10 Commonly Used Medications in Cardiac Pharmacology

- **Aspirin (Acetylsalicylic acid)**
  - **Class:** Antiplatelet agent
  - **Mechanism:** Inhibits cyclooxygenase, reducing thromboxane A2 synthesis and inhibiting platelet aggregation.
  - **Use:** Prevention of thrombotic events in coronary artery disease (CAD) and acute myocardial infarction (MI).

- **Clopidogrel (Plavix)**
  - **Class:** Antiplatelet agent (P2Y12 receptor antagonist)
  - **Mechanism:** Inhibits ADP-induced platelet aggregation by irreversibly binding to P2Y12 receptors.
  - **Use:** Prevention of thrombotic events in CAD, post-MI, and following stent placement.

- **Atorvastatin (Lipitor)**
  - **Class:** Statin (HMG-CoA reductase inhibitor)
  - **Mechanism:** Inhibits HMG-CoA reductase, lowering cholesterol synthesis and LDL levels.
  - **Use:** Lowers LDL cholesterol, reduces cardiovascular events in high-risk patients.

- **Metoprolol (Lopressor)**
  - **Class:** Beta-blocker (selective beta-1 adrenergic antagonist)
  - **Mechanism:** Blocks beta-1 adrenergic receptors, reducing heart rate, contractility, and myocardial oxygen demand.
  - **Use:** Hypertension, angina, heart failure, post-MI management.

- **Enalapril (Vasotec)**
  - **Class:** ACE inhibitor (Angiotensin-Converting Enzyme inhibitor)
  - **Mechanism:** Inhibits ACE, reducing angiotensin II formation and aldosterone secretion, leading to vasodilation and decreased sodium retention.
  - **Use:** Hypertension, heart failure, post-MI management.

- **Losartan (Cozaar)**
  - **Class:** Angiotensin II receptor blocker (ARB)
  - **Mechanism:** Blocks angiotensin II type 1 receptors, causing vasodilation and reduced aldosterone secretion.
  - **Use:** Hypertension, heart failure, renal protection in diabetic nephropathy.

- **Digoxin**
  - **Class:** Cardiac glycoside
  - **Mechanism:** Inhibits Na+/K+ ATPase, increasing intracellular calcium and enhancing myocardial contractility.
  - **Use:** Heart failure (especially with atrial fibrillation), controls ventricular response rate in AF.

- **Amiodarone (Cordarone)**
  - **Class:** Class III antiarrhythmic agent
  - **Mechanism:** Prolongs action potential duration and refractory period by blocking potassium channels.
  - **Use:** Ventricular and atrial arrhythmias, particularly when other agents are ineffective or contraindicated.

- **Nitroglycerin**
  - **Class:** Nitrate
  - **Mechanism:** Releases nitric oxide, which relaxes vascular smooth muscle and dilates coronary arteries.
  - **Use:** Angina pectoris (acute relief and prevention).

- **Warfarin**
  - **Class:** Vitamin K antagonist (anticoagulant)
  - **Mechanism:** Inhibits vitamin K-dependent clotting factors (II, VII, IX, X).
  - **Use:** Prevention and treatment of thromboembolic events, atrial fibrillation with risk factors.