# IS Chest Pain DIFFERENT in Primary Care

Dr.K.Arulanandem

Consultant Family Physician/Senior Lecturer

# Overview

- About chest pain
- Is chest pain different  in primary care settings?
- How it can be managed well?

- **Chest pain is a common presentation and diagnosis can be challenging in all settings.**

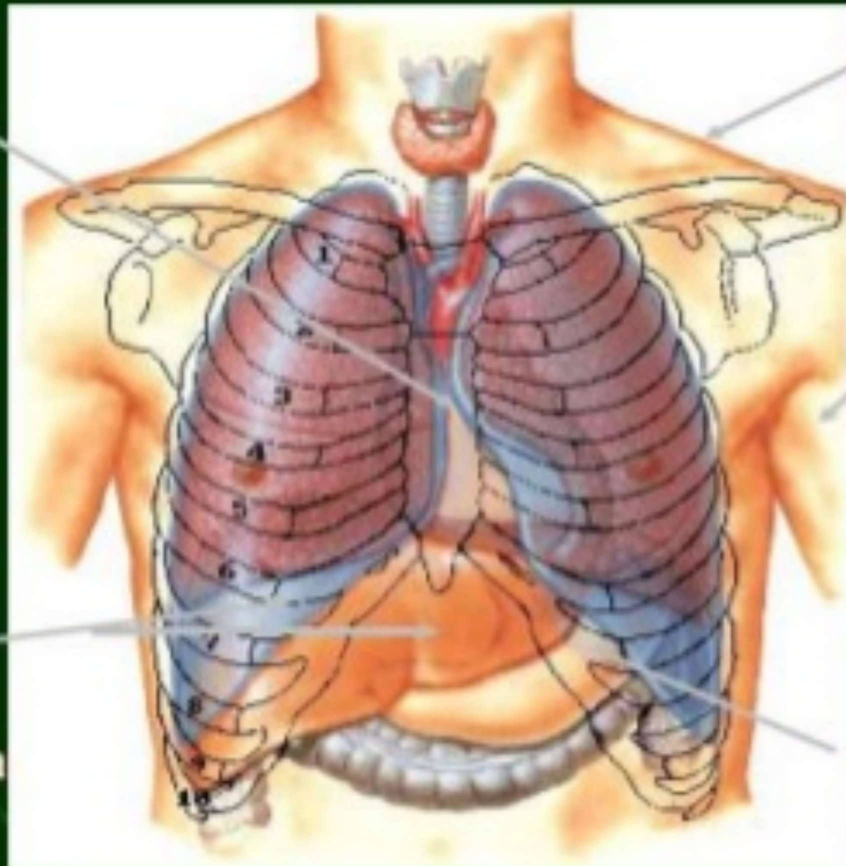
# Structures involved in chest pain

- Skin
- Muscles
- Bones
- nerves
- Joints
- Heart and vessels
- Lungs and airways
- esophagus
  (Thoracic cavity/chest wall)
- Gallbladder
- Pancreas
- Upper pole of left kidney
  (Abdominal cavity)

# Chest Pain: Location

Myocardial ischemia
Pericarditis
Aortic dissection
Mediastinal lesion
Pulmonary embolism
Esophageal spasm

Cholecystitis
Hepatic distension
Peptic disease
Pancreatitis
Myocardial ischemia



Myocardial ischemia
Pericarditis
Pleurisy, Sub-diap abscess

Myocardial ischemia
Cervical spine
Thoracic outlet

Pulmonary embolism
Pneumonia
Splenic infarction
Subdiap. abscess

# About Chest pain

- Chest pain is a common complaint to primary care physicians either as cardiac or non cardiac origin from
    - Chest wall
    - Cardiovascular
    - Pulmonary
    - Gastrointestinal
    - Psychiatry

**Location of pain often does not correspond with source**

# Cardiac chest pain

- Ischaemic
  - Acute Coronary Syndrome
    - Stable angina
    - coronary spasm
    - Myocardial infarction
- Non ischaemic
    - Aortic dissection
    - Pericarditis
    - Myocarditis
    - Stress induced cardiac myopathy

**Chest pain is one of the most difficult yet common symptoms evaluated by PCPs, Emergency Physicians, Cardiologists as more than one disease process may be present at the same time.**

