Neurology

Tension headache

Diagnostic tools

1. Headache of long duration, more marked at the evening, usually no headache at the morning, associated sleeplessness, palpitation may be present.

2. Investigation-usually not necessary.

Management

1. Explanation of symptoms.

2. Avoid precipitation.

3. Analgesics-paracetamol, ibuprofen etc can be given for short term and SOS.

4. Muscle relaxant e.g. baclofen 5 to 10 mg 8 hourly for 7 to 10 days.

5. Amitryptyline 10 to 25 mg/day for 3 months.

Migraine

Diagnostic tools

1. Some patients report a prodrome of malaise, irritability or behavioural change for some hours or days.

2. Patients experience an aura- motor symptoms like visual distrubnances, sensory symptoms characteristically spreading over 20–30 minutes, from one part of the body to another, are more common than motor ones.

3. Migraine headache is usually severe and throbbing, with photophobia, phonophobia and vomiting lasting from 4 to 72 hours. Movement makes the pain worse and patients prefer to lie in a quiet, dark room.

3. Investigation-usually not necessary.

(Practically-unilateral headache, usually persist for 4-72 hours, associated with nausea, vomiting, photophobia etc. and patient usually bed bound during an acute attack, symptom usually resolves after 3-4 days).

Management

Acute attack

1. Identification & avoidance of precipitating or exacerbating factors such as OCP, smoking.

2. Analgesic-paracetamol, ibuprofen etc.

3. Metoclopramide or domperidon for nausea, vomiting.

4. Severe attack- Sumatryptan, 5-HT agonists.

Prophylactic treatment

Frequent attack (more than two per month), are prevented with

* Propanolol 10 mg 12 hourly.

* TCA -(amitriptyline 10 to 25 mg/day)

* Sodium valproate 300-600mg/day or Topiramate 50-100 mg/day.

Vertigo

Management of vertigo is proper assessment of the patient whether any underlying cause presents or not. When a patient present with vertigo then proceeds as follows

1. Usually presents in the third or fourth decade with severe vertigo often starts on waking, and patients are usually bedbound by the vertigo for the first few days, with vomiting but no tinnitus or deafness-diagnosis is usually labyrinthitis.

2. Vertigo with drowsiness and neurological features like lower motor type 7th nerve palsy, hemipheresis -diagnosis is storke involving brainstem and cerebellum.

Management

1. If no cause of vertigo then symptomatic management with cinarazine 15 mg 8 hourly.

3. Storke involving brainstem and cerebellum-management of the stroke.

N:B: In daily practice commonest cause of vertigo is idiopathic and not due to serious pathology. Treatment with a short course of cinarazine 15 mg 8 hourly for 7 days is sufficient. Sometimes in hypotensive vertigo patient flunarizine 10 mg daily for 7 to 10 days may be helpful.

Status epilepticus

Diagnostic tools

1. May be diagnosed case of epilepsy, patient usually present with convulsion which is not going in remission or convulsion continued without patient regaining consciousness.

2. Patient may have history of sudden stop of anticonvulsant drug.

3. Investigation-none, diagnosis is clinical but to exclude secondary cause- blood glucose, serum calcium, serum electrolytes should be done.

Management

Clearing the airway, O2 inhalation

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Inj. Diazepam 10mg (sedil) iv or rectally, can be repeated after 15 min.

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If seizure continued after 30min. then IV Fosphenytoin 15mg/kg at 100mg/min.

Or

IV Phenobarbital 10mg/kg at 100mg/min.

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If seizure still continued after 30min. then

Start treatment for refractory status with intubation with general anaesthesia with propofol or thiopental.

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Once status controlled start longer term anticonvulsant medication with one of the following-

a) Sodium valproate 10mg/kg i.v. over 3-5 min. Then 800-2000mg/day.
b) Carbamazepine 400mg by NG tube then 400-1200mg/day.

