**Family Medicine Preceptorship**

**Discussion Cases**

**Chest Pain**

**Learning Objectives:**

* Discuss the differential diagnosis of chest pain
* Define elements of the history and physical examination which can help to differentiate causes of chest pain
* Describe the acute coronary syndromes, and how they are diagnosed
* Identify differences in acute coronary syndrome presentation in older adults

**Suggested Readings:**

McConaghy JR, Oza RS. Outpatient Diagnosis of Acute Chest Pain in Adults. *Am Fam Physician*. 2013 Feb 1;87(3):177-182. <http://www.aafp.org/afp/2013/0201/p177.html>

Barstow C, Rice M, McDivitt JD. Acute Coronary Syndrome: Diagnostic Evaluation. *Am Fam Physician.* 2017 Feb 1;95(3):170-177. <http://www.aafp.org/afp/2017/0201/p170.html>

Engberding N, Wenger NK. Acute Coronary Syndromes in the Elderly. *F1000Research.* 2017;6:1791. doi:10.12688/f1000research.11064.1. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5627582/>

**Case 1:**

Sam is a 23-year-old male medical student who walks into your clinic with acute chest pain and shortness of breath. Chest pain is described as “sharp” and is located in the right anterior chest. He reports that symptoms started suddenly while studying in the library. He has some shortness of breath and lightheadedness, and states he is currently very anxious about his symptoms. He denies leg swelling/pain, abdominal pain, diaphoresis, syncope, or recent nausea/vomiting. He states he recently got over a viral upper respiratory tract infection a few days ago. He reports that he has been under a lot of stress lately at school, and is very anxious about an upcoming biochemistry exam. He states that he takes occasional antacids for heartburn, but otherwise has no known personal medical problems. He did recently travel out of state last weekend, driving several hours to see his significant other. Family history is positive for mother with recurrent blood clots (she currently takes long-term anticoagulation), though there is no family history of heart disease in primary relatives. He is a never-smoker.

Question 1: What is the differential diagnosis for chest pain?

Question 2: What are possible causes of this patient’s chest pain, based on history?

**Case 2:**

Mary is a 66-year-old woman with history of hypertension, tobacco use disorder, type 2 diabetes mellitus, and obesity, who presents with symptoms of chest discomfort and shortness of breath. She states the pain is a “heaviness” sensation which radiates into both arms, as well as nausea. She first noticed pain while taking the garbage out this morning, and states pain worsens with activity and improves somewhat with rest. On physical examination she appears diaphoretic and pale. Blood pressure is 160/90, heart rate is 100, heart sounds are unremarkable, lungs are clear to auscultation, there is no lower extremity edema noted or jugular venous distension. EKG and troponin results are pending.

Question 1: What features of this patient’s presentation are consistent with acute coronary syndrome?

Question 2: What are the different types of acute coronary syndrome, and how are they diagnosed?

**Case 3:**

Norman is an 86-year-old male with history of hypertension, gout, GERD, and generalized anxiety disorder, who presents to clinic with feeling of fatigue and shortness of breath. He lives independently with his wife, and states that symptoms started while walking outside this morning to take the garbage out. Shortness of breath and fatigue are also accompanied by some mild nausea. He states symptoms are mildly improved with rest. He denies cough, chest pain, or lightheadedness. He appears fatigued on exam; cardiac auscultation reveals no abnormalities, lung auscultation reveals bibasilar rales, and there is no lower extremity edema. Vital signs show that he is afebrile, heart rate 95, blood pressure 155/95.

Question 1: How does ACS differ in older adults, compared to ACS in younger adults?

Question 2: What is the next step in evaluating Norman’s chest pain?