# Chest wall & Pulmonary origin/Differential Diagnosis

- Costochondritis
- Herpes zoster
- Musculoskeletal pain
- Fibromyalgia
- Fractures/trauma/ haemothrox / Tension pneumothorax
- Acute pulmonary embolism
- Pulmonary hypertension
- Pleurititis/ pneumothorax
- Bronchial asthma/COPD
- lung cancer/Metastatic malignancy

**Severity of pain does not correlate with life threatening potential**

# Life-threatening diagnoses

- Acute coronary syndrome (acute myocardial infarction, unstable angina pectoris)
- Pulmonary embolism
- Aortic dissection
- Spontaneous pneumothorax

# Chronic conditions requiring urgent evaluation

- Angina pectoris due to stable coronary artery disease
- Aortic stenosis
- Aortic aneurysm
- Lung cancer

# Other acute conditions

- Acute pericarditis
- Pneumonia or pleurisy
- Herpes zoster
- Peptic ulcer disease
- Gastro-oesophageal reflux
- Acute cholecystitis

# Other diagnoses

- Neuromusculoskeletal causes
- Psychological causes
- Oesophageal
  - Reflux
  - Rupture
  - Spasms
  - Esophagitis
- Pancreatitis
- Cholecystitis /biliary stones
- Peptic ulcer disease
- Anxiety
- Depression
- Panic attacks
- Functional
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# Risk factors and Prevention

- Risk factors
  - Male sex,
  - Age over 50
  - Smoking
  - Obesity
  - Hypertension
  - Diabetes –
- Primary and secondary prevention strategies by PCPs
  - Life style modifications,
  - Nutritional interventions,
  - Drug reviews.
  - Continuity  and coordinated care

# Management-General

- Careful focused history-
- Relevant clinical examination
- Relevant investigation
- Prompt and early treatment
- Early and appropriate referral/admission
- Opportunistic health promotion
- Co ordinated and comprehensive care provision
- Maintaining better doctor patient relationship
- Undertake clinical audits

# Management –specific

- Many people with chest pain –fear of heart attack
- Chest pain in children more likely cardio respiratory asthma,pneumonia,heart disease
- Chest pain in elderly is very important symptom
- Never ignore chest pain

- Encourage risk factor reduction-
  - stop smoking, avoid excessive alcohol, reduce dietary fat, encourage physical exercise at least 20-30 minutes /3-5 times/week ,reduce weight and aim for ideal, encourage stress reduction

# Focused careful history

- Oesophageal spasm –retrosternal precipitated by meals,not extertional,
- Pulmonary embolism-dramatic onset, retrosternal, pleuritic ,high intensity cough,haemoptysis,breathlessness,
- Aortic dissection –sudden onset,tearing radiating to the back, pulse deficit or unequal
- Pericarditis-worsens on supine and eases on leaning
- Costochondritis – preceded by exercise, persist for long time, elicited by tenderness, relieved by anti inflammatory agents, usually unilateral sharp in nature,exaggerated by breathing, physical activity or a specific position
- Characteristics of Pain-SOCRATES Site Onset Character Radiation Associated symptoms Timing( duration, course, pattern)Exacerbating and relieving factors, severity

**will lead to 80% diagnosis**

# Physical Examination

- Look
  - Painful distress
  - Profuse sweating
  - Rapid breathing
  - Anxious
  - Pallor
  - cyanosis
  - Finger clubbing
  - Ankle odema
- Inspect chest and abdomen
  - Accessary muscles
  - Chest retractions
- Palpate
  - Pulse
  - Tenderness
  - Organomegaly
  - Lymph nodes
- Auscultate
  - Abnormal heart sounds
  - Abnormal breath sounds

# Investigations

- ECG
- FBC
- Urine analysis
- Serum electrolytes
- LFT
- Lipid profile
- FBS
- **In some developed settings**
  - Abdominal ultrasound
  - Serial cardiac enzymes
  - Amylase
  - Lipase
  - Echo

# Management ....

- Probable ischemic pain
  - 300mg of aspirin to chew and swallow
  - Glyceryl Tri Nitrate(GTN) sublingually) ,repeat
- 12 lead ECG
  - (look for ST elevation,ST depression,T wave inversion, hyper acute T wave)
- Refer to hospital where facilities available/mobile ambulance service 1990

# Management …

- Costochonditis-  paracetamol/NSAIDS
- Reflux  oesophagitis-antacids/Histamine 2 blockers/PPI
- If suspect
  - Myocardial infarction/ACS
  - Pericarditis
  - Pulmonary embolism
  - Pneumothorax/tension pneumothorax

  - Refer immediately to hospital/emergency unit