Clopidogrel

**Classification**
- Therapeutic: antiplatelet agents
- Pharmacologic: platelet aggregation inhibitors

**Pregnancy Category** B

**Indications**
Reduction of atherosclerotic events (MI, stroke, vascular death) in patients at risk for such events including recent MI, acute coronary syndrome (unstable angina/non-Q-wave MI), stroke, or peripheral vascular disease.

**Action**
Inhibits platelet aggregation by irreversibly inhibiting the binding of ATP to platelet receptors.

**Therapeutic Effects:**
Decreased occurrence of atherosclerotic events in patients at risk.

**Pharmacokinetics**
- **Absorption:** Well absorbed following oral administration; rapidly metabolized to an active antiplatelet compound. Parent drug has no antiplatelet activity.
- **Distribution:** Unknown.
- **Protein Binding:** Clopidogrel—98%; active metabolite—94%.
- **Metabolism and Excretion:** Rapidly and extensively converted by the liver (CYP2C19) to its active metabolite, which is then eliminated 50% in urine and 45% in feces; 2% of Whites, 4% of Blacks, and 14% of Asians have CYP2C19 genotype that results in reduced metabolism of clopidogrel (poor metabolizers) into its active metabolite (may result in antiplatelet effects).
- **Half-life:** 6 hr (active metabolite 30 min).

**TIME/ACTION PROFILE (effects on platelet function)**

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
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<tbody>
<tr>
<td>PO</td>
<td>1–2 hr</td>
<td>3–7 days</td>
<td>5 days†</td>
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†Following discontinuation

**Contraindications/Precautions**
- **Contraindicated in:** Hypersensitivity, Pathologic bleeding (epistaxis, intra-cranial hemorrhage), Concurrent use of aspirin or clopidogrel.
- **Use Cautiously in:** Patients at risk for bleeding (trauma, surgery, or other pathologic conditions), History of GI bleeding/oral disease, Severe hepatic impairment, Hypersensitivity to another thienopyridine (ticlopidine, prasugrel).

**Adverse Reactions/Side Effects**
Incidence of adverse reactions similar to that of aspirin.
- **CNS:** Depression, dizziness, fatigue, headache.
- **EENT:** Epistaxis.
- **Resp:** Cough, dyspnea, eosinophilic pneumonitis.
- **CV:** Chest pain, edema, hypertension.
- **GI:** GI bleeding, abdominal pain, diarrhea, dyspepsia, gastritis.
- **Derm:** Drug rash with eosinophilia and systemic symptoms, pruritus, purpura, rash.
- **Hemat:** Bleeding, neutropenia, thrombotic thrombocytopenic purpura.
- **Metab:** Hypercholesterolemia.
- **MS:** Arthralgia, back pain.
- **Misc:** Fever, hypersensitivity reactions.

**Interactions**
**Drug-Drug:** Concurrent abciximab, epifibatide, tirofiban, aspirin, NSAIDs, heparin, LMWHs, thrombolytic agents, ticlopidine, or warfarin may ↑ risk of bleeding. May ↑ metabolism and效果 of phenytoin, tolbutamide, tamoxifen, torsemide, warfarin, and many NSAIDs. Concurrent use with the CYP2C19 inhibitor, omeprazole or esomeprazole may ↓ antiplatelet effects; avoid concurrent use; may consider using H2 antagonist or another proton pump inhibitor (e.g., clarithromycin).

**Drug-Natural Products:** ↑ bleeding risk with anise, arnica, chamomile, clove, ginseng, feverfew, garlic, ginger, ginkgo, Panax ginseng, and others.

**Route/Dosage**

**Recent MI, Stroke, or Peripheral Vascular Disease**
- **PO (Adults):** 75 mg once daily.

**Acute Coronary Syndrome**
- **PO (Adults):** 300 mg initially; then 75 mg once daily. Aspirin 75–325 mg once daily should be given concurrently.

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NURSING IMPLICATIONS

Assessment

- Assess patient for symptoms of stroke, peripheral vascular disease, or MI periodically during therapy.


- Lab Test Considerations: Monitor bleeding time during therapy. Prolonged bleeding time, which is time- and dose-dependent, is expected.

- Monitor CBC with differential and platelet count periodically during therapy. Neutropenia and thrombocytopenia may rarely occur.

- May cause increases in serum bilirubin, hepatic enzymes, total cholesterol, nonprotein nitrogen (NPN), and uric acid concentrations.

Potential Nursing Diagnoses

Risk for injury (Indications) (Side Effects)

Implementation

- Do not confuse Plavix with Paxil.

- Discontinue clopidogrel 5–7 days before planned surgical procedures. If clopidogrel is discontinued, resume as soon as possible. Premature discontinuation of therapy may increase risk of cardiovascular events.

- PO: Administer once daily without regard to food.

Patient/Family Teaching

- Instruct patient to take medication exactly as directed. Take missed doses as soon as possible unless almost time for next dose; do not double doses. Do not discontinue clopidogrel without consulting health care professional; may increase risk of cardiovascular events. Advise patient to read the Medication Guide before starting clopidogrel and with each Rx refill in case of changes.

- Advise patient to notify health care professional promptly if fever, chills, sore throat, rash, unusual bleeding or bruising occurs.

- Advise patient to notify health care professional of medication regimen prior to treatment or surgery.

Evaluation/Desired Outcomes

- Prevention of stroke, MI, and vascular death in patients at risk.

- Instruct patient to notify health care professional of all Rx or OTC medications, vitamins, or herbal products being taken and to consult health care professional before taking any other Rx, OTC, or herbal products, especially those containing aspirin or NSAIDs or proton pump inhibitors.

- Advise female patient to notify health care professional if pregnancy is planned or suspected, or breastfeeding.

Why was this drug prescribed for your patient?