Acute Coronary Syndrome
Authored by: William Cherniak, MD
Faculty Advisor: David Law, MD, PhD, CCFP; Created January, 2013

Overview
Acute Coronary Syndrome [ACS] typically describes three major cardiac conditions: Unstable angina [UA], non-ST elevation myocardial infarction [NSTEMI] and ST elevation myocardial infarction [STEMI].\(^1,2,3\) The classic presentation is retrosternal chest pain, heaviness, diaphoresis and radiating pain into the jaw readily diagnosable by ECG and troponins.\(^1,3,5\) However, up to 50% of ACS patients do not have this classic presentation, causing confusion in health care practitioners and delay in diagnosis.\(^1,3,5\) Following acute care management, high risk patients face >8% risk of death within 6 months and therefore must be managed diligently by their primary care providers.  

Definitions\(^1,3,5-10\)
1) **Typical presentation [TP]**: Chest pain located sub-sternally, right or left-sided, characterized as squeezing, heavy, crushing, a fullness or pressure, radiating into jaws or arms with history of pain aggravated by exercise and relieved with rest or nitroglycerin. Symptoms can also include associated nausea, dyspnea, diaphoresis or syncope.
2) **Atypical presentation [AtP]**: No chest pain, point tenderness or chest pain characterized as stabbing or sharp. Can also be associated with nausea, dyspnea, diaphoresis, syncope or shoulder pain. Symptoms may not have historical patterns or relief with nitroglycerin.
3) **UA**: Decreased myocardial perfusion without concomitant myocardial necrosis. Subtyped by Canadian Cardiovascular Society:
   a. class I: New onset severe or accelerated angina
   b. class II: Angina at rest (one or more episodes of angina at rest during the preceding month, not within the preceding 48 hours)
   c. Class III: Angina at rest (one or more episodes within the preceding 48 hours)
4) **NSTEMI**: Resulting in a non-Q wave MI, partial myocardial necrosis
5) **STEMI**: Resulting in a Q-wave MI, transmural myocardial necrosis

Diagnostic Considerations\(^1,3,5-11\)

*Such as pulmonary embolism, pneumonia, aortic dissection, pneumothorax, peptic ulcer disease, pancreatitis, cholecystitis, muscular injury/inflammation, rib fracture, herpes zoster, esophagitis, costochondritis, and/or pleural effusion
**Such as pericarditis, myocarditis, trauma, cardiomyopathy and/or valvular heart disease
Risk stratification can be performed using the thrombolysis in myocardial ischemia risk score [TIMI], or the global registry of acute coronary events risk score [GRACE]. Important factors: Recurrent angina or ischemia at rest or with low-level activities, elevated cardiac biomarkers, new or presumably new ST-segment depression, signs or symptoms of heart failure or new or worsening mitral regurgitation, hemodynamic instability, PCI within 6 mo, Prior CABG, reduced left ventricular function

**Unless contraindicated (such as in patients with significant intracranial bleed, PUD etc.)

<table>
<thead>
<tr>
<th>Management</th>
<th>Acute Management</th>
<th>Long term Management</th>
<th>Safety Concerns</th>
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<tr>
<td><strong>Acute Management</strong></td>
<td>Pharmacotherapy, stress testing and echocardiography</td>
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<td>Combination of 1) ASA 75-100mg PO OD and 2) Clopidogrel 75mg PO OD or 2a) Ticagrelor 90mg PO BID and 3) Anticoagulant (depending on ACS)</td>
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<td>1,2,3) Bleeding risk, discontinue at least 5 days before elective surgery. Do not combine with non-steroidal anti-inflammatory drugs.</td>
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**Bottom Line**: ACS is a common and life threatening condition that can present to a family practice acutely or in follow-up. Over 50% of all patients will present atypically with ACS, do not rule it out based on lack of TP. All patients must be treated with anti-platelet and anticoagulant agents acutely, and managed aggressively both during and after an ACS. Cardiac rehabilitation and life style factors are as important as pharmacologic therapy to optimize lipids, blood pressure and blood sugars.

References:


