chapter 32

Antipsychotic Drugs

Key Terms

akathisia
antipsychotic drugs
bipolar disorder
delusion
dystonia
extrapyramidal effects
hallucination
neuroleptic drugs
neuroleptic malignant syndrome
photophobia
photosensitivity
psychotic disorder
tardive dyskinesia

Chapter Objectives

On completion of this chapter, the student will:

- List the uses, general drug actions, general adverse reactions, contraindications, precautions, and interactions associated with the administration of the antipsychotic drugs.
- Discuss important preadministration and ongoing assessment activities the nurse should perform on the patient taking an antipsychotic drug.
- List some nursing diagnoses particular to a patient taking an antipsychotic drug.
- Discuss ways to promote an optimal response to therapy, how to manage common adverse reactions, and important points to keep in mind when educating patients about the use of the antipsychotic drugs.

Antipsychotic drugs are also called **neuroleptic drugs**. These drugs are given to patients with a psychotic disorder, such as schizophrenia. A **psychotic disorder** is characterized by extreme personality disorganization and the loss of contact with reality. **Hallucinations** (a false perception having no basis in reality) or **delusions** (false beliefs that cannot be changed with reason) are usually present. Other symptoms include disorganized speech, behavior disturbance, social withdrawal, flattened affect (absence of an emotional response to any situation or condition), and anhedonia (finding no pleasure in activities that are normally pleasurable).

Although lithium is not a true antipsychotic drug, it is considered with the antipsychotics because of its use in regulating the severe fluctuations of the manic phase of **bipolar disorder** (a psychiatric disorder characterized by severe mood swings of extreme hyperactivity to depression). During the manic phase, the person experiences altered thought processes, which can lead to bizarre delusions. The drug diminishes the frequency and intensity of hyperactive (manic) episodes.

ACTIONS

The exact mechanism of action of antipsychotic drugs is not well understood. These drugs are thought to act by inhibiting or blocking the release of the neurohormone dopamine in the brain and possibly increasing the firing of nerve cells in certain areas of the brain. These effects may be responsible for the ability of these drugs to suppress the symptoms of certain psychotic disorders. Examples of antipsychotic drugs include chlorpromazine (Thorazine), haloperidol (Haldol), and lithium. Lithium is an antimanic drug; although its exact mechanism is unknown, it appears to alter sodium transport in nerve and muscle cells and inhibits the release of norepinephrine and dopamine. Haloperidol may act to block postsynaptic dopamine receptors in the brain and depress the RAS, including those parts of the brain involved with wakefulness and emesis. The Summary Drug Table: Antipsychotic Drugs gives a more complete listing of the antipsychotic drugs.

SUMMARY DRUG TABLE ANTIPSYCHOTIC DRUGS

GENERIC NAME	TRADE NAME*	USES	ADVERSE REACTIONS	DOSAGE RANGES
chlorpromazine HCL *klor-proe'-ma-zeen*	Thorazine, *generic*	Psychotic disorders, nausea, vomiting, intractable hiccups	Hypotension, postural hypotension, tardive dyskinesia, photophobia, urticaria, nasal congestion, dry mouth, akathisia, dystonia, pseudoparkinsonism, behavioral changes, headache, photosensitivity	Psychiatric disorders: up to 2000 mg/d PO in divided doses, 25 IM; nausea and vomiting: 10–25 mg PO, 25–50 mg IM, 50–100 rectal; hiccups: 25–50 mg PO, IM, IV TID–QID
clozapine *kloe'-za-peen*	Clozaril, *generic*	Severely ill schizophrenic patients with no response to other therapies	Drowsiness, sedation, akathisia, seizures, dizziness, syncope, tachycardia, hypotension, nausea, vomiting	Up to 900 mg/d PO in divided doses
fluphenazine HCL *floo-fen'-a-zeen*	Permitil, Prolixin, *generic*	Psychotic disorders	Drowsiness, extrapyramidal effects, dystonia, akathisia, hypotension	0.5–10 mg/PO in divided doses up to 20 mg/d; 2.5–10 mg/d IM in divided doses
haloperidol *ha-loe-per'-i-dole*	Haldol	Psychotic disorders; Tourette's syndrome, behavior problems in children	Extrapyramidal symptoms, akathisia, dystonia, tardive dyskinesia, drowsiness, headache, dry mouth, orthostatic hypotension	0.5–5 mg PO BID, TID with dosages up to 100 mg/d in divided doses; 2–5 mg IM; children 0.05–0.075 mg/kg/d PO
lithium *lith'-ee-um*	Eskalith, Lithobid, Lithonate, *generic*	Manic episodes of bipolar disorder	Headache, drowsiness, tremors, nausea, polyuria (see Table 32-1)	Based on lithium serum levels; average dose range is 900–1800 mg/d PO in divided doses
loxapine *lox'-a-peen*	Loxitane	Psychotic disorders	Extrapyramidal symptoms, akathisia, dystonia, tardive dyskinesia, drowsiness, headache, dry mouth, orthostatic hypotension	60–250 mg/d PO in divided doses; 12.5–50 mg IM
olanzapine *oh-lan'-za-peen*	Zyprexa	Schizophrenia, short-term treatment of manic episodes of bipolar disorder	Agitation, dizziness, nervousness, akathisia, constipation, fever, weight gain	5–20 mg/d PO
perphenazine *per-fen'-a-zeen*	Trilafon, *generic*	Psychotic disorders	Hypotension, postural hypotension, tardive dyskinesia, photophobia, urticaria, nasal congestion, dry mouth, akathisia, dystonia, pseudoparkinsonism, behavioral changes, headache, photosensitivity	Psychotic disorders: 4–16 mg PO BID to QID, 5–10 mg IM
pimozide *pi'-moe-zide*	Orap	Tourette's syndrome	Parkinson-like symptoms, motor restlessness, dystonia, oculogyric crisis, tardive dyskinesia, dry mouth, diarrhea, headache, rash, drowsiness	Initial dose: 1–2 mg/d PO; maintenance dose: up to 10 mg/d PO

