_What are the explanations of her vitals and labs



## ***seventh EXAM***

### ***Q1. Myelomeningocele and myelocele***

- 1- name
- 2- which picture is Myelomeningocele
- 3 - prognosis after surgery? Same
- 4- associated with? Hydrocephalus
- Percentage?
- 5- which syndrome is this?

### ***Q2. Basal skull fracture scenario causing facial nerve palsy?***

- 1- whats pathology?
- 2- mention sign?
- 3 - tests to confirm that the leak is csf
- 4 - management??

### ***Q3. Brain tumor***

- 1- describe finding in the image?
- 2- Most likely diagnoses?
- 3- signs and symptoms will happen?
- 4- treatment?
- 5- Missing

### ***Q4. Head trauma case with ct showing epidural hemorrhage***

- 1- findings in ct?
- 2- gcs?
- 3 - type?
- 4- management?

### ***Q5. Cervical disk***

- 1- image findings?

2- signs and symptoms?

3 - management and complications?

Acdf... Infection? Hematoma?

## ***Eighth EXAM***

***Q1) a case of RTA presented with the sign shown in the image. Open eyes spontaneously, not oriented to place, obeys commands.***

1. What is the GCS? Explain.
2. What is the type of head injury according to GCS? Why?
3. What is the name of the sign shown?
4. Mention three other signs associated with basilar skull fractures
5. Mention two tests to differentiate CSF leak



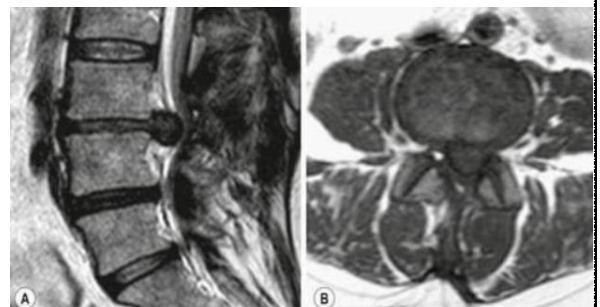
***Q2) Newborn with defect shown in the image. head circumference is 39, with paraparesis.***

1. What is the diagnosis?
2. Describe the head circumference and explain why
3. Mention two risk factors
4. What is the name of surgical procedure? mention 2 indications



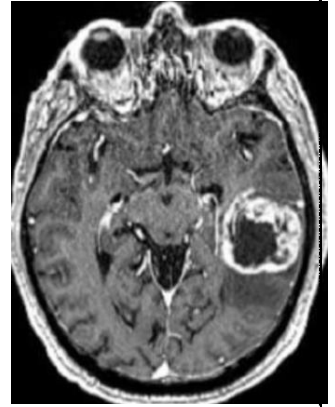
***Q3) patient presented with severe back pain of 1 week duration radiating to the left leg.***

1. Mention 5 specific questions you would ask the patient.
2. Mention two signs you expect to see in physical exam.
3. Describe what you see in image a and b.
4. What is the dermatome affected?
5. What is the management?



**Q4) Patient presented with headache and seizures, he is smoker, diagnosed with lung cancer 4 years ago.**

1. What is the most likely diagnosis?
2. Describe what you see.
3. Mention neurologic abnormalities the patient may have according to his lesion
4. Mention the lines of management



**Q5) female patient presented with headache and galactorrhea. MRI is shown**

1. What is the diagnosis?
2. What is visual defect you expect to be present in this patient? Why?
3. Mention laboratory investigations you would order for diagnosis.
4. What is the first line treatment?
5. What is the surgical management approach?



## **Ninth EXAM**

**Q1. A case of head injury, CT scan with subdural hemorrhage**

- 1) describe what you see
- 2) GCS
- 3) type of head injury according to GCS
- 4) how would you manage this patient in the ER and in the ICU



**Q2. 14 years old presented with difficulty walking this is her MRI**

- 1) describe what you see
- 2) what clinically important questions you would ask this patient, mention 5
- 3) ddx
- 4) most probable diagnosis

Not the exact picture, it was a case of ependymoma.



