

ACUTE CORONARY SYNDROMES

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EPIDEMIOLOGY OF ACS

It is estimated that more than 1.1 million patients experience an acute coronary syndrome (ACS) each year, with 813,000 diagnosed with myocardial infarction (MI).¹ Of patients presenting with suspected ACS, international registry data indicate that approximately 31% have ST segment elevation (STE) MI, 32% non-ST segment elevation (NSTEMI) MI, 26% unstable angina, 8% another cardiac diagnosis, and 4% noncardiac final diagnosis (see **Table 15-1**).²

TABLE 15-1: In-Hospital Outcomes of ACS with MI²

| Estimated In-Hospital Outcomes | STEMI | NSTEMI | Unstable Angina |
|--------------------------------|-------|--------|-----------------|
| Death (%) | 6.2 | 2.9 | 1.7 |
| Reinfarction (%) | 12 | 10 | 1.2 |
| Heart failure (%) | 15 | 10 | 6 |
| Stroke (%) | 1 | 0.5 | 0.2 |
| Major bleeding (%) | 1.4 | 1.2 | 0.5 |

PATHOPHYSIOLOGY AND EPIDEMIOLOGY OF ACS

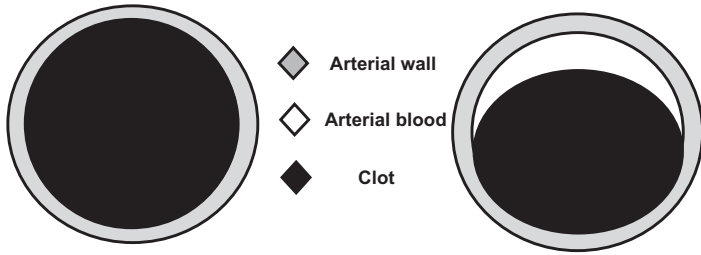
ACSs, (MI, or myocardial ischemia) are caused by partial or complete thrombotic occlusion of a coronary artery due to plaque rupture, erosion, fissuring, or dissection (**Figure 15-1**).

SIGNS AND SYMPTOMS OF ACS

Signs

- Electrocardiogram (ECG) changes: ST-segment elevation, ST-segment depression, T-wave inversion, new left bundle branch block, Q waves (**Figures 15-2A and B**).

Cross Section of a Coronary Artery



**Myocardial infarction:
complete occlusion**

**Unstable angina:
partial occlusion**

FIGURE 15-1. Pathophysiology of ACS

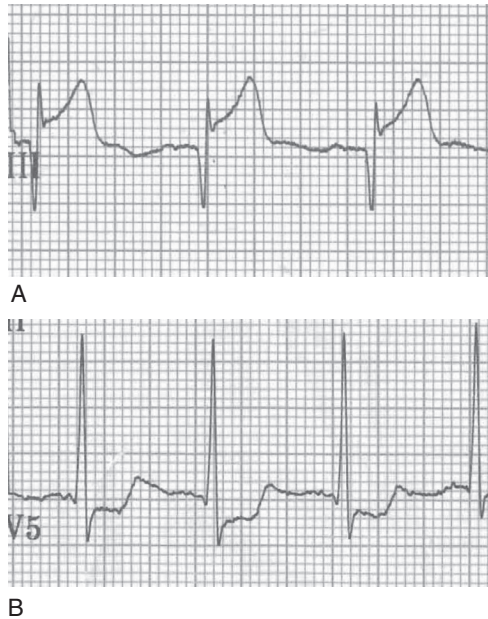


FIGURE 15-2. Electrocardiographic Findings in ACS

A. ST-segment elevation; B. ST-segment depression.