(*continued*)

SUMMARY DRUG TABLE ANTIPSYCHOTIC DRUGS (*Continued*)

GENERIC NAME	TRADE NAME*	USES	ADVERSE REACTIONS	DOSAGE RANGES
prochlorperazine *proe-klor-per'-a-zeen*	Compazine, *generic*	Psychotic disorders, nausea, vomiting, anxiety	Extrapyramidal effects, sedation, tardive dyskinesia, dry eyes, blurred vision, constipation, dry mouth, photosensitivity	Psychotic disorders: up to 150 mg PO, 10–20 mg IM; nausea, vomiting: 15–40 mg/d PO in divided doses; anxiety: 5 mg TID, PO
promazine HCL *proe'-ma-zeen*	Sparine, *generic*	Psychotic disorders	Drowsiness, extrapyramidal effects, dystonia, akathisia, hypotension	10–200 mg PO, IM q4–6h QID
quetiapine fumarate *kwe-tie'-ah-pine*	Seroquel	Psychotic disorders	Orthostatic hypotension, dizziness, vertigo, nausea, constipation, dry mouth, diarrhea, headache, restlessness, blurred vision	Up to 800 mg/d PO in divided doses
risperidone *ris-per'-i-done*	Risperdal	Psychotic disorders	Agitation, dizziness, nervousness, akathisia, constipation, fever, weight gain	1–3 mg BID PO
trifluoperazine HCL *try-floo-oh-per'-a-zeen*	Stelazine, *generic*	Psychotic disorders, anxiety	Drowsiness, pseudoparkinsonism, dystonia, akathisia, tardive dyskinesia, photophobia, blurred vision, dry mouth, salivation, nasal congestion, nausea, urine discolored pink to red-brown	Psychosis: 4–20 mg/d PO in divided doses; anxiety: 1–2 mg BID PO
ziprasidone HCL *zih-pray'-sih-dohn*	Geodon	Schizophrenia	Somnolence, drowsiness, sedation, headache, arrhythmias, dyspepsia, fever, constipation, extrapyramidal effects	80 mg BID PO

*The term *generic* indicates that the drug is available in generic form.

USES

Antipsychotic drugs are used to manage acute and chronic psychoses. In addition to its antipsychotic properties, chlorpromazine (Thorazine) is used to treat uncontrollable hiccoughs. Clozapine (Clozaril) is used only in patients with schizophrenia that is unresponsive to other antipsychotic drugs. Lithium is effective in the management of bipolar (manic-depressive) illness. Some of these drugs, such as chlorpromazine (Thorazine) and prochlorperazine (Compazine), are used as antiemetics (see Chap. 34). When given in small doses, neuroleptics are effective in the control of acute agitation in the elderly. More specific uses of these drugs are given in the Summary Drug Table: Antipsychotic Drugs.