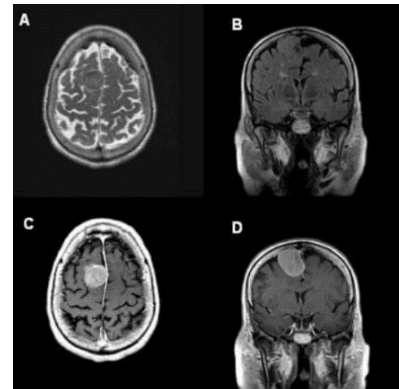
**Q3.**

- 1) what is the clinical sign in this picture
- 2) 5 physical exams you would do
- 3) nerve root affected



**Q4. It was a case of meningioma arising from the falx cerebri**

- 1) sequence in each image
- 2) describe what you see in image C
- 3) diagnosis
- 4)



**Q5. infant with head circumflex ~40 i think , had vp shunt before and now this is the presentation:**

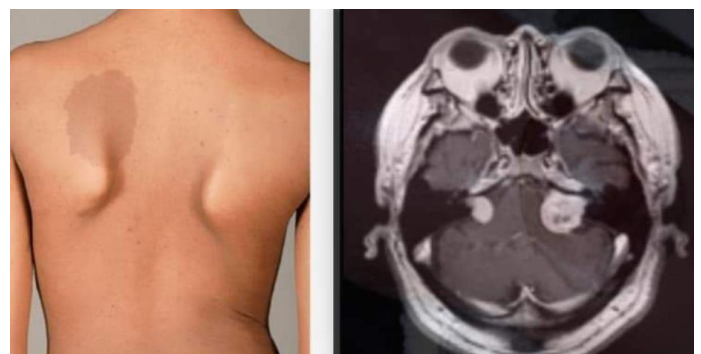
- 1) dx?
- 2) investigation?
- 3) mention 5 signs of hydrocephalus
- 4) most common cause of hydrocephalus in peds?



## 10th EXAM

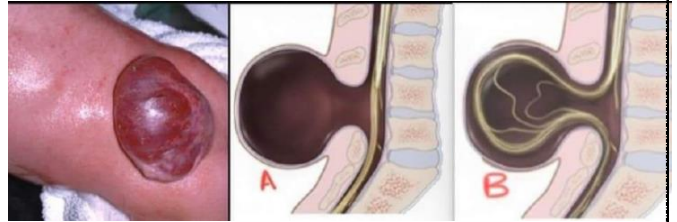
**Q1. A case of a patient with hearing loss**

1. Radiological image findings? Bilateral temporal hypodense lesions and central hyperdense lesion (not sure)
2. Type of lesion? Bilateral vestibular schwannomas
3. Name of the sign? Cafe au lait spot
4. Name of the syndrome? Neurofibromatosis 2
5. Which cranial nerves should be tested? CN8



**Q2. Newborn with lesion in his back**

1. Diagnosis? Myelomeningocele
2. Which one represents the patient's findings A or B? B
3. What is this associated with + percent?



Arnold chiari malformations (Hydrocephalus), 85-90% association

4. The name of the syndrome?

Arnold chiari syndrome OR chiari malformations type 2

5. What can you do to help this lady while pregnant? Intrauterine Myelomeningocele surgical repair

6. What advice would you give to avoid this problem in the future?

Planned pregnancy with folic acid supplementation 3mo before pregnancy.

**Q3. Old patient with frequent falls due to paralysis, with heart disease on aspirin, presented with headache.**

1. Describe image findings? Bilateral (mention lobes it encompasses) hypodense subdural lesion



2. Diagnosis? Chronic bilateral subdural hemorrhage

3. Risks? Drugs (antiplatelets/anticoagulants)

Falls (paralysis), old age

4. What other symptoms the patient may suffer from besides mentioned?

Confusion, cognitive deficits (impaired memory), hemiparesis, seizures, papilledema (blurry vision)

5. Treatment? Craniotomy and evacuation

**Q4. lady with neck pain radiating to the right upper limb, as well as difficulty walking that started a year ago.**

1. Describe what you see in the picture.

A saggital cervical spine MRI (T2) Showing C5-C6 disc prolapse

2. What are 4 questions that you should ask this specific patient?

Any Sensory, weakness, gait, urinary incontinence, muscle rigidity changes?

