

Extrapyramidal symptom assessment

Introduction

Antipsychotic drugs, which can be effective in reducing or eliminating such symptoms as delusions, hallucinations, and disorganized thinking, work by blocking dopamine receptors in the brain. However, when using the first-generation, conventional types of antipsychotics, such as chlorpromazine and haloperidol, this blocking commonly causes adverse effects known as *extrapyramidal symptoms*. Other medications, such as decongestants, anticonvulsants, antihistamines, and selective serotonin reuptake inhibitors (SSRIs), can also increase the risk of a patient developing these adverse effects. (See *Extrapyramidal effects of antipsychotic medications*.)

EXTRAPYRAMIDAL EFFECTS OF ANTIPSYCHOTIC MEDICATIONS		
<i>Antipsychotic medications can cause extrapyramidal symptoms involving motor coordination. This table provides an overview of these adverse effects and recommendations for treatment.</i>		
Adverse effect	Signs and symptoms	Treatment
<p>Acute dystonic reactions Severe muscle spasms that can be life-threatening if not treated immediately</p>	<ul style="list-style-type: none"> • Torticollis (severe twisting of the neck and back) • Opisthotonus (severe arching of the back) • Oculogyric crisis (severe rolling of the eyes into the head) • Laryngospasm (spasm of the throat that causes impaired breathing and swallowing; emergency tracheotomy may be needed) • Oral-facial-maxillary spasms (spasms of the face, lips, and tongue, making it difficult to talk, chew, and eat) 	<ul style="list-style-type: none"> • I.M. administration of diphenhydramine or benztropine to ease the adverse effects
<p>Dyskinesias Abnormal muscle movements that aren't as severe as spasms</p>	<ul style="list-style-type: none"> • Facial tics and twitches • Chewing movements • Lip smacking • Blinking • Aimless movements of the tongue • Shoulder shrugging 	<ul style="list-style-type: none"> • Decrease dose of antipsychotic • In some patients, prophylactic treatment with antiparkinsonian drugs such as benztropine

	<ul style="list-style-type: none"> • Pedaling movements of legs • Flailing arms 	
<p>Tardive dyskinesia Late onset of any of the dyskinesias; usually doesn't occur until 4 to 6 months after treatment with an antipsychotic has started; can also occur with use of antidepressants that affect dopamine receptors</p>	<ul style="list-style-type: none"> • Signs and symptoms of dyskinesias that may become permanent 	<ul style="list-style-type: none"> • Prevention with careful monitoring of drug dose, use of lowest dose possible, and continuous assessment for adverse effects
<p>Parkinsonian reactions Reactions that mimic the onset of Parkinson's disease; generally, one of the earliest reactions (may occur within days of starting an antipsychotic medication)</p>	<ul style="list-style-type: none"> • Stiffness and slowness of voluntary movement • Masklike immobility of facial muscles • Stooped posture • Slow, monotonous speech • Shuffling gait that speeds up on its own • Immobility 	<ul style="list-style-type: none"> • I.M. or I.V. administration of diphenhydramine or benztropine
<p>Akathisia Continuous muscle activity that's less intense than dystonias or dyskinesias; the most common type of extrapyramidal symptom</p>	<ul style="list-style-type: none"> • Intolerance of inactivity • Continuous agitation and restlessness • Pacing • Constant leg and finer movements 	<ul style="list-style-type: none"> • Changing to a different antipsychotic or decreasing the dose

Factors that may increase the risk of extrapyramidal symptoms in patients taking antipsychotic drugs include age, gender (female), race (black), psychiatric diagnosis, history of substance abuse, cognitive deficits, previous experience of extrapyramidal adverse effects, whether there were any inconsistencies in the treatment regimen, coexisting brain damage or diabetes mellitus, or history of a mood disorder.

Assessing the patient for these potentially irreversible and painful adverse effects is a top priority when caring for a patient taking antipsychotic medication so that treatment can be initiated early. The Abnormal Involuntary Movement Scale (AIMS) is a screening tool that assesses for extrapyramidal adverse effects. It measures atypical movements in seven different areas of the body and rates the intensity of the symptoms, providing a quantitative assessment of the patient's symptoms. (See *AIMS examination*.)