Simple guideline for choice of antiepileptic drugs

1. Primary seizure/generalized seizure- sodium valproate.

2. Secondary/partial seizure-carbamazepine.

3. Absence seizure- ethosuximide.

Acute stroke

Diagnostic tools

1. Sudden onset of aphasia, slurring of speech, weakness of one side of the body or loss of consciousness.

2. No history of fever.

3. On examination-hemiplegia and unilateral planter extensor.

Management

1. If patient unconscious and/or dysphagia persis for more than 48 hours-NG tube feeding 200 ml 2 hourly in sitting posture and maintain the posture for 15 minutes. (Practically NG tube should be given after 24 hours and should not be given if patient have any SOB or aspiration).

2. O2 inhalation 2-4 L/minute.

3. Infusion normal saline 1000cc IV @ 10 drops/minute to maintain a channel (dextrose saline raise blood glucose and increase size of infarction).

4. Syrp. Amoxicillin 2 TSF TDS.

5. Omeprazole sachet 1 sachet dissolve in ½ glass water then take via NG tube 12 hourly.

6. Paracetamol if fever.

7. Continue catheterization.

8. Change the posture 2 hourly.

9. Care of the mouth, eye, bowel.

10. Treatment of the risk factors like DM, dyslipidaemia etc.

* If CT scan reveal ischaemic stroke then ecospirin 300 mg stat then 75 mg daily for life long and atrovastatin 10 mg daily for life long, irrespective of the lipid profile.

* If patient is known hypertensive and taking antihypertensive drug regularly then continue the drug.

* If patient is not known hypertensive & BP is high then not give antihypertensive. Antihypertensive should be given in the following condition

-In ischaemic stroke if BP >220/120 mm of Hg.

-In haemorrhagic stroke > 180/ 110 mm of Hg.

-if patient has heart failure, acute renal failure, aortic dissection.

* If patient is diabetic then start insulin.

* If patient is not known diabetic but blood sugar is >11.1 mmol/L then start insulin.

Tetanus

Diagnostic tools (diagnosis is clinical)

1. H/O injury e.g. RTA, cut injury, needle pricking etc.

2. Symptoms first appear from 2 days to several weeks after injury which causes difficulty in opening the mouth and in masticating.

3. Rigidity spreads to involve the muscles of the face, neck and trunk.

4. The back is usually slightly arched (‘opisthotonus’) and there is a board-like abdominal wall.

5. In the more severe cases, violent spasms lasting for a few seconds to 3–4 minutes occur spontaneously, or may be induced by stimuli such as movement or noise.

Management

1. O2 inhalation stat 4-6 L/minute.

2. Nurse in a quite room. Avoid unnecessary stimuli like noise, light.

4. NG tube feeding 200 ml 2 hourly in sitting posture and maintain the posture for 10-15 minutes.

5. Infusion 5% DNS 1000 cc IV daily

6. Inj. benzylpenicillin 600 mg IV 6 hourly or inj. metronidazole if allergic to penicillin

7. Inj. TIG 12 amp. IM stat.

8. Inj. Diazepam (10mg) 1 amp IV stat & B.D.

9. Change the posture 2 hourly.

Prevention of tetanus

1. In patients with a contaminated wound, the immediate danger of tetanus can be greatly reduced by the injection of 1200 mg of penicillin followed by a 7-day course of oral penicillin.

2. When the risk of tetanus is judged to be present, an intramuscular injection of 250 IU of human tetanus antitoxin should be given, along with toxoid, which should be repeated 1 month and 6 months later.

3. For those already immunized, only a booster dose of toxoid is required.

Meningo-encephalitis

Diagnostic tools

1. Patient present with fever, headache and alteration of consciousness.

2. On examination- neck rigidity present, Kernig's sign present and planter bilateral extensor.

3. Investigation-CSF study-protein increase, glucose decrease and cell count (neutrophil) increase. CSF, blood and urine should be sent for C/S.

Management

1. NG tube feeding 200 ml 2 hourly in sitting posture & maintain the posture for 10 minute.

2. Inj. Ceftriaxone (2gm) 1 vial IV stat & BD (change antibiotic according to C/S report).

3. Inj. Dexamethasone 2 amp IV 20 min before giving antibiotics stat & 6 hourly for 3 days.

4. Omeprazole sachet 1 packet dissolve in ½ glass water through NG tube BD.

5. Continued catheterization.

6. Change the posture 2 hourly.

7. Care of mouth, eye & bowel.

Pyogenic meningitis-choice of antibiotic (empirical antibiotic)

1. Adult aged 18-50 years present with or without typical meningococcal rash- cefotaxime 2 gm IV 6 hourly or ceftriaxone 2 gm IV 12 hourly.

