

Common Illness and Conditions Associated in Elderly Cardiorespiratory and General Medical Conditions



Intended Learning Outcomes

- At the end of this lecture student should be able to,
 - understand the impact of aging on the cardiorespiratory & common medical conditions.
 - identify cardiorespiratory & common medical conditions in the elderly.
 - review preventive strategies and diagnostic approaches in above conditions in the elderly.

Introduction

Aging can be defined as the time-related deterioration of the physiological functions necessary for survival and fertility. (Gilbert SF, 2000.)

This leads to a gradual decrease in physical and mental capacity, a growing risk of disease and ultimately death.

Introduction

In 2050, 80% of older people will be living in low- and middle-income countries.
(WHO, 2024)

In Sri Lanka, the aging population is rapidly growing, projected to reach 25% by 2041.
(Aging Population of Sri Lanka, 2017)

Changes in Cardiovascular System

Aorta – Loss of elasticity & hyperplasia

Heart Valves- Degenerate

Myocardial changes- lipofusion deposits, myocardial fibrosis, amyloidosis

Atheroma

Declined cardiac output

Limited physical activity level

Changes in Respiratory system

Alveoli – Atrophy, loss of elasticity, impaired O₂ diffusion

Arterial Oxygen tension reduces

Osteoporosis – Rigidity of chest wall

Weakness of intercostals, accessory muscles

Hypertension

Persistent blood pressure $>140/90$ mmHg

Common in >60 years due to vascular changes

Often asymptomatic

Common features -Headache, dizziness, blurred vision

Complications - stroke, heart failure, renal disease

Management

Drugs: ACE inhibitors, ARBs, beta-blockers, calcium channel blockers

Lifestyle: reduce salt, exercise, weight management

Ischemic Heart Disease

Reduced blood supply to heart muscle due to atherosclerosis

Clinical features

- Angina (chest pain with exertion)
- Dyspnea
- Fatigue
- May present atypically in elderly

Management

- Medications: nitrates, beta-blockers, statins, antiplatelets
- Revascularization: angioplasty, bypass surgery
- Lifestyle: diet, exercise, smoking cessation

Heart Failure

Inability of the heart to pump blood effectively to meet body's needs

Clinical features

- Dyspnea on exertion
- Orthopnea (difficulty breathing lying flat)
- Leg swelling (edema)
- Fatigue, exercise intolerance

Management

- Medications: Diuretics, ACE inhibitors, beta-blockers, aldosterone antagonists
- Fluid and salt restriction
- Cardiac rehabilitation

Chronic Obstructive Pulmonary Disease

Chronic airflow limitation (includes chronic bronchitis and emphysema)

Usually related to smoking

Clinical features

- Chronic cough and sputum production
- Dyspnea
- Barrel-shaped chest
- Frequent infections

Management

- Smoking cessation
- Bronchodilators (inhalers)
- Corticosteroids
- Pulmonary rehabilitation
- Oxygen therapy

Pneumonia

Infection of the lungs, common in elderly due to weaker immunity

Clinical features

- Fever, chills
- Productive cough
- Dyspnea, chest pain
- Confusion/delirium in elderly

Management

- Antibiotics
- Supportive care (fluids, rest, oxygen)
- Vaccination: pneumococcal and influenza vaccines

Diabetes Mellitus

Common due to insulin resistance & pancreatic decline

- **Features:** polyuria, polydipsia, polyphagia, fatigue
- **Treatment:** diet, oral drugs, insulin, lifestyle

Osteoporosis

Bone mineral density loss leading to fragility fractures

- **Features:** back pain, height loss, fractures
- **Treatment:** calcium, vitamin D, bisphosphonates, exercise

Summary

Elderly prone to cardiovascular, respiratory, and systemic diseases

Early recognition and multidisciplinary care are essential

Prevention, rehabilitation, and caregiver support improve quality of life

Annexures

- Ageing population of Sri Lanka: Emerging Issues, Needs and Policy Implications : Thematic Report Based on Census of Population and Housing 2017.
- Gilbert SF. Developmental Biology. 6th edition. Sunderland (MA): Sinauer Associates; 2000. Aging: The Biology of Senescence. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK10041/>
- <https://www.who.int/initiatives/decade-of-healthy-ageing>

Thank you