3. Mention 4 signs of myelopathy?





-Positive Hoffmann's test

-Clonus

-Hyperreflexia

-Hypertonia (Spasticity)

4. At what level is the upper motor neuron affected in this patient? Below C6

5. Name the surgical approach used to treat this patient & mention 2 complications.

ACDF, hoarseness & dysphagia

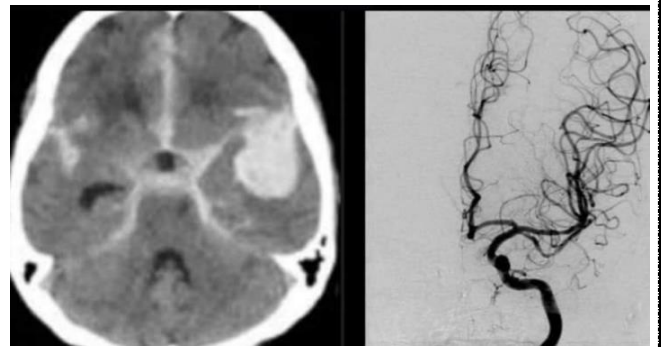
**Q5. A patient with severe headache**

1. Findings on CT? Hyperdense subarachnoid hemorrhage in middle cerebral artery area

2. Imaging modality? Digital subtraction angiography (DSA)

3. Cause? Ruptured aneurysm

4. Treatment? Clipping and coiling



## 11th EXAM

**Q1.**

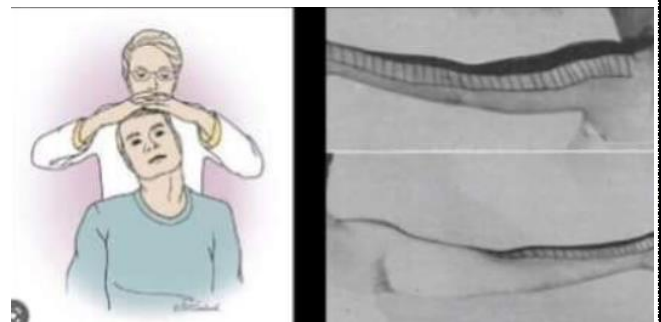
What is this test? What does it indicate? "Spurling"

Which nerve root affected? C6

What dermatome affected? What myotome?

Reflex affected? Biceps

Surgery? ACDF



**Q2.**

The patient opens his eyes on painful stimulus, inappropriate words, extend both hands on painful stimulus (the CT was showing similar findings in this CT +midline shift )

-GCS E2V3M2 : 7/15

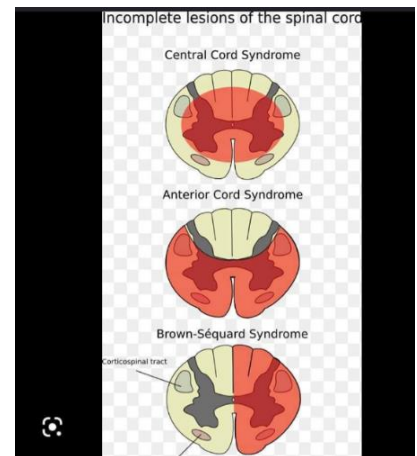
-Type of head injury depending on GCS, why? Severe



-Describe the CT findings

**Q3.**

Name the syndromes+ symptoms of each



**Q4. Female patient .....came to the ER with nuchal rigidity, fully conscious, Na:122, Bp: 180/sth, PR 45/min....**

Describe the findings?

The cause?

Grade? (They meant Fisher grade depending on history): grade 2

Explain the vital signs and the Hyponatremia?

Lejan Aldofaat



**Q5. What visual findings associated,Why?**

Give 2 Differential diagnosis ?

