selegiline transdermal (se-le-jil-een)

Classification
Therapeutic: antidepressants
Pharmacologic: monoamine oxidase type B inhibitors

Pregnancy Category C

Indications
Major depressive disorder.

Action
Following conversion by MAO to its active form, selegiline inactivates MAO by irreversibly binding to it at type B (brain) sites; this results in higher levels of monoamine neurotransmitters in the brain (dopamine, serotonin, norepinephrine). Therapeutic Effects: Decreased symptoms of depression.

Pharmacokinetics
Absorption: 25–30% of patch content is transdermally absorbed, blood levels are higher than those following oral administration because there is less first pass hepatic metabolism.
Distribution: Rapidly distributes to all body tissues; crosses the blood brain barrier.
Metabolism and Excretion: Mostly metabolized by the liver, primarily by the CYP2A6, CYP2C9, and CYP3A4/5 enzyme systems. 10% excreted in urine as metabolites, 2% in feces; negligible renal excretion of unchanged drug.
Half-life: 18–25 hr.

TIME/ACTION PROFILE
ROUTE ONSET PEAK DURATION
transdermal unknown 2 or more wk 2 wk (after discontinuation)

Contraindications/Precautions
Contraindicated in: Hypersensitivity; Pheochromocytoma; Concurrent selective serotonin re-uptake inhibitors (fluoxetine, paroxetine, citalopram, escitalopram and others), monoamine oxidase re-uptake inhibitors (sevilamine, desipramine), tricyclic antidepressants (amitriptyline, imipramine, and others), carbamazepine, oxcarbazepine, valproate, topiramate, methadone, bupropion, tramadol, meperidine, local anesthetics with vasoconstrictors, oral selegiline, sympathomimetic amines, cocaine or local anesthetics with vasoconstrictors; St. John's wort; Alcohol.
Use Cautiously in: Elective surgery within 10 days; benzodiazepines, rapacuronium, fentanyl, morphine and codeine may be used cautiously; May ↑ risk of suicide attempt/ideation especially during early treatment or dose adjustment; risk may be greater in children or adolescents (safe use in children <12 yr not established); History of mania; Dosing at 9 mg/24 hr or 12 mg/24 hr requires dietary modification (avoid foods containing large amounts of tyramine); May be more susceptible to orthostatic hypotension; Use only if benefit outweighs risk to the fetus; May be more susceptible to orthostatic hypotension; Use only if benefit outweighs risk to the fetus; May be more susceptible to orthostatic hypotension; Safety not established; Use only if benefit outweighs risk to the fetus; May be more susceptible to orthostatic hypotension; Safety not established; Use only if benefit outweighs risk to the fetus; May be more susceptible to orthostatic hypotension; Safety not established; Use only if benefit outweighs risk to the fetus; May be more susceptible to orthostatic hypotension; Safety not established; Use only if benefit outweighs risk to the fetus; May be more susceptible to orthostatic hypotension; Safety not established; Use only if benefit outweighs risk to the fetus; May be more susceptible to orthostatic hypotension; Safety not established; Use only if benefit outweighs risk to the fetus; May be more susceptible to orthostatic hypotension; Safety not established.

Adverse Reactions/Side Effects
CNS: insomnia, abnormal thinking, agitation, amnesia, worsening of mania/hypomania.
EENT: tinnitus.
Resp: cough.
CV: HYPERTENSIVE CRISIS, chest pain, orthostatic hypotension, peripheral edema.
GI: diarrhea, altered taste, anorexia, constipation, flatulence, gastroenteritis, vomiting.
GU: dysmenorrhea, metrorrhagia, urinary frequency.
Derm: application site reactions, acne, ecchymoses, pruritus, sweating.
MS: myalgia, neck pain, pathologic fracture.
Neuro: paresthesia.

