methylene-ergonovine (meth-il-er-goe-nov-ine) 

**Classification** 
Therapeutic: 
Oxytocic 
Pharmacologic: Ergot alkaloids

**Pregnancy Category:** C

**Indications**

Prevention and treatment of postpartum or postabortion hemorrhage caused by uterine atony or subinvolution.

**Action**

Directly stimulates uterine and vascular smooth muscle.

**Therapeutic Effects:**

Uterine contraction.

**Pharmacokinetics**

**Absorption:** Well absorbed following oral or IM administration.

**Distribution:** Unknown. Enters breast milk in small quantities.

**Metabolism and Excretion:** Probably metabolized by the liver.

**Half-life:** 30–120 min.

**TIME/ACTION PROFILE (effects on uterine contractions)**

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>PO</td>
<td>5–15 min</td>
<td>unknown</td>
<td>3 hr</td>
</tr>
<tr>
<td>IM</td>
<td>2–5 min</td>
<td>unknown</td>
<td>3 hr</td>
</tr>
<tr>
<td>IV</td>
<td>immediate</td>
<td>unknown</td>
<td>45 min–3 hr</td>
</tr>
</tbody>
</table>

**Contraindications/Precautions**

**Contraindicated in:** Hypersensitivity; OB: Should not be used to induce labor; Lactation: Do not breast feed during treatment and for 12 hours after the last dose; Concurrent use of potent CYP3A4 inhibitors.

**Use Cautiously in:** Hypertensive or eclamptic patients (more susceptible to hypotensive and arrhythmogenic side effects); History of or risk factors for coronary artery disease; severe hepatic or renal disease; Septic; Concurrent use of moderate CYP3A4 inhibitors.

**Exercise Extreme Caution in:** OB: Third stage of labor.

**Adverse Reactions/Side Effects**

**CNS:** Stroke, dizziness, headache. 

**EENT:** Tinnitus. 

**Resp:** Dyspnea. 

**CV:** Hypertension, arrhythmias, AV block, chest pain, palpitations. 

**GI:** Nausea, vomiting. 

**GU:** Cramps. 

**Derm:** Diaphoresis. 

**Neuro:** Paresthesia. 

**Misc:** Allergic reactions.

**Interactions**

**Drug-Drug:** Excessive vasoconstriction may result when used with heavy cigarette smoking (nicotine), other vasoconstrictors such as dopamine or beta-blockers. Potent CYP3A4 inhibitors, including ritonavir, lopinavir, indinavir, saquinavir, ritonavir, nelfinavir, delavirdine, telithromycin, clarithromycin, ketoconazole, voriconazole, tacrolimus, mmf, may increase levels and risk of ischemia; Concurrent use contraindicated. Moderate CYP3A4 inhibitors including saquinavir, nefazodone, fluconazole, fluoxetine, fluvoxamine, ketoconazole, voriconazole, ritonavir, ritonavir may increase levels; use with caution. CYP3A4 inducers including nefazodone and rifampin may decrease levels. Anesthetics may increase effects of methylergonovine.

**Drug-Food:** Grapefruit juice may increase levels; use with caution.

**Route/Dosage**

**PO (Adults):** 200–400 mcg (0.4–0.6 mg) q 6–12 hr for 2–7 days.

**IM, IV (Adults):** 200 mcg (0.2 mg) q 2–4 hr for up to 5 doses.

**NURSING IMPLICATIONS**

**Assessment**

- Monitor BP, heart rate, and uterine response frequently during medication administration. Notify health care professional promptly if uterine relaxation becomes prolonged or if character of vaginal bleeding changes.
- Assess for signs of ergotism (cold, numb fingers and toes, chest pain, nausea, vomiting, headache, muscle pain, weakness).
- **Lab Test Considerations:** If no response to methylergonovine, calcium levels may need to be assessed. Cell concentrations in urine may be increased.

**Patient**

- **Side Effects:** hypotension, headache, muscle pain, weakness.

**Interactions**

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Potential Nursing Diagnoses
Acute pain (Side Effects)

Implementation
IV Administration
- IV-IV administration is used for emergencies only. Oral and IM routes are preferred.
- Direct IV: Diluent: May be given undiluted or diluted in 5 mL of 0.9% NaCl and administered through Y-site. Do not add to IV solutions. Do not mix in syringe with any other drug. Refrigerate, stable for storage at room temperature for 60 days; deteriorates with age. Use only solution that is clear and colorless and that contains no precipitate. Concentration: 0.2 mg/mL. Rate: Administer at a rate of 0.2 mg over at least 1 min.
- Y-Site Compatibility: Heparin, hydrocortisone sodium succinate, potassium chloride, vitamin B complex with C.

Patient/Family Teaching
- Instruct patient to take medication as directed, do not skip or double up missed doses. If a dose is missed, omit it and return to regular dose schedule.
- Advise patient that medication may cause menstrual-like cramps.
- Caution patient to avoid smoking, because nicotine constricts blood vessels.
- Instruct patient to notify health care professional if infection develops, as this may cause increased sensitivity to the medication.
- Advise patient to notify health care professional of all Rx or OTC medications, vitamins, or herbal products being taken and to consult with health care professional before taking other medications.

Evaluation/Desired Outcomes
- Contractions that maintain uterine tone and prevent postpartum hemorrhage.

Why was this drug prescribed for your patient?