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MANAGEMENT OF POST TRAUMATIC CSF FISTULAE AT DHQ HOSPITAL MIRPUR AJK

[1]Dr. Syed Asim Altaf Andrabi, [2]Dr Hamza Jamil, [3]Dr Muhammad Basit

[1]Department of Neurosurgery, Dhq Hospital Mirpur AJK, [2]Medical Officer Wazirabad Institute of Cardiology, [3]Medical Officer, Basic Health Unit Ghariyal Kalan, Muridke, Sheikhupura

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Abstract:

It is prospective study of 30 cases of posttraumatic CSF fistula who needed neurosurgical repair. The study was conducted in the neurosurgery and ENT Units of Dhq Hospital Mirpur (during 6 months) from Sep 2018 to Feb 2019.Twenty six (86.6%) patients were male and four (13.3%) patients were female with age range from 4 years from 45 years with mean age 25.Twenty five (83.33%) cases were of road traffic accident,4(13.3%) cases had physical assault while 1 (3.3%) patient received fire arm injury.Six (20%) had CSF otorrhoea, wherease all the rest of 24(80%) cases had rhinorrhea. All 30 cases got their routine X-ray skull and CT Scan done whereas MRI was done in 2(3.3%) cases only. 27(90%) patients grafting was carried out to repair fistula. In 3 cases Bonewax and Spongeston was used for repair defect. Surgical mortality was nill in this study. From this study it is concluded that traumatic CSF fistulae, CSF rhinorrhea is the commonest presentation. Dural graft is necessary in majority of cases for repair of CSF fistula. Percranium, temporalis fascia and fascia lata are best material for graft in our setup.

Key Words: *CSF fistulae, Post traumatic Complications, Repair of dural defects.*

Corresponding author:

Dr. Syed Asim Altaf Andrabi,

Department of Neurosurgery, Dhq Hospital Mirpur AJK.

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INTRODUCTION:

CSF fistula is an abnormal communication between sub-arachnoid apace with external environment leading to dribbling of CSF.it can result in potentialy life threatening conditions due high risk of meningitis. In about 80% of cases head injuries with skull base fracture lead to CSF leakage (1). Post-surgical and spontaneous fistula makes 16% and 3-4% of cases respectively (2).

Due long-lasting symptoms and development of serious life threating complications, management should be given great importance. The treatment of postraumatic CSF fistula remains controversial topic skull for base surgeons.

Both conservative and surgical options are adopted. When conservative treatment fails, surgical intervention in time gives lifesaving results. There are very few specific indications for transnasal repair.Most of posttraumatic CSF fistula mare managed by Transcranial approach(3)

MATERIAL AND MATHODS:

This combined study was carried out in Neurosurgery and ENT Unit of Dhq Hospital Mirpiur Ajk over a period of 6 months from Sep 2018 to Feb 2019.

Thirty cases of CSF fistula in patients with head injury were operated. There were 4 females (13.3%) and 26 males (86.6%). Age range from 4 to 45 mean age was 25.

Patients with CSF fistula after surgery and spontaneous leakage were excluded from study. Conservative treatment posttraumatic fistula were also not included. Persistent CSF fistula after initial 2-3 weeks of conservative treatment were included in this study. X-ray skull and CT scan were done in all cases while MRI was done in 2 (6.6%) cases only.

RESULTS:

Sex incidence: Twenty-six (86.6%) patients were male and 4 patients (13.3%) were female

No of patients	Male	Female
30	26(86.6%)	4(13.3%)

Age range: The age range of patients was from 4 to 45 years with mean of 25.

Cases of head injury: Twenty-five patients (83.33%) had RTA. 4 patients (13.3%) had physical assault and 1 (3.3%) had fire arm injury.

No of patients	RTA	Assault	Fire arm
30	25(83.33%)	4(13.3%)	1(3.3%)

Presentation: Among thirty cases,24(80%) cases presented as CSF rhinorrhea whereas 6(20%) presented as CSF otorrhoea.

No of patients	CSF rhinorrhea	CSF ottorhoea
30	24(80%)	6(20%)

Repair: In 3 cases Bonewax and Spongestone was used as repair defect.In remaining cases temporalis fascia, pericranium and fascia lata was utilized as graft material.

No of patients	Graft	Bone wax	Spongestone
30	27 (90%)	2 (6.6%)	1 (3.3%)

Outcome:

Excellent: CSF leakage stopped in 28(93.33%) cases immediately

Good: In 2 (6.6%) case additional lumber puncture was done and then leak stopped.

There was no surgical mortality.

DISCUSSION:

CSF fistula have always been a diagnostic and therapeutic challenge for Neurosurgical and ENT colleages.Most of CSF fistula after head injury and skull base fracture resolve spontaneously with conservative treatment. Absolute bed rest keeping head elevated about 30 degree, avoiding coughing, straining during defecation and lumber drain for few days are effective approaches in conservative management. Initialy conservative management is necessary especially in those cases where fracture and dural defect can't be clearly demonstrated. (4)

Surgical repair like of dural repair or duroplasty is indicated in patients who don't respond to conservative management. Grafts like patients own pericranium or fasia lata gives acceptable results in our setup. CSF fistula, obvious skul fracture, massive pneumocephalus can be diagnosed by x-ray skull. (5) Linear skull fracture extending to skull base,extradural,subdural hematoma needs CT scan brain.In rare cases MRI may be helpful.

In many of the patient's risk of meningitis still exits even if the CSF leakage stops, so our objective of treatment should be repair of dural defect rather than treatment of CSF leakage as it reduces risk of meningitis. Surgical intervention in CSF leakage of head injury patient could be fetal in emergency until edema has subsided(6).

Loss of smell was noted in 5 cases, once leakage stops patients never come to hospital that's why their followup is further difficult (7). massive CSF leakage

with destruction of para nasal sinuses are the indication for craniotomy as this is only possible procedure.

CONCLUSION:

1. Road traffic accidents leading to head injury are the commonest presentation of CSF fistula.
2. CSF rhinorrhea is the commonest presentation of CSF fistula
3. Dural graft is necessary in majority of cases for repair of CSF fistula.percranium,temporalis fascia and fasia lata are the best material for dural graft in our setup.

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