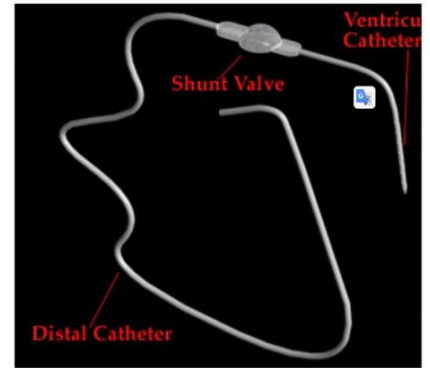
What specific lab tests needed?

Surgical approach?



## 12th EXAM

**Q1. what is the name of the device (VP shunt) , name each structure , complications (malfunctioning, intestinal obstruction , infections ) , other uses for the valve (CSF sampling , checking for obstruction)**

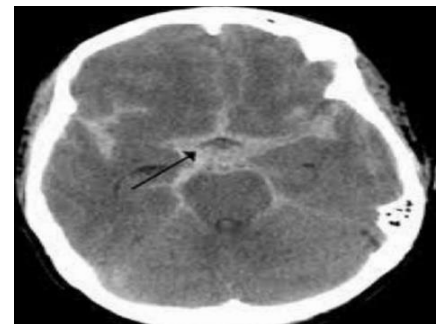


**Q2. Case of cervical canal stenosis**

Describe the image & findings , 4 questions you have to ask about (gait , urinary symptoms , numbness) , 4 signs of myelopathy (hyperreflexia , hoffman's , clonus , hypertonia , so basically UMN signs) , what nerve root it will compress , treatment (ACDF) , complications of the surgery(dysphagia , hoarseness)

**Q3. Case of SAH after trauma**

describe what you see ? , question about GCS , what is the classification ? 3 basic lines of management , (admission , ABCDE , treating increase in ICP , Intubation)



**Q4.**

8years old child complaining of headache , case of extra-axial tumor (the dr said that medulloblastoma & pilocytic astrocytomas will be considered correct ) , what questions you should ask about the "headache"? (If it was associated with vomiting , occurs in the morning) , if the pt suddenly deteriorates what is the next step ? Brain ct to check for hemorrhage

## 13th EXAM

**1. Myelomeningocele**

Diagnosis?

Next image to order, why?



Associated syndrome?

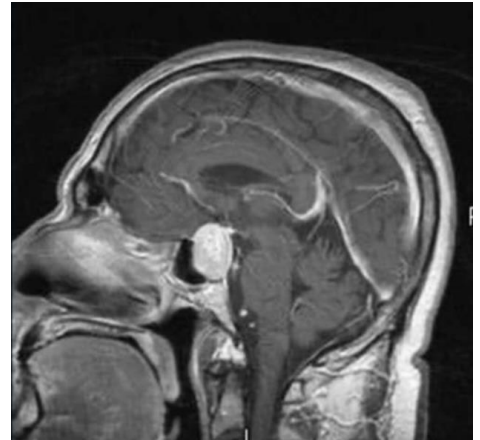
What do you think about lower limbs?

Benefits from surgery?

## **2. Patient with history of headache and visual disturbances**

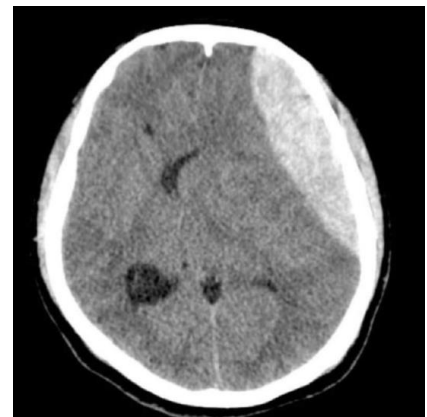
Pituitary macroadenoma

1. Type if visual field defect
2. Diagnosis
3. What labs would you order
4. First line medical treatment
5. The surgical approach



## **3. patient with trauma, open eyes on pain, flexion of his hands on painful stimuli and produce words Epidural hematoma**

1. Describe the image
2. GCS
3. Depending on GCS what type of head injury
4. Management after ER admission and 3 measures



## **4. SAH CT brain and DSA showing aneurysm**

1. diagnosis
2. type of the second image (which was DSA)
3. One clinical grading system associated with your diagnosis
4. Mention 3 risk factors
5. Management