Interactions
Drug-Drug: Concurrent selective serotonin re-uptake inhibitors (fluoxetine, paroxetine, citalopram, escitalopram and others), monoamine oxidase re-uptake inhibitors (sevilamine, desipramine), tricyclic antidepressants (amitriptyline, imipramine, and others), carbamazepine, oxcarbazepine, valproate, topiramate, methadone, bupropion, tramadol, meperidine, local anesthetics with vasoconstrictors, oral selegiline, sympathomimetic amines, cocaine or local anesthetics with vasoconstrictors; St. John's wort; Alcohol.
Nursing Implications

Assessment

- Assess mental status, mood changes, and anxiety level frequently. Assess for suicidal tendencies, agitation, irritability, and unusual changes in behavior, especially during early therapy. Monitor pediatric patients face-to-face weekly during first 4 wk, every other week for wk 5, at 12 wk, and as clinically indicated during therapy.
- Monitor BP and pulse rate before and frequently during therapy. Report significant changes promptly.
- Toxicity and Overdose: Concurrent ingestion of tyramine-rich foods and many medications may result in a life-threatening hypertensive crisis. Signs and symptoms of hypertensive crisis include chest pain, tachycardia or bradycardia, severe headache, neck stiffness or soreness, nausea and vomiting, sweating, photophobia, and enlarged pupils. If hypertensive crisis occurs, discontinue selegiline transdermal and administer phentolamine 5 mg or labetalol 20 mg slowly IV to control hypertension. Manage fever with external cooling. Monitor patient closely until symptoms have stabilized.

Potential Nursing Diagnoses

- Ineffective coping (indications)
- Noncompliance (patient/family teaching)

Implementation

- Transdermal: Apply system to dry, intact skin on the upper torso such as chest, back, upper thigh, or outer surface of upper arm once every 24 hr at the same time each day. Avoid areas that are hairy, oily, irritated, broken, scarred, or calloused. Wash area gently with soap and warm water, rinse thoroughly. Allow skin to dry completely before application. Apply immediately after removing from package. Do not alter the system (i.e., cut) in any way before application. Remove liner from adhesive layer and press firmly to place with palm of hand for 30 sec, especially around the edges, to make sure contact is complete. Remove used system and fold so that adhesive edges are together. Only one selegiline patch should be worn at a time. Dispose away from children and pets. Apply new system in a different site. Wash hands thoroughly with soap and water to remove any medicine that may have gotten on them.

Patient/Family Teaching

- Instruct patient to apply patch as directed. Advise patients and caregivers to read the Medication Guide about Using Antidepressants in Children and Teenagers. Inform patients that improvement may be noticed after 1 to several weeks of therapy. Advise patient not to discontinue therapy without consulting health care professional.
- Caution patient to avoid alcohol and CNS depressants during and for at least 2 wk after therapy has been discontinued; they may precipitate a hypertensive crisis. Contact health care professional immediately if symptoms of hypertensive crisis develop. Patients taking 9 mg/24 hr or 12 mg/24 hr must avoid foods or beverages containing tyramine from the first day of the increased dose through 2 wk after discontinuation of selegiline transdermal therapy.
- Advise patient to avoid exposure to sources of direct heat such as heating pads, electric blankets, hot lamps, sunburn, heat lamps, heated water beds, and prolonged direct sunlight.
- May cause dizziness or drowsiness. Caution patient to avoid driving and other activities requiring alertness until response to medication is known.
- Caution patient to change positions slowly to minimize orthostatic hypotension.
- Generic patients are at increased risk for this side effect.
- Advise patient referred for MRI test to discuss patch with referring health care professional and MRI facility to determine if removal of patch is necessary prior to test and for directions for replacing patch.
- Advise patients and caregivers to notify health care professional if severe headache, dizziness, nausea, irritability, hostility, aggressiveness, impatience, akathisia, hypomania, mania, change in behavior, worsening of depression, or suicidal ideation occur, especially during initial therapy or during changes in dose.
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- Instruct patient to consult health care professional before taking any Rx, OTC, or herbal products. Caution patient to avoid use of St. John’s Wort and the analgesics meperidine (Percodan), tramadol (Ultram), or codeine during therapy.
- Advise patient to notify health care professional of medication regimen before treatment or surgery. If possible, therapy should be discontinued at least 2 wk before surgery.
- Advise patient to notify health care professional if pregnancy is planned or suspected or if breast feeding.

Evaluation/Desired Outcomes

- Improved mood in depressed patients.
- Decreased anxiety.
- Increased appetite.
- Improved energy level.
- Improved sleep. Evaluate effectiveness of therapy periodically.

Why was this drug prescribed for your patient?