ADVERSE REACTIONS

Administration of these drugs may result in a wide variety of adverse reactions. The adverse reactions seen with the use of some of these drugs may include sedation, hypotension, postural hypotension, dry mouth, nasal congestion, **photophobia** (an intolerance to light), urticaria, **photosensitivity** (abnormal response or sensitivity when exposed to light), behavioral changes, and headache. Photosensitivity can result in severe sunburn when patients taking antipsychotic drugs are exposed to the sun or ultraviolet light.

Behavioral changes may also occur with the use of the antipsychotic drugs. These changes include an increase in the intensity of the psychotic symptoms, lethargy, hyperactivity, paranoid reactions, agitation, and confusion. A

decrease in dosage may eliminate some of these symptoms, but it also may be necessary to try another drug.

Extrapyramidal Effects

Among the most significant adverse reactions associated with the antipsychotic drugs are the extrapyramidal effects. The term **extrapyramidal effects** refers to a group of adverse reactions occurring on the extrapyramidal portion of the nervous system as a result of antipsychotic drugs. This part of the nervous system affects body posture and promotes smooth and uninterrupted movement of various muscle groups. Antipsychotics disturb the function of the extrapyramidal portion of the nervous system, causing abnormal muscle movement. Extrapyramidal effects include Parkinson-like symptoms (see Chap. 29), akathisia, and dystonia (see Display 32-1).

Extrapyramidal effects usually diminish with a reduction in the dosage of the antipsychotic drug. The primary health care provider may also prescribe an antiparkinsonism drug, such as benztropine (see Chap. 29) to reduce the incidence of Parkinson-like symptoms.

Tardive Dyskinesia

Tardive dyskinesia (TD) is a syndrome consisting of potentially irreversible, involuntary dyskinetic movements. TD is characterized by rhythmic, involuntary movements of the tongue, face, mouth, or jaw and sometimes the extremities (see Fig. 32-1). The tongue may protrude, and there may be chewing movements, puckering of the mouth, and facial grimacing. TD may be observed in patients receiving an antipsychotic drug or after discontinuation of antipsychotic drug therapy. When symptoms of TD occur during the course of therapy, use of the drug must be discontinued. Depending on the severity of the condition being treated, the primary health care provider may slowly taper the drug dose because abrupt discontinuation may result in a return of the psychotic symptoms. There is no known treatment of TD, although partial or complete remission may occur if the antipsychotic drugs are withdrawn. The risk of TD and the likelihood that it will become irreversible increase as the duration of treatment and total cumulative dosage administered increase. It is best to use the smallest dose and the shortest duration of treatment that produces a satisfactory clinical response. The highest incidence of TD is found in patients receiving an antiparkinson drug for extrapyramidal effects along with an antipsychotic drug. Although any patient taking an antipsychotic can experience TD, elderly women are at highest risk.

DISPLAY 32-1 ● Extrapyramidal Effects

- Parkinson-like symptoms—fine tremors, muscle rigidity, mask-like appearance of the face, slowness of movement, slurred speech, and unsteady gait
- **Akathisia**—extreme restlessness and increased motor activity
- **Dystonia**—facial grimacing and twisting of the neck into unnatural positions

Neuroleptic Malignant Syndrome

Neuroleptic malignant syndrome (NMS) is a rare reaction characterized by a combination of extrapyramidal effects, hyperthermia, and autonomic disturbance. It may occur hours to months after the antipsychotic drug regimen is begun. Once NMS begins, it progresses rapidly during the next 24 to 72 hours. The syndrome most often occurs in patients taking haloperidol, but has occurred with administration of thiothixene, thioridazine, and clozapine. NMS is potentially fatal and requires intensive symptomatic treatment and immediate discontinuation of use of the causative drug.

Lithium

Lithium carbonate is rapidly absorbed after oral administration. The most common adverse reactions include tremors, nausea, vomiting, thirst, and polyuria. Toxic reactions may be seen when serum lithium levels are greater than 1.5 mEq/L (Table 32-1). Because some of these toxic reactions are potentially serious, lithium blood levels are usually obtained during therapy, and the dosage of lithium is adjusted according to the results.