2. Patient in whom penicillin resistant pneumococcal infection is suspected or in areas with a significant incidence of penicillin resistance in the community.- as for (1) but add vancomycin 1 gm IV 12 hourly or rifampicin 600 mg IV 12 hourly.

3. Adult aged over 50 years and those in whom Listeria monocytogen infection is suspected (brainstem sign, immunosuppression, diabetic, alcoholic)- as for (1) but add ampicillin 2 gm iv 4 hourly or co trimoxazole 50mg /kg IV in 2 divided dose.

4. Patients with a clear history of anaphylaxis to β-lactams-chloramphenicol 25 mg/kg IV 4 times daily plus Vancomycin 1 gram IV twice daily.

Restless leg syndrome

Diagnostic tools

1. Unpleasant sensations in the legs that are ameliorated by moving the legs occur when the patient is tired in the evenings and at the onset of sleep.

2. Patient can present with daytime somnolence due to disturbed night-time sleep.

Management

1. Clonazepam (0.5-2 mg) at night.

2. Levodopa 100-200 mg or dopamine agonist at night.

Subarachonoid haemorrhage

Diagnostic tools

1. Patient present with sudden, severe 'thunderclap' headache (often occipital) which lasts for hours or even days, often accompanied by vomiting, usually precipitated by physical exertion, straining and sexual excitement.

2. On examination-neck stiffness present.

3. CT scan-confirm the diagnosis, if CT scan is negative then LP should be done (if LP is normal then probably patient do not have SAH).

Management

1. Management same as storke.

2. Nimodipine 30-60 mg IV for 5-14 days followed by 360 mg for further 7 days.

3. Definitive treatment

    a. Insertion of platinum coil into an aneurysm via endovascular procedure

        Or

    b. Surgical clipping of the aneurysm neck.

    c. AV malformation -surgical removal, ligation, injection of material to occlude the fistula or draining veins.

Transverse myelitis

Diagnostic tools

1. Sudden onset of weakness of both lower limbs, with involvement of the bowel and bladder.

2. On examination-upper motor type neuron lesion of the lower limb (jerks exaggerated, planter bilateral extensor), all modalities sensation are lost in lower limb. (usually a definitive sensory level present which help to determine site of lesion).

3. MRI of the spinal cord-confirm the diagnosis.

Management

1. Diet - normal

2. Inj. Methylprednisolone 1 gm daily for 3 days (Infusion 5% DNS 200 cc + Inj. methylprednisolone (1 gm) IV @ 50 drops/minute stat. and daily for 3 days).

3. Omeprazole

4. Continued catheterization.

5. Physiotherapy.

Dementia/ Alzheimer's disease

Management

1. Donepezil 10 mg daily.

2. Antidepressant in depressive patient.

Wernick- Korsakoff disease

Diagnostic tools

1. History of alcoholism, malabsorption, malnutrition, hyperemesis gravidarum.

2. Acute confusional state (W. encephalopathy).

3. Brain stem sign e.g. ataxia, nystigmus & extraocular muscle weakness particularly lateral rectus.

Management

1. Intravenous thiamine 2 vial 8 hourly for 48 hours, then oral thiamine 100 mg 8 hourly.

2. Treatment of the underlying cause.

Parkinsonism

Diagnostic tools (diagnosis is clinical)

1. Patient present with weakness, resting tremor, difficulty in walking.

2. On examination-rigidity of the limbs present, patient walk by short strides and turning of the patient will be slow.

Management

1. Levodopa -carvidopa, 50 mg 8 or 12 hourly increased up to 1000 mg/day. This drug improve bradykinesia & rigidity.

2. Anticholinergic-improve tremor & rigidity.

3. Trihexyphenidyl (benzhexol 1-4 mg 8 hourly).

4. Orphenadrine 50 -100 mg 8 hourly.

5. Dopamine receptor agonist.

6. Bromocryptine 1 mg initially then 2.5 mg 8 hourly up to 30 mg/day.

7. Pergolide 50 µgm (starting dose) increased to 250 µgm 8 hourly up to 3000 µgm/day.

8. Amantadine (dose 100 mg 8 or 12 hourly)-to control dyskinesia produced by dopaminergic treatment.

9.COMT inhibitors-Entacapone 200 mg with each dose of levodopa. This prolonged the effect of levodopa & allows levodopa dose to be reduced & given less frequently.

