

SUBARACHNOID HAEMORRHAGE (SAH)

It is an acute episode, characterized by acute, sudden, severe, frightening headache at any part or site of the head at the onset, in a person not accustomed to such type of headache. And he describes it as "the worst headache of my life".

It might be associated with neurological deficit like 3rd nerve palsy, hemiplegia, loss of consciousness and convulsion.

Causes:

1-cerebral aneurysm:

_The most common cause of SAH which constitute about 50% of cases.

–Occur at bifurcation of big arteries and the posterior communicating artery is the most common site for aneurysm.

–usually it is a congenital disease, but may be due to hypertension ,infection or injury.

–it is the most common cause of sudden death in healthy young people ,death is due to rupture of the aneurysm which can occur at any time but in some cases is precipitating factor for e.g. psychological exertion ,straining during constipation, sexual intercourse.

–about one third of patients will die with the first rupture.

–the patient is usually asymptomatic and passes undiagnosed.

2- Arterio-Venous malformation.

There is an area supplied by one artery and drained by one vein resulting in mesh that can have hemorrhage at any time. But hemorrhage is not the usual presentation of A-V malformation, the usual presentation is epilepsy.

3- Hypertension.

4-head injury.

5-Idiopathic.it could be microaneurysm.

Clinical feature:

1-meningial irritation : severe headache,neck stiffness, positive kernig,s sign and positive brudzinskis sign,mild fever, vomiting,clouding consciousness.

The picture is similar to meningitis but the main difference is that in SAH the patient has a mild fever picture of meningism –while the meningitis the patient is toxic and has a very high grade fever.

2-focal neurological deficit: as 3rd nerve palsy,hemiplegia,dysphasia,and epilepsy especially in A-V malformation.

3-systemic manifestation : as hypertention,vomiting and increase ICP.

Diagnosis:

1-clinical features.

2-CT scan.it is not diagnostic but we should do it before lumbar puncture to exclude any lesion in the brain because it is contraindicated to do LP when there is brain tumor, so the role of CT here is for safety.

Kernig"s sign: hamstrings are so stiff that the patient is unable to extend his leg at the knee when the thighs are held at right angle to the body.

Brudsiniski"s sign: flexion of the neck usually causes involuntary flexion of the hip and knee.

3-lumbar puncture:

.it is done only after CT scan to exclude intracranial SOL .we have to do fundoscopy before LP ,if no papilledema then do LP.

.any patient with severe headache for more than 12 hours without obvious cause, LP is indicated especially in young.

.it is done below the level of L1-L2.

.normal color of CSF is colorless, in case of SAH it is xanthochromic .

.when we do LP we may cause trauma to the blood vessels skin, bone, intervertebral disk....etc. ;so the blood resulting from the trauma will be mixed with the CSF and change its color making it similar to CSF of SAH, so we must take 3 test tubes to collect CSF and if the color getting more faint with continuing collection then it is due the trauma .

4-angiography: it is the definitive diagnosis but it is invasive it is better to be avoided in comatose patients.

5- MRI MRA.

Treatment of SAH

1-conservative including:

- a-Complete bed rest.
- B- Sedation.
- C- Analgesic.
- D -Antihypertensive measures.
- E - Laxative to prevent any constipation.

2- Surgical intervention.

Aneurysm by putting a clip at the neck of the an aneurysm to block the blood supply of it .But this type of what is called "all or none surgery" i.e. if we put the clip in the right way the patient will survive but if we put it wrong there will be hemorrhage and the patient will die.

A-V-M ,by surgery, GAMMA knife.

3-Endovascular intervention: by using endovascular catheterization for diagnosis and decision making .if we have accessible aneurysm we can treat it by coiling the sac and induce thrombosis ,in AVM we can close the feeders vessels in one or repeated session by using a glue to embolized it .

Prognosis: prognosis of the single attack of SAH, the mortality is 30%after we should deal with the cause.