### 5. *Sagittal T1 spine MRI, showing L5/S1 disc prolapse*

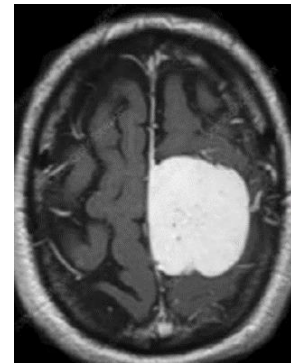
1. Type of study
2. Symptoms of the patient
3. Surgical treatment
4. Specific complications for this surgery

## 14th EXAM

### Q1. *Meningioma*

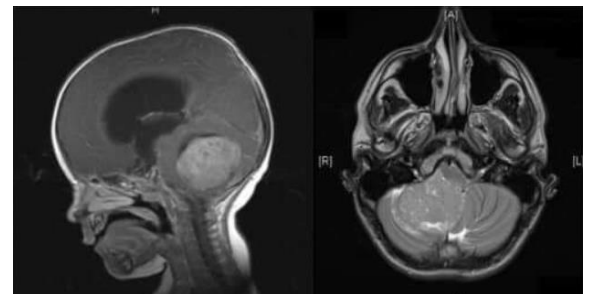
three images (similar to this + sagittal T1 + axial T1 without contrast)

1. What is Dx, explain?
2. Describe each image.
3. Findings in image C (which is like this one)
4. best surgical treatment?
5. WHO classification



### Q2. *5 y o child with posterior fossa tumor*

- 1- Most common ddx?
- 2 - how to diagnose shunt infection
- 3 - CSF findings in infection
- 4 - management
- 5 - other than shunt to treat hydrocephalus in his case



### Q3.

- 1 - type of image
- 2- Dx
- 3- symptoms related
- 4 - management

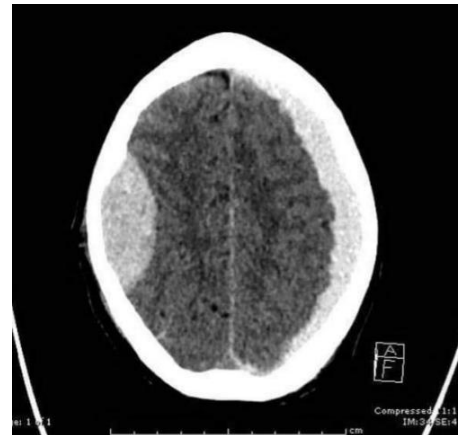


5- two risk factors?

**Q4. an image similar to this + picture of eyes with 3rd CN injury**

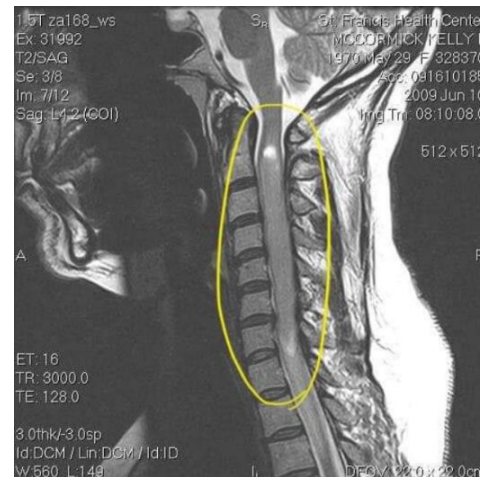
**Head injury**

- 1- GCS : eye open to pain, elbow extention, inappropriate words
- 2 - head injury according to GCS
- 3 - pupil findings? Why?
- 4 - image findings
- 5- management



**Q5. Ependymoma (not the exact picture -it was more hyperintense-)**

- 1-type of imaging and findings
- 2- 4 symptoms
- 3-two umn signs on physical
- 4- DDX
- 5- what the most probable dx



## 15th EXAM

**Q1.**

- What is the name of the pointed instrument? surgical microscope
- Mention 2 indications for its use: ACDF, decompressive laminectomy

