Guillain – Barre Syndrome

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Acute In-Patient Rehabilitation
Objectives

• Define GBS and its incidence and cause.
• List physiological threats to various organ systems caused by GBS.
• Describe rehabilitation care priorities of the patient with Guillian Barre’
Definition

- ACUTE INFLAMMATORY DEMYELINATING POLYNEUROPATHY
- BODY’S IMMUNE SYSTEM ATTACKS ITS OWN NERVES, ESPECIALLY PERIPHERAL NERVES.
INCIDENCE

- 1-2/100,000 PEOPLE PER YEAR
- INCREASES WITH AGE
- PEAK AGE- 50-74 YEARS
- RECURRENCE RATE IS 3%
- MORTALITY AND MORBIDITY- 4-8 % EVEN AFTER EFFECTIVE THERAPY
- NO SEX OR GEOGRAPHIC PREDILIGENCE
CAUSE

- UNKNOWN
- PRECEDED BY INFECTIOUS ILLNESS SUCH AS RESPIRATORY INFECTION OR STOMACH FLU WITHIN 3 DAYS TO 6 WEEKS
- OTHER PRECEDING FACTORS LIKE TRAUMA, RECENT SURGERY
SYMPTOMS

- PARESTHESIAS OF FINGERS AND TOES
- WEAKNESS OF MUSCLES
- UNSTEADY OR INABILITY TO WALK
- SEVERE PAIN
- LOSS OF BLADDER AND BOWEL CONTROL
- DIFFICULTY BREATHING
CLINICAL OR NATURAL COURSE

- PROGRESSION UP TO 2 WEEKS
- PLATEAU FROM 2-4 WEEKS
- RECOVERY AFTER 4 WEEKS (67% OF PATIENTS-RECOVERY UNDERWAY)
EMERGENCY MEDICAL HELP

• ASCENDING SYMPTOMS OF PARESTHESIAS
• RAPIDLY SPREADING SYMPTOMS
• PARESTHESIAS INVOLVING BOTH FEET AND HANDS
• DIFFICULTY SWALLOWING
• CHOKING ON SALIVA
SUPPORTIVE CARE

• Extremely important
• Nursing major role
• 30% of patients develop neuromuscular respiratory failure requiring mechanical ventilation
• Autonomic dysfunction needing ICU monitoring
DIAGNOSIS

- Proper and detailed History
- Spinal tap – CSF reveals elevated protein
- EMG/NCV testing
TREATMENT

• Aim to decrease severity and suffering
• Disease modifying treatment
  - Plasma exchange
  - IVIG
AAN Guidelines

- IVIG/PE hasten recovery
- Beneficial effects of PE/IVIG are equivalent
- Combining the 2 treatments is not beneficial
AAN Guidelines

• Plasma exchange:
  – Non-ambulatory adult GBS patient with 4 weeks of onset of neuropathic symptoms
  – Ambulatory patients with in 2 weeks of onset of neuropathic symptoms

4-6 treatments over 8-10 days.
AAN Guidelines

• IVIG:
  - Non ambulatory adult GBS patients with in 2-4 weeks of onset of Neuropathic symptoms.

Treatment for 5 days
0.4 g/Kg/day
Side-effects of PE

- Hypotension
- Sepsis
Side-Effects of IVIG

- Aseptic Meningitis
- Acute Renal Failure
- Rarely Stroke secondary to Hyperviscosity
- Anaphylaxis secondary to IgA deficiency
Supportive Care

- DVT PPx
- Bladder / Bowel care
- PT/OT/ST as indicated
- Pain Control
- Psychological support
Respiratory Management

- Monitor for impending Respiratory failure
- 15-30% need ventilator support
- Monitor swallowing problems for risk of aspiration
- Inability to clear secretions
Impending Respiratory Arrest

- FVC < 20 ml/Kg
- Maximum Inspiratory pressure < 30 cm of H2O
- Maximum expiratory pressure < 40 cm of water
Respiratory Failure Predictors

- Time of onset to admission < 7 days
- Inability to cough
- Inability to stand
- Inability to lift elbows
- Inability to lift the head
- Increased liver enzymes
Continued...