TABLE 32-1 Lithium Toxicity

LITHIUM LEVEL	SIGNS OF TOXICITY
1.5–2 mEq/L	Diarrhea, vomiting, nausea, drowsiness, muscular weakness, lack of coordination (early signs of toxicity)
2–3 mEq/L	Giddiness, ataxia, blurred vision, tinnitus, vertigo, increasing confusion, slurred speech, blackouts, myoclonic twitching or movement of entire limbs, choreoathetoid movements, urinary or fecal incontinence, agitation or manic-like behavior, hyperreflexia, hypertonia, dysarthria
> 3 mEq/L	May produce a complex clinical picture involving multiple organs and organ systems, including seizures (generalized and focal), arrhythmias, hypotension, peripheral vascular collapse, stupor, muscle group twitching, spasticity, coma

Patient Identification _____ **Date** _____

Rated By _____

Either before or after completing the examination procedure, observe the patient unobtrusively at rest (e.g., in waiting room).

The chair to be used in this examination should be a hard, firm one without arms.

After observing the patient, he/she may be rated on a scale of 0 (none), 1 (minimal), 2 (mild), 3 (moderate), and 4 (severe) according to the severity of symptoms.

Ask the patient whether there is anything in his/her teeth (i.e., gum, candy, etc.) and if there is to remove it.

Ask patient about the *current* condition of his/her teeth. Ask patient if he/she wears dentures. Do teeth or dentures bother patient now?

Ask patient whether he/she notices any movement in mouth, face, hands, or feet. If yes, ask to describe and to what extent they *currently* bother patient or interfere with his/her activities.

*Abnormal Involuntary Movement Scale
From Novartis Parmaceuticals, East Hanover, NJ 07936.

0	1	2	3	4

Ask patient to tap thumb, with each finger as rapidly as possible for 10–15 seconds; separately with right hand, then with left hand. (Observe facial and leg movements.)

0	1	2	3	4

Flex and extend patient's left and right arms. (One at a time.)

0	1	2	3	4

Ask patient to stand up. (Observe in profile. Observe all body areas again, hips included.)
*Activated movements.

0	1	2	3	4

Have patient sit in chair with hands on knees, legs slightly apart, and feet flat on floor. (Look at entire body for movements while in this position.)

0	1	2	3	4

Ask patient to sit with hands hanging unsupported, if male, between legs, if female and wearing a dress, hanging over knees. (Observe hands and other body areas.)

0	1	2	3	4

Ask patient to open mouth. (Observe tongue at rest within mouth.) Do this twice.

0	1	2	3	4

Ask patient to protrude tongue. (Observe abnormalities of tongue movement.) Do this twice.

0	1	2	3	4

Ask patient to extend both arms outstretched in front with palms down. (Observe trunk, legs, and mouth.)

0	1	2	3	4

Have patient walk a few paces, turn, and walk back to chair. (Observe hands and gait.) Do this twice.

FIGURE 32-1 A simple method to determine tardive dyskinesia symptoms: Abnormal Involuntary Scale* examination procedure. (From Clayton & Stock [1997]. *Basic pharmacology for nurses* 11th ed., p. 580, St Louis: Mosby.)

CONTRAINDICATIONS

The antipsychotics are contraindicated in patients with known hypersensitivity to the drugs, in comatose patients, and in those who are severely depressed, have bone marrow depression, blood dyscrasias, Parkinson's disease (haloperidol), liver impairment, coronary artery disease, or severe hypotension or hypertension.

Antipsychotic drugs are classified as Pregnancy Category C drugs (except for clozapine, which is Pregnancy Category B). Safe use of these drugs during pregnancy and lactation has not been clearly established. They should be used only when clearly needed and when the potential good outweighs any potential harm to the fetus.

Lithium is contraindicated in patients who have hypersensitivity to tartrazine, renal or cardiovascular disease, sodium depletion, dehydration, patients receiving diuretics, and those who are dehydrated. Lithium is a Pregnancy Category D drug and is contraindicated during pregnancy and lactation. For women of childbearing age, contraceptives may be prescribed while they are taking lithium.

PRECAUTIONS

The antipsychotic drugs are used cautiously in patients exposed to extreme heat or phosphorous insecticides and in those with respiratory disorders, glaucoma, prostatic hypertrophy, epilepsy, decreased renal function, lactation, or peptic ulcer. The antipsychotic drugs are used cautiously in elderly and debilitated patients because these patients are more sensitive to the antipsychotic drugs. Lithium is used cautiously in patients who are in situations in which they may sweat profusely and those who are suicidal, have diarrhea, or who have an infection or fever.