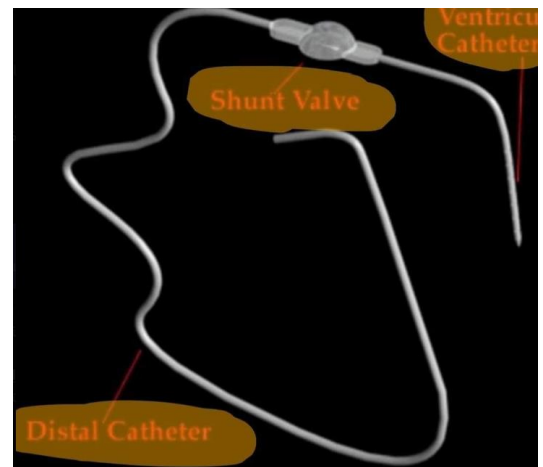


**Q2.**

-What is the name of this instrument? ventriculoperitoneal shunt

-What is the name of the pointed parts?

-What is the indication for its use (mention the name of the disease)? Hydrocephalus



**Q3.**

-What is the most likely diagnosis for this child: myelomeningocele

-What is the name of the surgery? myelomeningocele repair

-What is the benefit of this surgery? Reduce the risk of infection (meningitis) & cosmetic

-What do you think his lower limb physical examination will reveal? bilateral loss of sensation & motor function



**Q4. 70 year old man presented with headache & decreased level of consciousness during the past 2 weeks.**

He has a history of recurrent falls due right sided hemiparesis caused by a stroke. He is on ASA

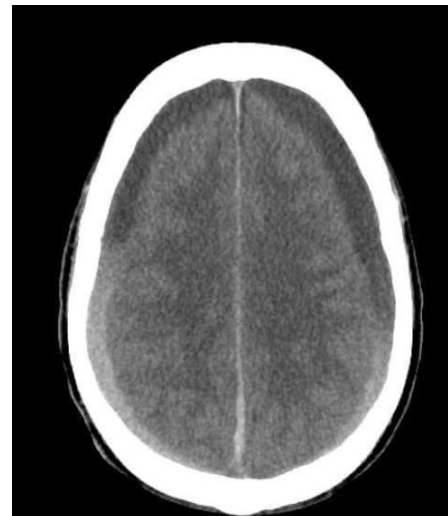
-Describe the image

-What is the diagnosis? Chronic bilateral subdural hematoma.

-Mention 3 risk factors for developing his condition: old age, ASA, recurrent falls.

-What are the 2 other possible presentations for his condition? weakness, altered mental function.

-Treatment: surgical evacuation.

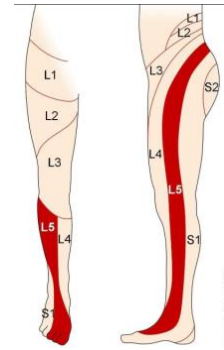


**Q5. Patient presented with pain on the shown distribution, paresthesia and muscle weakness.**

-What is the affected dermatome? L5

-What is most likely diagnosis? disc prolapse.

-On physical examination, what is the motor function that would show weakness? ankle dorsiflexion.



## 16th EXAM

**1) you see a road traffic accident on the highway**

a) what will you do? write 4 steps to your approach

- Park safely, call for help, approach the car and call the driver, if patient is conscious do not move him, if he is unconscious and is pulseless/not breathing, move him and do CPR (life>disability)

b) when you approached the pt. he opened his eyes spontaneously, was disoriented but obeyed simple commands. what's the GCS?

E4V4M5 -> GCS 14

c) upon admission, the pt has high bp and tachycardia, whats the cause?

anxiety

d) the patient was found to have weakness more in the upper limbs compared to lower limbs. whats the cause?

central cord syndrome



**2) 31 year old patient complains of recent back pain radiates to the left lower limb and recently developed urine incontinence.**

a) what are 5 questions you will ask this patient?

-if he has LL numbness

- if he has saddle anesthesia

-if he has history of trauma





-if he has lifted heavy recently

- if he has LL weakness

b) what is the test in this picture and when is it significant?

straight leg raise test, significant if sciatic pain develops above 30 degrees from the bed

c) what's the significance of urinary incontinence?

cauda equina syndrome

d) what's the best radiological image to take?

MRI

e) what surgery would you like to offer?

decompression (discectomy)

### **3) picture of hydrocephalus with setting sun eyes**

a) describe radiological findings

MRI T2 sagittal, showing enlarged ventricles

b) what is the sign in his eyes called?

setting sun appearance

c) mention 4 other physical findings in the head

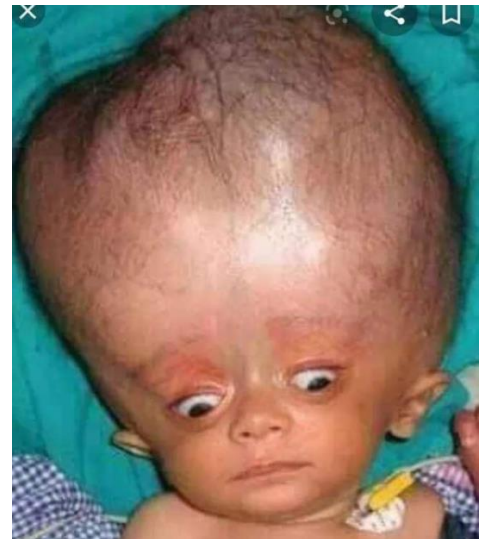
distended scalp veins, enlarged head circumference, bulging fontanelle, shiny skin

d) most common cause for hydrocephalus in infants?

cerebral aqueduct stenosis

e) 2 lines of treatment?

endoscopic third ventriculostomy and VP shunt



### **4) A pt came to hospital due to severe headache . her vitals were significant for BP of 180/110. Her labs show Na levels of 122 .**

A- describe findings on ct

hyperdensity in the left side of the brain on the territory of the left MCA

B- most common cause in her condition?

subarachnoid hemorrhage

C- what is it due to?



ruptured aneurysm

C-What is the next image in diagnosis? DSA

D\_What are the explanations of her vitals and labs? BP high to compensate for ICP, and hyponatremia due to inappropriate release of ADH

**5) A case of a patient with hearing loss (there was a pic of hydrocephalus as well)**

1.Radiological image findings? Bilateral hyperdense lesions in the temporal region

2.Type of lesion? Bilateral vestibular schwannomas

3.Name of the sign? Cafe au lait spot

4.Name of the syndrome? Neurofibromatosis 2

5. how would you treat?

excision of tumor, corticosteroids, radio/chemotherapy, and VP shunt for hydrocephalus

6.Which cranial nerves should be tested? CN5, 7, 8



## 17th EXAM

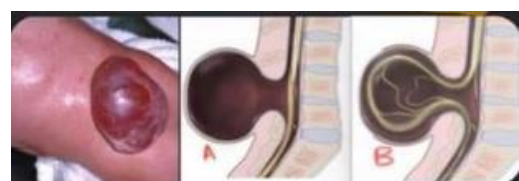
### Q1. Ependyoma

- A. Type of imaging and findings
- B. 4 symptoms
- C. Two umn signs on physical
- D. DDX
- E. What's the most probable dx



### Q2. Newborn with lesions in his back

- A. Diagnosis? Myelomeningocele
- B. Which one represent the patient findings A or B?  
B



- C. What's this associated with + percent? Amyloid chiari malformations (Hydrocephalus), 85-90% association
- D. The name of syndrome? Amyloid chiari syndrome OR chiari malformation type 2
- E. What can you do to help this lady while pregnant? Intrauterine myelomeningocele surgical repair
- F. What advice would you give to avoid this problem in future? Planned pregnancy with folic acid supplementation 3 months before pregnancy

**Q3. -Describe**

-which dermatome is affected ?

C7

-which reflex will be affected?

Triceps

-tx ? Acdf

- symptoms you ask the pt about

-signs you will see in PE

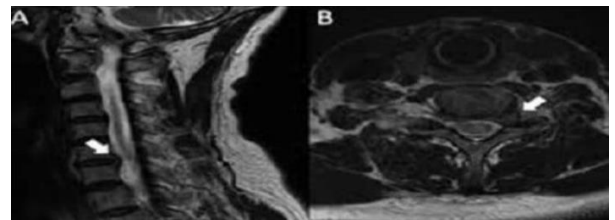
**Q4.**

What's the diagnosis, what's the level and site?