- If at least 4 of the 6 above predictors are present, patient requires mechanical ventilation in 85% of patients
- Overall 43% of patients admitted will need mechanical ventilation
Respiratory Management

- Keep HOB elevated 30 Degrees to promote drainage and lung expansion, if not contraindicated
- Monitor for aspiration
- Monitor for difficulty breathing/tachypnea
Autonomic Dysfunction

- Dysautonomia in 70% of patients
  - Tachycardia
  - Urinary retention
  - Elevated or low BP
  - Orthostatic BP
  - Bradycardia
  - Arrhythmias
  - Ileus/loss of sweating.
Cardiovascular Management

- Instituted at the time of admission
- Monitoring of BP and heart rate in severely affected patients
- Monitoring is needed until weaned off the vent
Cardiovascular Management

• Quadriplegic patients should not be left unattended
• Maintain intravascular volume
• Avoiding medications which lower BP
• Arrhythmias occur frequently during suctioning
• Monitor BP and electrolytes during Plasma exchange
Cardiovascular Management

- Paroxysmal HTN - 24%
- Orthostatic Hypotension - 19%
- Sustained HTN - 3%
Arrhythmias

- Sinus tachycardia - 37% - no treatment
- Severe Bradycardia/asystole in 4% of GBS patients
- Others - A fib, A flutter, V Tach, St and T wave abnormalities
Bladder care

• Monitor Urinary retention which is very common
• Need for catheter and catheter care
Bowel care

- Adynamic ileus is common
- Daily abdominal auscultation is recommended
- Treatment is Erythromycin or Neostigmine
Skin Integrity

- Secondary to immobility
- Skin assessment esp over body prominences
- Prevent areas of moisture to skin
- ROM exercises to prevent contractures
Nutrition

- Monitor daily weights, serum albumin and total protein
- ST eval for gag reflex, aspiration and swallowing
- Initially pt’s may need enteral feeding to prevent aspiration
- Monitor gastric motility and dysphagia
Nutrition

• Optimal Nutrition is essential for recovery and good prognosis as malnutrition will delay recovery.
Pain

- Neuropathic pain in about 40-50% of patients with GBS
- Gabapentin, carbamazepine, epidural morphine in ICU setting
- Long term treatment with tricyclics, tramadol, gabapentin, carbamazepine, pregabalin
- Massage, reposition, music, biofeedback, ice and heat etc.
Cranial Nerve Involvement

• 85 % of cases
• Facial nerve is commonly involved which results in inability to smile, frown, whistle, use of straws
• IX and X cause dysphagia, laryngeal paralysis, autonomic dysfunction
• Keep eyes moist/artificial tears/eye mask
Psychological Issues

• Fear
• Anxiety
• Depression
• Feelings of being trapped and isolated in their body
Psychological issues

- Patients who cannot communicate easily, can still hear, see, think and have sensation.
- So please be cautious in your approach to these patients
Communication

- Communication Board for patients who can make a small puff of air, move lips, blink, click their tongue
- Keep clock and calendar in view
- Don’t leave patient alone
- Leave call device accessible (modify, prn)
- Open visitation for family and significant others
Sleep Pattern

- Monitor for sleep pattern disturbances which could be secondary to pain or dysautonomia etc.
- Schedule regular rest periods to prevent ICU delirium
Anxiety

- Monitor heart rate and BP
- Consider antidepressants or anxiolytics
Ventilatory care

• Wean patient off vent when FVC > 30 % and Negative inspiratory force is 20 cm H2O or more

• After extubation:
  - continue pulmonary toilet
  - incentive spirometry
Acute Care Rehab

- Gentle Strengthening and ROM exercises
- Proper limb positioning
- Posture
Post Acute Care Rehab

- Inpatient Rehab Unit
- PT/OT/ST as needed
- Continued Rehabilitation Nursing care
- Prevention of contractures, monitor skin breakdown and monitor for infections
Poor Prognostic factors

- Older age
- Rapid onset (< 7 days)
- Severe muscle weakness
- Need for vent support
- Average distal CMAP < 20 %
- Preceding diarrheal illness
Long Term Outcomes

• Patients walk independently
  - in 6 months- about 80%
  - 1 yr- about 84 %
• 14% - severe motor problems
• 5-10 %- incomplete recovery with need for prolonged vent dependence
• 4-5 % Mortality
Causes of Death

- Acute Respiratory Distress Syndrome
- Sepsis
- PE
- Cardiac arrest- un explained
Relapses

- 10% of patients have a relapse
- 2% develop CIDP
Immunization and GBS

• Not recommended during acute phase and up to 1 year after onset of GBS
• After that, given on need basis
Thank You
REFERENCES


