Management of suspected viral encephalitis

Clinical features suspicious of encephalitis

- Assess ABCD and check glucose (+/- involve ICU)
- Clinical contraindication to immediate LP? *
- If delay (>6 hours) expected: Start IV aciclovir whilst results pending
- Radiological contraindication to immediate LP??
- Repeat LP after 24-48 hours
- If CSF findings suggest encephalitis????
- Neuro-imaging if not yet performed (Ideally MRI <24-48 hours)
- HSV/VZV Encephalitis confirmed
- Alternative diagnosis
- Immunosuppressed? Or age 3 months-12 years?
- Involve Neurology and Infectious Disease Teams

Clinical contraindication to immediate LP?

- If delay (>6 hours) expected: Start IV aciclovir whilst results pending
- CT
- Review every 24 hours: LP?

Lumbar Puncture

- Opening pressure; CSF and serum glucose; CSF protein; 2x MC&S; virology PCR; lactate; consider paired oligoclonal bands

IV Aciclovir

- 14 days IV aciclovir
- 21 days IV aciclovir

Additional Investigations

- Consider swab
- Rapid
- Sputum (if symptoms)
- Urine (if pyrexia)
- If travel consider: 3x thrice/thrice malarias
- Rapid malaria antigen test
- CSF (Flavivirus IgM)

HIV (all patterns)

- CSF PCR for EBV + CMV
- CSF TB smear + culture
- CSF lactate and culture for Listeria monocytogenes
- CSF HIV+ EBV, HHV6a or Cryptococcus antigen for Cryptococcus neoformans
- CSF HIV+ EBV, HHV6a or Toxoplasmosis gondii
- CSF HIV+ EBV, HHV6a or syphilis

E/A Indicators

- IF subtle motor status epileptics suspected
- IF unclarified psychiatric cause or encephalopathy

Invasive
- Microbiology
- Virology
- Infectious Diseases
- Neurology

Aciclovir Dose:

- Adjust for renal failure

Given 8 hourly:
- Neonate-3 months: 20mg/kg
- 3 months-12 years: 500mg/m²
- >12 years: 10mg/kg

** Radiological Contraindications to LP

- Significant brain shift/swelling
- Tight basal cisterns
- Alternative diagnosis made

**** CSF Interpretation

<table>
<thead>
<tr>
<th>Investigation</th>
<th>Normal</th>
<th>Bacterial</th>
<th>Viral</th>
<th>Tuberculous</th>
<th>Fungal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opening Pressure</td>
<td>10-20cm</td>
<td>High</td>
<td>Normal/High</td>
<td>High</td>
<td>High/very high</td>
</tr>
<tr>
<td>Colour</td>
<td>Clear</td>
<td>Cloudy</td>
<td>“Gim” Clear</td>
<td>Cloudy/yellow</td>
<td>Clear/cloudy</td>
</tr>
<tr>
<td>Cells</td>
<td>&lt;5</td>
<td>High/highvery</td>
<td>Slightly increased</td>
<td>Slightly increased</td>
<td>Normal-high</td>
</tr>
<tr>
<td>100-50000</td>
<td>5-1000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Differential</td>
<td>Lymphocytes</td>
<td>Neutrophils</td>
<td>Lymphocytes</td>
<td>Lymphocytes</td>
<td>Lymphocytes</td>
</tr>
<tr>
<td>Glucose</td>
<td>50-66%</td>
<td>Low</td>
<td>Normal</td>
<td>Low-very</td>
<td>Normal-low</td>
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<tr>
<td>&lt;40%</td>
<td></td>
<td></td>
<td></td>
<td>&gt;30%</td>
<td></td>
</tr>
<tr>
<td>Protein (g/l)</td>
<td>&lt;0.45</td>
<td>&gt;0.45</td>
<td>&gt;0.5</td>
<td>1.0-5.0</td>
<td>0.2-0.5</td>
</tr>
</tbody>
</table>

Patients (when conscious level permits) and their next-of-kin should be made aware of the support provided by volunteer sector partners such as the Encephalitis Society (www.encephalitis.info)

Figure 1  Algorithm for the management of patients with suspected encephalitis.