**EM Basic- MI and ACS**

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**Acute Coronary Syndrome-** a spectrum of disease

Does NOT include low-risk chest pain (we admit low-risk chest pain to RULE OUT ACS)

**Unstable Angina**

**Pathophysiology**

Fixed coronary stenosis that causes symptoms only when under stress

 Can represent a patient with a “normal cath” with 30% stenosis

**Definition**

Chest pain that is new or different, occurs at rest, or is different in intensity, character, or exertion level required to give chest pain

Pneumonic- Random UA or RND-UA **R**est, **N**ew, or **D**ifferent

+ or – EKG changes but NO evidence of STEMI

**Treatment**

**Aspirin**- 325mg PO (Plavix 75mg PO if aspirin allergic)

**Anticoagulation- talk to cardiologist regarding choice of agent**

**Heparin** **drip-** 60-70 units/kg bolus then 12-15 units/kg per hour

 MAX dose- 5,000 unit bolus and 1,000 units per hour

 Advantage- easy on, easy off

 Disadvantage- some studies show lovenox to be superior

 **Lovenox-** 1 mg/kg subcutaneous

 Advantage- may be superior in UA/NSTEMI

 Disadvantage- difficult to reverse if patient has bleeding

**Nitroglycerin**

**Dosing**- Sublingual tablets are 400 micrograms, work over 5 minutes (80 mcg/minute)

**Nitro Drip-** start at 80 – 100 mcg/minute and titrate to relief of chest pain or systolic above 100

**CAUTION**- Patients with posterior MI (preload dependent)

**CONTRAINDICATED- Cialis, Levitra, Viagra use**

**Non- ST elevation MI (NSTEMI)**

**Pathophysiology**

Supply/demand mismatch- stenosis large enough to cause

cardiac enzyme leak

**Definition**

**Type 1 NSTEMI-** Chest pain + or – EKG changes with cardiac enzyme elevat

**Type 2 NSTEMI-** Above definition in the setting of a non-cardiac stressor (sepsis, trauma, surgical abdomen, etc.)- usually from prolonged tachycardia

**Treatment**

**Type 1-** Same as Unstable Angina (ASA, heparin/lovenox, nitro)

**Type 2-** Treat the underlying cause, trend enzymes as an inpatient

**ST elevation MI (STEMI)**

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**Pathophysiology**

Coronary plaque that has ruptured, causing platelet aggregation and acute clot that compromises blood flow

**Definition**

1 mm or more of ST elevation in 2 or more contiguous leads

**PEARL-** Depressions can signal infarction opposite of that lead

Pneumonic for reciprocal changes

PAILS- **P**osterior **A**nterior **I**nferior **L**ateral **S**eptal

**Treatment**

Immediate cath lab activation or transfer to cath capable facility

 Aspirin- 325mg PO

 Plavix 600mg PO with zofran 4-8mg IV

 Heparin drip- 60-70 units/kg bolus, 12-15 units/kg/hr, max 5,000/1,000

**PEARL**- be sure to do a good H and P and check a chest x-ray to evaluate for other causes of STEMI (aortic dissection, AAA, pericarditis, intracranial hemorrhage)

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