Nursing interventions and medical treatment are based on the specific category of adverse effect that's occurring. Treatment involves administering anticholinergic medications and discontinuing the medication, changing the medication to a different antipsychotic drug, or decreasing the current dosage.

AIMS EXAMINATION

The Abnormal Involuntary Movement Scale (AIMS) should be used as a screening tool on all patients who are receiving antipsychotic drugs. To perform this procedure, have the patient sit in a hard, firm chair without arms and quietly observe the patient while you perform these steps:

1. Ask the patient whether there's anything in his mouth (for example, gum or candy); if there is, ask him to remove it.
2. Ask the patient about the current condition of his teeth. Does he wear dentures? Do his teeth or dentures bother him now?
3. Ask the patient whether he notices any unusual movements in his mouth, face, hands, or feet. If yes, ask him to describe them and the extent to which they currently bother him or interfere with his activities.
4. Have the patient sit in the chair with his hands on his knees, legs slightly apart, and feet flat on the floor. (Look at his entire body for movements while he's in this position.)
5. Ask the patient to sit with his hands hanging unsupported. If the patient is male, his hands should be between his legs; if female and wearing a dress, her hands should hang over her knees. (Observe the hands and other body areas.)
6. Ask the patient to open his mouth. (Observe his tongue at rest within the mouth.) Do this step twice.
7. Ask the patient to protrude his tongue. (Observe for abnormalities of tongue movement.)
8. Ask the patient to tap his thumb with each finger as rapidly as possible for 10 to 15 seconds, first with his right hand and then with his left hand. (Observe the patient's facial and leg movements.)
9. Flex and extend the patient's left and right arms, one at a time. (Note any rigidity and rate it.)
10. Ask the patient to stand up. (Observe the patient in profile, assessing all body areas, including the hips.)
11. Ask the patient to extend both arms in front of him with his palms down. (Observe his trunk, legs, and mouth.)
12. Have the patient walk a few paces, turn, and walk back to the chair. (Observe his hands and gait.) Do this step twice.

If the patient shows signs of abnormal movement while performing these tasks, further evaluation for extrapyramidal symptoms is needed.

Source: Guy, W. ECDEU Assessment Manual for Psychopharmacology—Revised (DHEW Publ No ADM 76-338). Washington, DC: U.S. Department of Health, Education, and Welfare; 1976.

Equipment

- AIMS screening tool

Implementation

1. Review the patient's medical record for past and current medication use. *Antipsychotics, decongestants, antihistamines, anticonvulsants, and SSRIs can produce extrapyramidal symptoms.*
2. Determine the length of time the patient has been on the drug that likely caused the extrapyramidal symptoms.
3. Confirm the patient's identity using two patient identifiers according to your facility's policy.⁵
4. Assess the patient for extrapyramidal symptoms.
5. Ask the patient if he has ever experienced extrapyramidal symptoms.
6. Tell the patient the risk factors for extrapyramidal symptoms and ask whether any of those factors apply to him.
7. Administer the AIMS screening tool and evaluate the patient's score.
8. Contact the doctor for additional orders based on the patient's AIMS score.
9. Provide immediate interventions to treat the symptoms if indicated and ordered.
10. Remain with the patient and offer support and reassurance. *Experiencing extrapyramidal symptoms can be very frightening for the patient.*
11. Document the procedure.⁶

Patient Teaching

Inform the patient of all medication adverse effects and, if possible, provide a handout. Encourage the patient to immediately report any signs or symptoms to the nurse or, if he has been discharged, to his doctor. Encourage him to maintain his medication regimen and not to discontinue any medication before discussing it with his doctor. Make sure to include the patient's family in the teaching.

Complications

Early detection through assessment will minimize serious complications. However, if tardive dyskinesia occurs, this symptom may become permanent. Additionally, acute dystonic reactions can be life-threatening if not treated immediately.

Documentation

Document the results of the AIMS screening tool and your assessments in the patient's medical record. Include any interventions you provided and the patient's response. Note the date, time, and person you notified if the patient was having symptoms and any orders received from that person.

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