INTERACTIONS

Administering the antipsychotic drugs with alcohol may result in additive central nervous system (CNS) depression. Anticholinergics (see Chap. 25) may reduce the therapeutic effects of the antipsychotics, causing worsening of the psychotic symptoms and an increase in the risk of tardive dyskinesia. Clozapine acts synergistically with other drugs that suppress bone marrow, resulting in an increase in the severity of bone marrow suppression. When lithium is administered with other antipsychotic drugs, lithium renal clearance may be reduced, making a decreased dosage necessary to prevent lithium toxicity. There may be a decreased effectiveness of lithium when the agent is administered with antacids. When thiazide or loop diuretics are administered with lithium, there is an increase in serum lithium levels, resulting in an increased risk for lithium toxicity.

NURSING PROCESS

The Patient Receiving an Antipsychotic Drug

ASSESSMENT

Preadministration Assessment

A patient receiving an antipsychotic drug may be treated in the hospital or in an outpatient setting. The nurse assesses the patient's mental status before and periodically throughout therapy. The nurse must note the presence of hallucinations or delusions and document them accurately in the patient's record.

Before starting therapy for the hospitalized patient, the nurse obtains a complete psychiatric and medical history. In the case of psychosis, patients often are unable to give a reliable history of their illness. When a psychosis is present, the nurse obtains the psychiatric history from a family member or friend. During the time the history is taken, the nurse observes the patient for any behavior patterns that appear to be deviations from normal. Examples of deviations include poor eye contact, failure to answer questions completely, inappropriate answers to questions, a monotone speech pattern, and inappropriate laughter, sadness, or crying.

Physical assessments include obtaining blood pressure measurements on both arms with the patient in a sitting position, pulse, respiratory rate, and weight. The hospitalized patient may ultimately be discharged from the psychiatric setting. Some patients, such as those with mild schizophrenia, do not require inpatient care. The nurse usually sees these patients at periodic intervals in the psychiatric outpatient setting.

The initial assessments of the outpatient are basically the same as those for the hospitalized patient. The nurse obtains a complete medical history and a history of the symptoms of the mental disorder from the patient, a family member, or the patient's hospital records. During the initial interview, the nurse observes the patient for what appear to be deviations from a normal behavior pattern. The nurse also should assess the patient's vital signs and body weight.

Ongoing Assessment

Many antipsychotic drugs are administered for a long time, which makes the ongoing assessment an important part of determining therapeutic drug effects and monitoring for adverse reactions, particularly extrapyramidal effects and tardive dyskinesia (see Display 32-1 and Fig. 32-1). The role of the nurse is important in the administration of these drugs in both the psychiatric and nonpsychiatric setting for the following reasons:

- The patient's response to drug therapy on an inpatient basis requires around-the-clock assessments because frequent dosage adjustments may be necessary during therapy.
- Accurate assessments for the appearance of adverse drug effects assume a greater importance when the patient may not be able to verbalize physical changes to the primary health care provider or nurse.

NURSING DIAGNOSES

Drug-specific nursing diagnoses are highlighted in the Nursing Diagnoses Checklist. Other nursing diagnoses applicable to these drugs are discussed in depth in Chapter 4.

PLANNING

The expected outcomes of the patient depend on the reason for drug administration but may include an optimal response to drug therapy, management of common adverse drug reactions, an absence of injury, and compliance with the prescribed therapeutic regimen.

Nursing Diagnoses Checklist

- ✓ **Confusion** related to adverse effects of the drug
- ✓ **Risk for Injury** related to an adverse drug reaction (eg, drowsiness, ataxia)
- ✓ **Impaired Physical Mobility** related to adverse drug reactions (eg, drowsiness, ataxia)
- ✓ **Impaired Verbal Communication** related to drug-induced extrapyramidal effects (eg, dystonia)
- ✓ **Risk for Imbalanced Fluid Volume** related to adverse drug effects of lithium

IMPLEMENTATION

Promoting an Optimal Response to Therapy

The nurse develops a nursing care plan to meet the patient's individual needs. It is important to monitor vital signs at least daily. In some instances, such as when hypotensive episodes occur, the nurse should monitor vital signs more frequently. The nurse should report any significant change in the vital signs to the primary health care provider.

Behavioral records should be written at periodic intervals (frequency depends on hospital or unit guidelines). An accurate description of the patient's behavior aids the primary health care provider in planning therapy and thus becomes an important part of nursing management. Patients with poor response to drug therapy may require dosage changes, a change to another psychotherapeutic drug, or the addition of other therapies to the treatment regimen. However, it is important for the nurse to know that full response to antipsychotic drugs takes several weeks.