10. Surgery

Stereotactic thalamotomy to treat tremor. Now a days need relatively infrequently.

11. Physiotherapy & speech therapy.

Huntington's disease

Symptomatic management

1. Tetrabenazine or dopamine antagonists such as sulpride.

2. Antidepressants for depressive patient.

3. Psycological support.

4. Genetic counseling for the relatives.

Rabies

Management

Established disease

1. ICU support.

2. Sedation with diazepam 10 mg 4-6 hourly.

3. Chlorpromazine 50-100 mg if necessary.

4. Nutrition & fluid by IV or gastrostomy.

Prevention

Pre-exposure prophylaxis -human diploid cell vaccine 2 intramuscular injection of 1 ml, given 4 weeks apart, followed by yearly booster.

Post exposer vaccination before development of sign symptom. For maximum protection hyperimmune serum and vaccine are required.

Safest antirabies antiserum is human rabies immune globulin, the dose is 20 U/kg, half should be infiltrated around the bite and half intramuscularly at a different site from vaccine.

Safest vaccine is human diploid cell vaccine 1 ml is given intramuscularly on days 0, 3, 7,14, 30 and 90.

Cerebral abscess

Diagnostic tools

1. A cerebral abscess may present acutely with fever, headache, meningism and drowsiness.

2. Seizures, raised intracranial pressure (headache worse in morning, early morning vomiting, bradycardia) and focal hemisphere signs occur alone or in combination. Distinction from a cerebral tumour may be impossible on clinical grounds.

3. Investigation-CBC-neutrophilic leucocytosis, CT or MRI confirm brain abscess.

Treatment

1. Antibiotic-see below for empirical antibiotic choice.

2. Anticonvulsant- carbamazepine

3. Paracetamol if fever

4. Surgery

Burr-hole aspiration or excision-where presence of a capsule may lead to a persistent focus of infection.

Antibiotic choice is guided by following condition

1. Frontal lobe-cefotaxime 2–3 g IV 4 times daily Plus Metronidazole 500 mg IV 3 times daily.
2. Temporal lobe-Ampicillin 2-3 gm IV 8 hourly Plus metronidazole 500 mg 8 hourly.
3. Cerebellum-Ceftazidime 2 g IV 3 times daily or gentamicin 5 mg/kg IV daily.
4. Any site-Flucloxacillin 2-3 gm IV 6 hourly Or cefuroxime 1.5 gm iv 8 hourly

5. Multiple abscesses-Benzylpenicillin 1.8 - 2.8 gm IV 6 hourly if endocardits or cyanotic heart disease. Otherwise cefuroxime 1.5 gm 8 hourly Plus meteronidazole 500 mg 8 hourly.

Idiopathic intracranial hypertension

Diagnostic tools

1. The usual presentation is with headache, sometimes accompanied by diplopia and visual disturbance (most commonly, transient obscurations of vision associated with changes in posture).

2. Clinical examination reveals papilloedema. False localizing cranial nerve palsies (usually of the 6th nerve) may be present.

3. Investigation- brain imaging (CT scan or MRI) is usually normal but required to exclude a structural or other cause (e.g. cerebral venous sinus thrombosis). The ventricles are typically normal in size or small ('slit' ventricles). The diagnosis may be confirmed by lumbar puncture, which shows raised normal CSF constituents at increased pressure (usually > 30 cmH2O CSF).

