Clinical Profile of Meningitis With Special Reference To Correlation of CSF Parameters With Mean Duration of Hospital Stay and Developing Residual Neurological Deficit at Discharge.

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ABSTRACT

In this clinical study, 50 patients of meningitis were studied for their clinical profile, laboratory parameters, CSF analysis & neuroimaging findings. Our present clinical study showed that CSF parameters is not only used for etiological diagnosis of meningitis but also that gives information about mean duration of hospital stay and developing residual neurological deficit at discharge.

INTRODUCTION

Meningitis is the inflammation of the meninges limited to the subarachnoid space. Meningitis itself can be divided into bacterial, viral which presents more acutely and the granulomatous type which include tubercular and fungal predominantly. Diagnosis of meningitis depends predominantly on cerebrospinal fluid analysis. The morbidity and mortality due to meningitis still remains very high in spite of advent of newer antibiotics and key to prevent adverse outcome depends on early diagnosis and treatment. This study endeavors to observe the clinical profile of all patients of meningitis and to study the factors having adverse outcome.

MATERIALS AND METHODS

We studied 50 cases of meningitis admitted in medical wards of our institute during September-2013 to October-2015. Our aims and objectives were to study clinical profile of meningitis and to determine the correlation of CSF parameters with mean duration of hospital stay and developing residual neurological deficit at discharge.

CONCLUSION

In this clinical study, 50 patients of meningitis were studied for their clinical profile, laboratory parameters, CSF analysis & neuroimaging findings. Our present clinical study showed that CSF parameters is not only used for etiological diagnosis of meningitis but also that gives information about mean duration of hospital stay and developing residual neurological deficit at the time of discharge.

RESULT AND DISCUSSION

Of total 50 patients studied, 15 patients were having residual neurological deficit at discharge time where cognitive impairment (18%), cranial nerve palsies (8%), hemiparesis (2%) and paraparesis (2%).

There is a significant association between CSF proteins and developing residual neurological deficits where CSF protein of >45 mg/dl, proportion of residual neurological deficit was found to be the highest (31.2%, 15 out of 48) in which most common etiological diagnosis were of tubercular & pyogenic meningitis.

CSF glucose <40 mg/dl was present in 100% cases of pyogenic meningitis followed by 59.5% cases of tubercular meningitis. CSF glucose normal (40-60 mg/dl) as well as increased (>60 mg/dl) level were found in cases of Viral meningitis.

Maximum mean duration of hospital stay (19 days) as well as maximum proportion of Residual neurological deficit (31.2%, 15 out of 48) were seen in group of patients with CSF Glucose >60 mg/dl.

| TABLE-1 |
|---|---|---|---|---|---|
| CSF protein (mg/dl) | CSF Cells/ cum | CSF Glucose (mg/dl) | Tubercular meningitis (n=2) | Pyogenic meningitis (n=2) | Cryptococcal meningitis (n=2) | Viral meningitis (n=4) | Mean duration In Hospital stay (Days) | Residual Neurological Deficit at discharge |

Mean Duration of Hospital Stay and Developing Residual Neurological Deficit at Discharge.
From all of the above findings we can summarize that CSF glucose and CSF protein can be used for etiodiagnosis of meningitis as well as getting the idea of staying in hospital & possibility of developing residual neurological deficit at the time of discharge.

**TABLE-2**

<table>
<thead>
<tr>
<th>Type of Meningitis</th>
<th>Mean duration in hospital stay (Days)</th>
<th>Residual neurological deficit at discharge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tubercular</td>
<td>18</td>
<td>11</td>
</tr>
<tr>
<td>Pyogenic</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>Cryptococcal</td>
<td>14</td>
<td>1</td>
</tr>
<tr>
<td>Viral</td>
<td>10</td>
<td>1</td>
</tr>
</tbody>
</table>

Oveall mean duration of hospital stay (18 days) as well as residual neurological deficit were found to be maximum in patients of tubercular meningitis probable reason behind this could be subacute to chronic onset of the disease.

**CONCLUSION**

In this clinical study, 50 patients of meningitis were studied for their clinical profile, laboratory parameters, CSF analysis. The chance of developing residual neurological deficit and mean duration of hospital stay depends upon raised CSF cell count (>5/cumm), raised CSF protein (>45 mg/dl), raised CSF glucose (>60 mg/dl), & etiology of meningitis.

It is concluded that this study highlights importance of CSF parameters for etiodiagnosis of meningitis as well as getting the idea of staying in hospital & possibility of developing residual neurological deficit at the time of discharge. HIV is a detrimental prognostic factor for residual neurological deficit.

**REFERENCE**