Geriatric Emergencies
“The Essentials”

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NO FINANCIAL DISCLOSURES
Why do we do what we do?

• WHO
  – “The state of complete physical, mental and social well-being and not merely the absence of disease or infirmity

• Impact state of health
  – Improve quality of life
  – Promote independent function
  – Improve life expectancy
    » Decrease morbidity and mortality
• What is an emergency?

• What is a geriatric emergency?
• “a sudden urgent, usually unexpected occurrence requiring immediate action”

• an acutely debilitating or life threatening condition in the elderly
• Response time and nature of response determines outcome

• It is better to be alive with a deficit than dead…
Why is this relevant?

• Medical Ethics
  » Hippocratic Oath
    – Respect patients autonomy
    – Informed consent
    – Non-maleficence
    – Beneficence
    – Teach
Why is this relevant?

- AGING is Inevitable
  - Significant fraction of population is elderly
    - >300,000 in Brooklyn
  - Predisposition for “Physiological Hypo-function”, illness and injury or death?

- Evidenced Based Standard of Care
  - “Not opinion”
  - “Not feelings”

- Assessment/Intervention decreases morbidity/mortality
  - Improve life expectancy
  - Quality of life
    - ADLs/IADLs
Guides Assessment

- History
- Physical
- Serology
- Imaging
  - What is the indication?
    - Cost
    - Risk
    - Litigation
Questions...

• What is the next step in the management of this patient?
• What is the next step in the care...?
• How much time do I spend examining?
• What are the risks/benefits of this measure?
• When or how soon do I follow up?
• Who is going to “pay”...?
• How do patients present?
• What signs or symptoms are suggestive of an underlying problem?
• What signs/symptoms are suggestive of an underlying medical emergency?
Guides Management

• Goal
  – Reduce morbidity & mortality
    • Improve quality of life
      – Decreased pain & suffering
      – Reduce risk of an unfavorable outcome
        » Illness, injury, deformity, death
      – Treat underlying cause
        » Remove, Reverse, Restore
    • Improve life expectancy
  – Promote independent function
How does it differ from standard medical evaluation?

• Focus is on elderly individuals with complex problems

• Stabilize first then consider continuous plan of care
  » Response time correlates with favorable outcome
    • A good geriatric assessment requires multidisciplinary team approach
    • Quality of life and functional status may be emphasized.
Setting for Assessment

• Ambulatory
• Acute Care Setting
  – Emergency Room
  – Hospital
• Home
  – Skilled Nursing Facility
  – Assisted Living
  » ***Time Constraints***
Factors impacting functional status

- Functional Status
  - Cognitive
  - Medical
  - Physical
  - Social
  - Economic
  - Spiritual
  - Environmental
  - Drugs
  - Psych
Physical Exam

• Observation/Inspection

• Vitals
  – ABCs
  – Extremes of Vitals
Geriatric emergencies

- CVA or stroke
- Pulmonary Edema/CHF
- Pulmonary Embolism
- Gastro-intestinal Bleeding
- Rhabdomyolysis
- Cord compression
- Hypercalcemia
- Temporal Arteritis
- Hip Fracture
- Depression
- Tooth Abscess
- Septic joint
- The eyes
- Pneumothorax
- Acute Renal Failure
- Acute Abdomen
How do we treat?

- Treat underlying cause…
- Primary Prevention…
• ROS
• Common things occur commonly
  – Previous episode is predictor of recurrent event
• Did I Ask?
  – D.I.D.I.A
  – Drugs, Infection, Dehydration, Impaction
• V.I.T.A.M.I.N.S
Pulse can tell the story

• Tachycardia
  – Medications
  – Infections
  – Dehydration
  – Anemia
  – Hyperthyroidism
  – Myocardia infarction
  – Pulmonary Embolism

• Bradycardia
  – Infection
  – Hypoglycemia
  – Sick-sinus syndrome
  – Hypothermia
  – Hypothyroidism
  – ICP
  – Infection
  – IWMI
PULMONARY EMBOLISM

More than ½ million estimated PE yearly
Untreated, 30% die
With early detection and Rx, mortality still high [10%]
More than 90% from DVT
RISK FACTORS

Virchow’s Triad: endothelial damage, venous stasis, immobilization

Acquired risks: surgery, trauma, malignancy, previous PTE, advanced age, CHF, high estrogen state, spinal cord injury

Hypercoagulable state: protein C def., ATIII deficiency, lupus anticoagulants, homocystinuria

Hematologic: persistent thrombocytosis, PNH

Other: IBD, nephrotic syndrome
KEY FEATURES IN HISTORY & PHYSICAL

• Dyspnea-sensitive but not specific
• Pleuritic chest pain; about 50% sensitive and specific
• Cough: 60-80% specific
• Leg swelling: 70-90% specific
• Hemoptysis: 90-95% specific
• Angina-like chest pain: 90+% specific
Clinical Signs

- Tachycardia
- Tachypnea
- Accentuated P2: 87% specific
- Cyanosis: 85-98% specific
- DVT: 89-92% specific
- Fever: >38.5
- Homan’s sign, wheezing, pleuritic rub, RV lift
Diagnostic tools

- EKG: tachycardia, non specific ST-T changes most common finding.
  - S1,Q3,T3 rare
- Chest xray: normal, infiltrate, ple effusion
- ABG
- V/Q scan mismatch: low, intermediate, high probability
- High resolution CT chest
- Pulmonary angiogram
- Venous doppler/Phlebogram
Management

• Oxygen
• Anticoagulation with unfractionated heparin or LMWH followed by warfarin
• Treat underlying/predisposing factors
PULMONARY EDEMA/CHF

MAJOR RISK FACTORS
Hypertension
Hyperlipidemia
Smoking
Family history of atherosclerotic diseases
Other: chemotherapy, RT, illicit drugs, thyroid
PULMONARY EDEMA/CHF

• KEY ELEMENTS IN HISTORY
  • Dyspnea
  • Degree of exertion to cause dyspnea
  • Orthopnea/PND
  • Other: nausea, abdominal pain, age at onset
  • Fatigue
  • Mental Status Changes
Differential Diagnosis

- Pulmonary Embolism
- Asthma/COPD Exacerbation
- Viral and Other Atypical Pneumonias
- Pulmonary Fibrosis
- Sarcoidosis
Diagnostic Studies

- Labs: cardiac enzymes, BNP, BUN/Cr, electrolytes, CBC, ABG
- Chest x-ray
- EKG
- 2D-Echo
Management

- Diuretics to reduce volume load
- Vasodilators: ACEI, hydralazine + nitrates
  - Increase SV by decreasing vasc resistance
  - Decrease preload by venodilation
- Inotropic Drugs: digoxin, Dobutamine
  - Anti-arrythmics
  - Oxygen
  - Treat underlying disease
Breathing Clues…

- Cheyne-Stokes breathing: CHF, CNS disease, pneumonia, medications, obesity
- Biot’s breathing: sign of increased intracranial pressure
- Apneustic breathing: Severely ill patients. This pattern is suggestive of pontine lesion
REFERENCE

• GERIATRIC REVIEW SYLABUS
• Dr. Mohamed Nurhussein
THANK YOU