Project: Ghana Emergency Medicine Collaborative

Document Title: Approach to Acute Chest Pain

Author(s): Rockefeller Oteng (University of Michigan), MD 2012

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Pathophysiology

- Somatic Pain fibers
  - Dermis and parietal pleura innervations
  - These enter the spinal cord at specific levels and arranged in a dermatomal pattern
- Visceral Pain fibers
  - Found in internal organs such as heart and esophagus and blood vessels
  - Enter the cord at multiple levels and “share” parietal cortex space with the somatic fibers

Pathophysiology

- Somatic Pain fibers
  - Pain is usually easily described
  - Precisely located
  - Described as a sharp sensation
- Visceral Pain fibers
  - Imprecisely localized
  - Difficult to describe
  - Often described as aching, discomfort, heaviness
  - Often misinterpreted because the pain is referred to a different area by the adjacent somatic nerve

Pathophysiology

- Several modifying factors to the pain sensation
- Co-morbidities, age, gender, medications, drugs, alcohol
- “Cultural and language difference”

Initial Approach

- In our evaluation we are concerned with the "acute chest pain"
- What recent event or change has brought them to the hospital?
- How is the patient experiencing the discomfort?
- The initial approach is based on the fact that there are life threatening causes of chest discomfort

Initial Approach

- Given the potentially serious concerns the patient should be addressed quickly and systematically
- IV, O2, Monitor
- Immediate life threats should be addressed systematically:
    - Airway
    - Breathing
    - Circulation

Initial Approach

- Vital signs should be assessed and repeated at regular intervals
- While you direct the rest of the team you then begin your direct questioning and primary survey
- What types of questions would you like to ask?

Initial Approach: History

- Are you having discomfort?
- How would you describe the discomfort?
- Where is the discomfort?
- Does it radiate anywhere?
- Any aggravating/alleviating factors?
- Any associated discomfort?
  - Diaphoresis, nausea, vomiting, cough, fevers

Initial Approach: History

- Frequency of the discomfort?
- Time of onset or acute worsening?
- Has there been any progression?
- History of Cardiopulmonary disease?
- Risk factors for cardiopulmonary disease?
- Family history of cardiopulmonary disease?

Physical Examination

- Your primary survey is a focused examination and will allow you to start interventions
- What is part of your primary survey?
  - General appearance of patient
  - Assessment of the airway
  - Assessment of breathing (listen to the pulmonary sounds)
  - Assessment of Circulation (listen to heart sounds)

Physical Examination

- Once you've evaluated for acute, life threatening conditions and reassessed vital signs then continue to the secondary survey
- During this examination, you should look the other body systems and peripheral signs that can be associated with acute cardiopulmonary issues.