

## IM 1 Pharm Immersion Lab – Scenario 2 Pathophysiology Sheets (Shores, Sandy)

### 1. Disease Process & Brief Pathophysiology

- **Pneumonia** is an acute infection of the lung

### 2. Factors for the Development of the Disease/Acute Illness (Pneumonia)

Weakened immune system, poor swallow reflexes (risk of aspiration), extended respiratory infection, prolonged illness leading to immobility, atelectasis, poor airway clearance (inability to cough up secretions)

### 3. Signs and Symptoms (Pneumonia)

Fatigue, dyspnea, fever, pleuritic pain, crackles and/or wheezes to lung fields, cough

### 4. Diagnostic Tests pertinent or confirming of diagnosis (Pneumonia)

chest x-ray, arterial blood gases, pulmonary function tests

### 5. Lab Values that may be affected (Pneumonia)

Complete blood count

Arterial Blood gases

Albumin

Sputum culture and sensitivity

### 6. Current Treatment (Pneumonia)

Antibiotics

Cough suppressants

Guaifenesin

Antipyretics

Bronchodilators

### 1. Disease Process & Brief Pathophysiology

- **Atopic dermatitis** is an IgE-mediated hypersensitivity reaction affecting cutaneous cells

### 2. Factors for the Development of the Disease/Acute Illness (atopic dermatitis)

Allergy or hypersensitivity to substances, etiology

### 3. Signs and Symptoms (atopic dermatitis)

Itching, red, swollen, cracked skin

unknown

#### 4. Diagnostic Tests pertinent or confirming of diagnosis (atopic dermatitis)

Skin assessment

Allergy testing

#### 5. Lab Values that may be affected (atopic dermatitis)

Complete blood count

#### 6. Current Treatment (atopic dermatitis)

Corticosteroid creams

Calcineurin inhibitors

Phosphodiesterase-4 inhibitors

#### 1. Disease Process & Brief Pathophysiology

● **Cerebrovascular accident (Stroke)** A stroke occurs when there is an interruption, either from ischemia to a part of the brain or hemorrhage into the brain, in the blood supply that results in the death of brain cells.

#### 2. Factors for the Development of the Disease/Acute Illness (Stroke)

Age, gender, race, and family history

Hypertension is the single most important modifiable risk factor. Other risk factors include increased serum cholesterol, smoking, excess alcohol consumption, obesity, physical inactivity,

#### 3. Signs and Symptoms (Stroke)

The manifestations are related to the location of the stroke.

● A stroke can affect many body functions, including motor activity, bladder and bowel elimination, intellectual function, spatial-perceptual problems, personality, affect, sensation,

poor diet, cardiac abnormalities, and drug use

swallowing, and communication.

#### 4. Diagnostic Tests pertinent or confirming of diagnosis (Stroke)

MRI

CT Scan

#### 5. Lab Values that may be affected (Stroke)

Lipid profile

Complete Metabolic Panel (electrolytes)

- Motor deficits include impairment of mobility, respiratory function, swallowing and speech, gag reflex, and self-care abilities.

- The patient may have aphasia, dysphasia, dysphagia, and dysarthria (problem with the muscular control of speech).

#### 6. Current Treatment (Stroke)

Antiplatelet medications

Thromolytic medications

Anticoagulant medications

Antihypertensives

Antiepileptic medications

#### 1. Disease Process & Brief Pathophysiology

- **Atrial Fibrillation (A-fib)** Atrial fibrillation is characterized by a total disorganization of atrial electrical activity caused by multiple ectopic foci resulting in loss of effective atrial contraction. As a result, irregular heart rhythm occurs.

#### 2. Factors for the Development of the Disease/Acute Illness (A-fib)

- Atrial fibrillation usually occurs in the patient with underlying heart disease, such as coronary artery disease (CAD), valvular heart disease, cardiomyopathy, hypertension, heart failure, and pericarditis. It also can develop acutely with thyrotoxicosis, alcohol intoxication, caffeine use,

#### 3. Signs and Symptoms (A-fib)

Atrial heart rate (how many times the atria contract per minute) as high as 350-600 beats/minute. P waves are replaced by chaotic, fibrillatory waves. Ventricular rate (how many times the ventricle contracts per minute) varies and is usually irregular.

Dyspnea, chest pain, feeling of “fluttering” or heart

electrolyte disturbances, stress, and cardiac surgery.

“flip-flopping”, low blood pressure, irregular pulse rate, decreased oxygen saturation, weakness, fatigue

Risk of blood clot formation puts patient at a high risk for stroke (cerebral vascular accident)

#### **4. Diagnostic Tests pertinent or confirming of diagnosis (A-fib)**

Electrocardiogram (ECG/EKG)

Echocardiogram

#### **5. Lab Values that may be affected (A-fib)**

Potassium

Magnesium

Risk of blood clots – watch coagulation labs (PT, INR, PTT, Platelets)

#### **6. Current Treatment (A-fib)**

Cardiac glycosides (digoxin)

Beta-blockers

Calcium channel blockers

Antiplatelet medications

Anticoagulant medications

Electric cardioversion