The nurse may give antipsychotic drugs orally as a single daily dose or in divided doses several times a day. Divided daily doses are recommended when beginning drug therapy, but once-daily dosing may be used with continued therapy. Administration at bedtime helps to minimize the postural hypotension and sedation associated with these drugs. The exact dosage (milligram to milligram) has not been precisely identified. The primary care provider may prescribe small incremental dosage increases until the patient's symptoms are controlled.

Gerontologic Alert

In elderly or debilitated patients, doses may be instituted at ½ to ⅓ the recommended dose for younger adults and increased more gradually than dose increases in younger adults.

Oral administration requires great care because some patients have difficulty swallowing (because of a dry mouth or other causes). Other patients may refuse to take the drug. The nurse should never force a patient to take an oral drug. If the patient refuses the drug, the nurse contacts the primary health care provider regarding this problem because parenteral administration of the drug may be necessary.

After administration of an oral drug, the nurse inspects the patient's oral cavity to be sure the drug has been swallowed. If the patient resists having his or her oral cavity checked, the nurse reports this refusal to the primary health care provider.

Gerontologic Alert

Dosages in older adults are usually in the lower range. Because older adults are more susceptible to cardiovascular and neuromuscular reactions to the antipsychotic drugs, the nurse must closely monitor them. It is important to increase the dosages gradually.

Oral liquid concentrates are available for use in patients who can more easily swallow a liquid. These concentrates are light sensitive and dispensed in amber or opaque bottles to help protect the concentrate from light. They are administered mixed in liquids such as fruit juices, tomato juice, milk, or carbonated beverages. Semisolid foods, such as soups or puddings, may also be used. Perphenazine (Trilafon) concentrate should not be mixed with beverages containing caffeine (coffee, cola), tea, or apple juice because of the risk of incompatibility.

When these drugs are given parenterally, the nurse should give the drugs intramuscularly in a large muscle mass, such as the gluteus muscle. The nurse keeps the patient lying down (when possible) for about 30 minutes after the drug is given.

Nursing Alert

In combative patients or those who have serious manifestations of acute psychosis (eg, hallucinations or loss of contact with reality), parenteral administration may be repeated every 1 to 4 hours until the desired effects are obtained or until cardiac arrhythmias or rhythm changes, or hypotension occur.

MANAGING CARE OF THE OUTPATIENT. At the time of each visit of the patient to the primary health care provider's office or clinic, the nurse observes the patient for a response to therapy. In some instances, the nurse may question the patient or a family member about the response to therapy. The questions asked depend on the patient and the diagnosis and may include questions such as

- How are you feeling?
- Do you seem to be less nervous?
- Would you like to tell me how everything is going?

Many times the nurse may need to rephrase questions or direct conversation toward other subjects until these patients feel comfortable and are able to discuss their therapy.

The nurse asks the patient or a family member about adverse drug reactions or any other problems occurring during therapy. The nurse brings these reactions or problems to the attention of the primary health care provider. The nurse should document in the patient's record a general summary of the patient's outward behavior and any complaints or problems. The nurse then compares these notations to previous notations and observations.

LITHIUM. The dosage of lithium is individualized according to serum levels and clinical response to the drug. The desirable serum lithium levels are 0.6 to 1.2 mEq/L. Blood samples are drawn immediately before the next dose of lithium (8–12 hours after the last dose) when lithium levels are relatively stable. During the acute phase the nurse monitors serum lithium levels twice weekly or until the patient's manic phase is under control. During maintenance therapy, the serum lithium levels are monitored every 2 to 4 months.

Monitoring and Managing Adverse Drug Reactions

During initial therapy or whenever the dosage is increased or decreased, the nurse observes the patient closely for adverse drug reactions, including tardive dyskinesia (see Fig. 32-1) and any behavioral changes. It is important to report to the primary health care provider any change in behavior or the appearance of adverse reactions. A further increase or decrease in dosage may be necessary, or use of the drug may need to be discontinued.

Nursing Alert

When administering the antipsychotic drugs, the nurse observes the patient for extrapyramidal effects, which include muscular spasms of the face and neck, the inability to sleep or sit still, tremors, rigidity, or involuntary rhythmic movements. The nurse notifies the primary health care provider of the occurrence of these symptoms because they may indicate a need for dosage adjustment.