Management

1. Weight reducing diet.

2. Avoid any precipitating condition or medication.

3. Carbonic anhydrase inhibitor-acetazolamide or topiramate may help to lower intracranial pressure.

4. Repeated LP.

5. Optic nerve fenestration or lumbo-peritoneal shunt if

-Patient failing to respond.

-Chronic papilloedema threatens vision.

Lumber disc herniation (PLID)

Diagnostic tools

1. Patient present with unilateral back pain radiates to lower limb (below knee); there may be tingling, numbness and paraesthesia of the affected limb.

2. On examination-patient cannot stand straight (scoliosis present), SLR positive and lateral bending of the afftected side cause intense pain.

3. Investigation-MRI of L/S confirm the diagnosis.

Management

1. Back strengthening exercise.

2. Early mobilization.

3. Analgesic

4. Pregabalin-should be started at low dose 25 mg daily gradualy increase to 75 to 150 mg daily.

5. Surgery

-No response to conservative treatment.

-Progressive neurological deficits develop.

-Central disc herniation with bilateral symptoms & signs & distrubnance of sphincter function require urgent surgical decompression.

Following advice may be given

Dc‡`k

1) wcov, Uzj BZ¨vw`‡Z (†Kvgo fvR K‡i) em‡eb bv |

2) wb‡P e‡m gvQ, ZiKvix, Kvco †avqv hv‡e bv |

3) Pzjv DPz K‡i †b‡eb| `vwo‡q/†Pqv‡i e‡m ivbœv Ki‡eb|

4) fvwi wRwbm Zzj‡eb bv|

5) DPz-wbPz weQvbvq ï‡eb bv| AvKv evKv n‡q Nygv‡eb bv |

6) cvqLvbvq DPz K‡gvW e¨envi Ki‡eb |

7) Lye †ekx e¨_vi Ilya Lv‡eb bv| e¨_vi Ilya †ekx †L‡j wKWbx/ nrwc‡Û mgm¨v n‡Z cv‡i |

8) Cortan/ Deltasone/ Decason RvZxq Ilya KL‡bvB wPwKrm‡Ki civgk© Qvov Lv‡eb bv |

Facial nerve palsy (Bell's palsy)

Diagnostic tools

1. Deviation of the mouth to the opposite side, cannot close the affected eye.

2. On examination-loss of wrinkling of the affected side. Eye open or cannot close the affected eye forcefully.

Management

1. Artificial tear & ointment.

2. Patient should wear spectacle when go outside.

3. Eye should be tapped shut overnight.

4. Prednisolone 40-60 mg daily for 7 days (should be started within 72 hours).

Guillain-Barre Syndrome

Diagnostic tools

1. Patient present with ascending type of paralysis of all four limbs, bowel and bladder not affected, consciousness intact.

2. On examination-lower motor neuron lesion of the all four limbs, sensory normal.

Management

1. Regular monitoring of the patient with respiratory function, VC & ABG.

2. Artificial ventilation if VC < 1 L.

3. Protection of the airway.

4. Prevention of pressure sore.

5. Plasma exchange or IVIg (should be started within 14 days).

Myasthenia Gravis

Diagnostic tools

1. Patient is usually female and between 15 to 50 years.

2. Fatigable muscle weakness; movement is initially strong but rapidly weakens as muscle use continues. Worsening of symp toms towards the end of the day or following exercise is charac teristic. There are no sensory signs or signs of involvement of the CNS.

3. The first symptoms are usually intermittent ptosis or diplopia but weakness of chewing, swallowing, speaking or limb movement also occurs. The patient is unable to undertake tasks above shoulder level, such as combing the hair, without frequent rests.

Investigation

1. Tensilon test-bed side test, not done usually now a days.

2. NCV-Repetitive stimulation during nerve conduction studies may show a characteristic decremental response.

Management

1.Pyridostigmine 30-120 mg 6 hourly (trade name tablet dostimid 60 mg).

2. Propanthelin 15 mg to control diarrhea & colic.

3.Immunological treatment of M. Gravis are

a) Thymectomy

b) Plasma exchange

c) IVIg

d) Corticosteroid (must be started in hospital).

e) Use of other immunesuppressive agent e.g. azathioprine 2.5 mg/ kg daily.