→ Cervical disc prolapse, right side c6-c7

What's the dermatome affected?

→ Right C7



**Q5. Hx of 1year headache , new onset seizure, no hx of primary tumor .**

-diagnosis?

Gbm

-describe (there were 3 pic axial , coronal, sagittal mri t1with contrast)

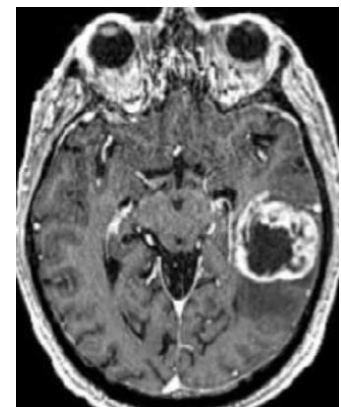
بدك توصفوهم كلهم

-neurological symptoms?

Acalculia , agraphia

-tx

Craniotomy & surgical excision then chemo and radio



-who grading system?

High grade (4)

**Q6. describe**

-most important cn to examine ,

Cn 3

-gcs (open eye spontaneously, sounds,extension on pain)

6/15

-type of injury ?

Severe

-tx after admission (3 imp points)

Icu , icp monitor , intubation, ventilation

## 18th EXAM

**1) picture of raccoon eye:**

what is the name of this sign ? what does it indicate ? name other signs specific for this case ? what is the most common complication for this type of injury ? what is the most important radiological investigation ?

**2) picture of epidural hematoma:**

describe the picture ? calculate the glasgow coma score ? severity of injury based on GCS ? mention 3 lines of management ?

**3) picture of MRI spinal tumor:**

describe findings ? name 2 other symptoms other than back pain and weakness ? give 2 differential diagnoses ? treatment ?

**4) picture of C6 herniated disc:**

what is the imaging used ? describe findings ? name 5 symptoms accompanying this ? name 5 physical exam findings ? what is the surgical treatment ? mention 2 complications for the surgery ?

**5) picture of brain tumor in an 8 year old with hydrocephalus:**

imaging used ? describe findings ? most likely diagnoses ? ask 2 important questions about the headache ? if the patient suddenly lost his consciousness what are the lines of treatment ?

## 19th EXAM (FINALLY)

**Q1. Picture of foot drop, case described loss of sensation in L5 dermatome**

1. describe the finding in the picture - foot drop
2. What is the nerve root affected - L5
3. What are 4 physical exam signs you will examine in this patient (UMN signs)
4. Imaging modality of choice - spine MRI

Motor neuron signs	UMN LESION	LMN LESION
Weakness	+	+
Atrophy	-	+
Fasciculations	-	+
Reflexes	↑	↓
Tone	↑	↓
Babinski	+	-
Spastic paresis	+	-
Flaccid paralysis	-	+
Clasp knife spasticity	+	-

**Q2. Child with Hydrocephalus**

1. what is the name of this sign - sunset appearance
2. What are 4 other signs of hydrocephalus
3. What's the most common cause of hydrocephalus in this patient
4. What are two definitive treatments of hydrocephalus

**Q3. trauma after fall- Extends arm in response to pain stimulus, opens eyes in response to pain, makes incomprehensible sounds. He has bradycardia, hypertension, and irregular breathing.**

1. GCS - 6/15
2. What's the severity according to GCS? Severe
3. What is the cause of his vital signs and irregular breathing - Cushing's triad, explain its pathophysiology
4. Name 3 management options in ER and after admission

**Q4. Subarachnoid hemorrhage - 50+ year old women, sudden symptoms**

1. What is the diagnosis - spontaneous SAH
2. What is the probable cause in this patient - Aneurysmal Rupture
3. Name a clinical grading system
4. Your next imaging modality of choice - DSA

**Q5. Subdural hematoma**

1. Describe the findings in the picture - crescentic shaped hyper density frontoparieto-occipital causing midline shift.
2. Surgery - craniotomy and evacuation

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