

SUBARACHNOID HEMORRHAGE; EVALUATION BY CT SCANNING

DR SYED MEHDI RAZA RIZVI

Department of Radiology
Allied Hospital, PMC Faisalabd

DR. AKMAL HUSSAIN

Registrar, Department of Neurosurgery
Allied Hospital, PMC Faisalabad

PROF. DR. TARIQ SALAHUDDIN, FRCS

Head of Neuro Surgery Department
Punjab Medical College Faisalabd

ABSTRACT

25 patients of Subarachnoid Haemorrhage between the ages of 39 to 70 years were studied over a period of 3 years (Jan, 1998 to Dec, 2001) out of which 92% patients had classical Subarachnoid Hemorrhage on CT & 8% did not show any definite SAH. **CONCLUSION:** CT scan is quite helpful in Subarachnoid Hemorrhage diagnosis & there after the proper management of the disease.

INTRODUCTION

When the bleeding occurs primarily with in the Subarachnoid space rather than brain parenchyma, the condition is referred to as Subarachnoid Haemorrhage. It is more a clinical syndrome than a clear pathological entity. Headache of abrupt onset, meningial irritation & blood with in the cerebrospinal fluid on lumbar puncture but only minimal focal neurological findings described the condition. It usually occurs equally in males & females, although the death rate in female may be slightly higher.

The incidence of Subarachnoid Haemorrhage varies considerably, depending on the population under study.

Dietary, hereditary & socioeconomic factors may have a

role in the pathogenesis of this order. The mortality & morbidity rates also vary considerably, increasing however with age. Subarachnoid Haemorrhage is uncommon in children & adolescent.

CLINICAL PRESENTATION

SAH is a devastating disease. Its typical clinical presentations are;

1. Severe Headache (commonest symptoms occur in 85 to 90% of patients)
2. Nausea/Vomiting
3. Neck Stiffness

Other warning signs include impairments of extraocular movement, in particular a 3rd nerve palsy. Motor or

sensory impairments or both have been reported. Neck & back pain occurs in 6 % of patients.

The most characteristic symptom of a Subarachnoid Haemorrhage a sudden, severe headache that is unlike any the patient has experienced previously. The headache may be generalized or localized & may be associated with nausea & vomiting. 3rd nerve palsy is usually associated with aneurysms of the posterior communicating artery but may also be seen with carotid bifurcation, posterior cerebral artery, basilar bifurcation & superior cerebellar artery aneurysms. Focal neurological deficits may develop following Subarachnoid Haemorrhage.

ETIOLOGY

The commonest causes are:-

1. Rupture of aneurysm
2. Arterio Venous Malformation (AVM).

INCIDENCE

- Rupture aneurysm 75 % of the cases.
- Spontaneous intracranial haemorrhage 2 %.
- Rupture of AVM 10%
- Idiopathic 3 %.

GRADING OF SUBARACHNOID HAEMORRHAGE

- Grade-I;** a symptomatic or a minimal headache & slight nuchal rigidity.
- Grade-II;** moderate to severe headache, nuchal rigidity, no neurological deficit other than cranial nerve palsy.
- Grade-III,** drowsiness, confusion, mild focal deficit. Stupor, moderate to severe hemiparesis, possible early decerebrate rigidity & vegetative disturbances.
- Grade-IV;** Deep coma, decerebrate rigidity, moribund appearance

Grade-V; DIAGNOSIS

Before the advent of CT, the diagnosis was usually confirmed by lumbar puncture but since the advent of CT, the diagnosis & management of this disease has changed tremendously.

MATERIAL & METHODS

The study was carried out in Department of Neurosurgery, Allied Hospital, Faisalabad over a period of 3 years (Jan, 1998 to Dec,2001). 25 patients were included in the study. All of these were under 70 years of age. 16 (64%) presented with classical headache, vomiting associated with neck rigidity within 24 to 48 hrs. 2(8%) presented with 3rd nerve palsy. 7(28%) were deeply comatose. All the patients were referred to Department of Radiology, Allied Hospital, PMC, Faisalabad for CT Scan. CT scan was performed on SCT5000 Schumadzu, which is of 3rd generation. The standard protocols for CT Scan is non contrast CT with 5 mm & 10 mm thickness slices. Repeat CT Scan after 72 to 96 hrs were also done to rule out early complications (acute hydrocephalus). Cerebral Angiography was done in all Grade-I & Grade -II patients.

RESULTS

23(92%) patients has classical Subarachnoid Haemorrhage. However 2 (8%) of patients did not show any definite SAH but had early hydrocephalus, suggestive of previous SAH.

CONCLUSION

1. CT Scan is quite helpful tool in Subarachnoid Haemorrhage in very early period of the disease.
2. After localizing the spot, plane for Angiography is made i.e. single carotid, bilateral carotid or vertebral etc.

3. CT Scan is extremely helpful where other like lumbar puncture are contraindicated (in case of raised intracranial pressure).
4. Hypertensive bleed can be differentiated Haemorrhage Subarachnoid thus proper management can be planned by the Neurosurgeons.

CT is also helpful to localize site & side of lesion

DISCUSSION

Cerebral vessels are unique and differ from other extra cranial counter part in their tunica media, which consist of spiral net work of smooth muscle cells. They contain fewer muscle elements and less elastic tissue (defect in tunica media may give rise to aneurysm in later life). Larger arteries are confined to Subarachnoid space and cisterns, where there is little connective tissue to spot them. Compared with other vital organs, brain has more tendency to bleed with in it self. The exact diagnosis of Subarachnoid hemorrhage was rarely established one half of a century ago. At present computed tomographic scanning has proved to be an excellent tool for the diagnostic evaluation of the Subarachnoid haemorrhage.

The severity of this illness and its tendency to recur and produce death and disability justify an aggressive attempt by the Neurosurgeon to establish a prompt and accurate diagnosis.

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