The patient may need to tolerate some adverse reactions, such as dry mouth, episodes of orthostatic hypotension, and drowsiness because drug therapy must continue. Nursing interventions to relieve some of these reactions may include offering frequent sips of water, assisting the patient out of the bed or chair, and supervising all ambulatory activities. The nurse provides total assistance with activities of daily living to the patient experiencing extreme sedation, including help with eating, dressing, and ambulating. However, the nurse must protect extremely hyperactive patients from injury to themselves or others.

Nursing Alert

The antipsychotic drugs may cause extreme drowsiness and sedation, especially during the first or second weeks of therapy. This reaction may impair mental of physical abilities. Drowsiness usually diminishes after 2–3 weeks of therapy. However, if the patient continues to be troubled by drowsiness and sedation, the physician may prescribe a lower dosage.

Tardive dyskinesia can occur in patients taking the antipsychotics. The nurse must remain alert for any signs and symptoms of this condition.

Nursing Alert

Because there is no known treatment for tardive dyskinesia and because it is irreversible in some patients, the nurse must immediately report symptoms. These include rhythmic, involuntary movements of the tongue, face, mouth, jaw, or the extremities.

CLOZAPINE. This drug is available only through the Clozaril Patient Management System (a program that combines WBC testing, patient monitoring, and pharmacy and drug distribution services). Only 1 week of this drug is dispensed at a time. Patients taking clozapine are at increased risk for bone marrow suppression. A weekly WBC count is done throughout therapy and for 4 weeks after therapy is discontinued. In addition, the nurse monitors the patient for adverse reactions that indicate bone marrow suppression: lethargy, weakness, fever, sore throat, malaise, mucous membrane ulceration, or "flu-like" complaints.

LITHIUM. Lithium toxicity is closely related to serum lithium levels and can occur even when the drug is administered at therapeutic doses. Adverse reactions are seldom observed at serum lithium levels of less than l.5 mEq/L, except in the patient who is especially sensitive to lithium. Toxic symptoms may be seen with serum lithium levels of 1.5 mEq/L or greater. Levels should not exceed 2 mEq/L (see Table 32-1). Therefore, the nurse must continually monitor patients taking lithium for signs of toxicity, such as diarrhea, vomiting, nausea, drowsiness, muscular weakness, and lack of coordination. For early symptoms, the primary health care provider may order a dosage reduction or discontinue the drug for 24 to 48 hours and then gradually restart the drug therapy at a lower dosage.

Gerontologic Alert

Older adults are at increased risk for toxicity because of a decreased rate of excretion. Lower dosages may be necessary to decrease the risk of toxicity.

For patients receiving lithium, the nurse increases the oral fluid intake to about 3000 mL/d. It is important to keep fluids readily available and to offer extra fluids throughout waking hours. If there is any question regarding the oral fluid intake, the nurse monitors intake and output.

Educating the Patient and Family

Noncompliance is a problem with some patients once they are discharged to the home setting. It is important for the nurse to accurately evaluate the patient's ability to assume responsibility for taking drugs at home. The administration of antipsychotic drugs becomes a family responsibility if the outpatient appears to be unable to manage his or her own drug therapy.

The nurse explains any adverse reactions that may occur with a specific antipsychotic drug and encourages the patient or family members to contact the primary health care provider immediately if a serious drug reaction occurs.

The nurse includes the following points in a teaching plan for the patient or family member:

- Keep all primary care provider and clinic appointments because close monitoring of therapy is essential.
- Report any unusual changes or physical effects to the primary health care provider.
- Take the drug exactly as directed. Do not increase, decrease, or omit a dose or discontinue use of this drug unless directed to do so by the primary health care provider.
- Do not drive or perform other hazardous tasks if drowsiness occurs.
- Do not take any nonprescription drug unless use of a specific drug has been approved by the primary health care provider.
- Inform physicians, dentists, and other medical personnel of therapy with this drug.
- Do not drink alcoholic beverages unless approval is obtained from the primary health care provider.
- If dizziness occurs when changing position, rise slowly when getting out of bed or a chair. If dizziness is severe, always have help when changing positions.
- If dryness of the mouth occurs, relieve it by taking frequent sips of water, sucking on hard candy, or chewing gum (preferably sugarless).
- Notify your primary care provider if you become pregnant or intend to become pregnant during therapy.
- Immediately report the occurrence of the following adverse reactions: restlessness, inability to sit still, muscle spasms, masklike expression, rigidity, tremors, drooling, or involuntary rhythmic movements of the mouth, face, or extremities. Inform all patients about the risks of extrapyramidal symptoms and tardive dyskinesia. Avoid exposure to the sun. If exposure is unavoidable, wear sunblock, keep arms and legs covered, and wear a sun hat.
- Note that only a 1-week supply of clozapine is dispensed at a time. The drug is obtained through a special program designed to ensure the required blood monitoring. Weekly WBC laboratory tests are required. Immediately report any signs of weakness, fever, sore throat, malaise, or "flu-like" symptoms to the primary care provider.
- Note that olanzapine is available as a tablet to swallow or as an orally disintegrating tablet. When using the orally disintegrating tablet, peel back the foil on the blister. Using dry hands, remove the tablet and place the entire tablet in the mouth. The tablet will disintegrate with or without liquid.
- Remember to take lithium with food or immediately after meals to avoid stomach upset. Drink at least 10 large glasses of fluid each day and add extra salt to food. Prolonged exposure to the sun may lead to dehydration. If any of the following occurs, do not take the next dose and immediately notify the primary health care provider: diarrhea, vomiting, fever, tremors, drowsiness, lack of muscle coordination, or muscle weakness.

EVALUATION

- The therapeutic effect is achieved.
- Adverse reactions are identified, reported to the primary health care provider, and managed successfully through appropriate nursing interventions.
- No evidence of injury is seen.
- The patient verbalizes an understanding of treatment modalities and the importance of continued follow-up care.
- The patient verbalizes the importance of complying with the prescribed therapeutic regimen.
- The patient and family demonstrate understanding of the drug regimen.

● *Critical Thinking Exercises*

1. *Ms. Brown comes to the mental health clinic for a follow-up visit. She is taking lithium to control a bipolar disorder. Ms. Brown tells you that she is concerned because her "hands are always shaking" and "sometimes I walk like I have been drinking alcohol." Explain how you would explore this problem with Ms. Brown.*

2. *As a nurse on the psychiatric unit, you are assigned to discuss extrapyramidal effects at a team conference. Discuss how you would present and explain this topic. Describe the points you would stress.*
3. *Your patient is prescribed clozapine for schizophrenia that has not responded to other drugs. You must discuss this new therapy with the family. Discuss what points to include in this family teaching session.*

● Review Questions

1. A patient taking chlorpromazine (Thorazine) for schizophrenia is also prescribed the antiparkinson drug benztropine. What is the best explanation for adding an antiparkinson drug to the drug regimen?
   - **A.** Antiparkinson drugs prevent symptoms of tardive diskinesia, such as involuntary movements of the face and tongue.
   - **B.** Antiparkinson drugs promote the effects of chlorpromazine.
   - **C.** Antiparkinson drugs are given to reduce the possibility of symptoms such as fine tremors, muscle rigidity, and slow movement.
   - **D.** Antiparkinson drugs help to decrease hallucinations and delusions in patients with schizophrenia.
2. Which of the following reactions would the nurse expect to see in a patient experiencing tardive dyskinesia?
   - **A.** Muscle rigidity, dry mouth, insomnia
   - **B.** Rhythmic, involuntary movements of the tongue, face, mouth, or jaw
   - **C.** Muscle weakness, paralysis of the eyelids, diarrhea
   - **D.** Dyspnea, somnolence, muscle spasms
3. Which of the following symptoms would indicate to the nurse that a patient taking lithium is experiencing toxicity?
   - **A.** Constipation, abdominal cramps, rash
   - **B.** Stupor, oliguria, hypertension
   - **C.** Nausea, vomiting, diarrhea
   - **D.** Dry mouth, blurred vision, difficulty swallowing
4. In giving discharge instructions to a patient taking lithium the nurse stresses that the patient should _____.
   - **A.** eat a diet high in carbohydrates and low in proteins
   - **B.** increase oral fluid intake to approximately 3000 mL/day
   - **C.** have blood drawn before each dose of lithium is administered
   - **D.** avoid eating foods high in amines

● Medication Dosage Problems

1. A patient is prescribed haloperidol 3 mg IM. The drug is available in solution of 2 mg/mL. The nurse would administer _____.
2. Thorazine 50 mg PO is prescribed. Use the drug label below to determine the correct dosage. The nurse administers _____.
3. Lithium 600 mg is prescribed. Use the drug label below to determine the correct dosage. The nurse administers _____.