

## ***RAISED INTRACRANIAL PRESSURE due to malignancy***

For patients with malignancy the principle causes of raised intracranial pressure will be the presence of space occupying tumours or obstructive hydrocephalus. It should not be forgotten however that rarely other causes (such as hypertension, head injury, non tumour SOL (such as abscess) or excess csf production) may be the cause and require additional expertise. Cardinal features are (raised pressure) headache and vomiting which may be associated with hypertension and bradycardia. Ophthalmology is the most helpful showing papilloedema and loss of retinal venous pulsation. In extreme situations there may be depression of consciousness, false localising signs and pupillary abnormalities suggesting imminent coning.

### **Treatment**

#### **Emergency**

In an emergency situation if the history and clinical signs indicate imminent coning, nurse the patient in an elevated position and treat with Dexamethasone 8mg intravenously. Repeat 4 hourly if needed. When the situation is under control manage as below.

#### **Urgent**

If the clinical diagnosis is clear but the cause is not established an emergency CT (or MRI) scan is indicated. This should be performed with and without contrast and the result discussed with the radiologist without delay.

Likely outcomes are:

- |    |  |     |         |
|----|--|-----|---------|
| 1. | One or more intracranial mass lesions causing pressure     |     |         |
|    | Tumour: Is there a therapeutic option?                     | Yes | Go to A |
|    |  | No  | Go to C |
|    | Non tumour (e.g. abscess)                                  |     | Go to D |
| 2. | Obstructive hydrocephalus                                  |     | Go to B |
| 3. | Brain Swelling or ventricular enlargement of unknown cause |     | Go to D |

#### **A. Stabilising the condition to allow a therapeutic option**

1. Nurse patient with head of bed elevated
2. Ensure adequate analgesia  
Employ the normal analgesic ladder (Paracetamol–Dihydrocodeine-Morphine)  
Pain of raised ICP can be extremely severe.
3. Administer steroids  
Dexamethasone 8mg iv. If the patient responds, is stable and not vomiting then continue with 4mg qds orally.  
If the patient remains unwell or continues to vomit then continue iv Dexamethasone. Doses of up to 8mg 3-4 hourly (64mg/24 hours) can be given for 2-3 days if needed.
4. If the patient still does not respond then try mannitol intravenously.  
The total dose is 1gm per Kg. Begin with 100ml of a 20% solution (20gm mannitol) over 15 minutes. Deliver the remainder over 45 minutes approx. Repeat the following day if needed but long term mannitol is contraindicated.
5. Treat nausea and vomiting with parenteral stemetil or haloperidol or cyclizine
6. Refer for definitive therapy (surgery, radiotherapy)

**B. Patient requires a shunt to stabilise**

Manage as A (not mannitol) but immediate contact with neurosurgeons requesting opinion on shunt placement.

**C. Palliative care only (no longer terms management option)**

1. If there is no therapeutic option then steroids can still be tried for symptom relief. The dosing is as in A but ultra high doses above 16mg should rarely be used.
2. Analgesics – use the conventional analgesic ladder. Patients terminally ill with raised ICP may need high doses of opiates.
3. Anti-emetics – Try parenteral Stemetil, haloperidol or Cyclizine to control emesis in these patients.
4. Sedation. Patients may be agitated for a variety of reasons. Benzodiazepines are a standard approach to sedation but barbiturates may have an added advantage of specifically lowering intracranial pressure.

**D. This may well be a condition not directly associated with intracranial tumour**

Treat with steroids as in A but do not give mannitol. Contact the neurology or neurosurgical team as appropriate.