LESSON ASSIGNMENT

LESSON 9
Psychotherapeutic Agents.

TEXT ASSIGNMENT
Paragraphs 9-1--9-20.

LESSON OBJECTIVES
After completing this lesson, you should be able to:

9-1. Given a group of statements and one of the four classes of functional mental disorders, select the best description of that class of mental disorders.

9-2. From a group of statements, select the statement that best differentiates between fear and anxiety.

9-3. Given one of the following terms: fear, anxiety, antianxiety agent, depression, antidepressant, antipsychotic agent, or tranquilizer and a group of definitions, select the correct definition of that term.

9-4. Given one of the following categories of drugs: antianxiety agents, antidepressant agents, and antipsychotic agents and a group of statements that describe uses, advantages, disadvantages, adverse effects, or precautions and warnings select the statement that best describes the use(s) advantage(s), disadvantage(s), adverse effect(s), or caution(s) and warning(s) associated with that category of drug.

9-5. Given a group of statements, select the statement that best describes the advantages of antianxiety agents over drugs that were previously used to calm or sedate patients.

9-6. Given the generic and/or trade name of a psychotherapeutic agent and a group of uses, adverse effects, or cautions and warnings, select the use(s), adverse effects, or cautions and warnings associated with that agent.

SUGGESTION
After completing the assignment, complete the exercises at the end of this lesson. These exercises will help you to achieve the lesson objectives.
LESSON 9

PSYCHOTHERAPEUTIC AGENTS

Section I. OVERVIEW

9-1. INTRODUCTION

Stress, anxiety, and depression are frequently used words in today’s world. Every living person has problems of one type or another. Some people seem to cope quite well with stress most of the time, while other persons need assistance to make adjustments to life. The wise use of psychotherapeutic agents has become an integral part of assisting others to adjust to certain situations. Of course, psychologists and psychiatrists combine other treatment means with the wise use of drugs in their efforts to help others.

9-2. THE FOUR MAJOR CLASSES OF FUNCTIONAL MENTAL DISORDERS

Later in this lesson, certain drugs and their uses will be discussed. In order for you to understand the use of some of the drugs, you must be aware of the four major classes of functional mental disorders.

NOTE: Reality testing is an ego function that consists of an individual’s ability to recognize and interpret the surrounding world (that is, what’s going on?). The ability to recognize and interpret the surrounding world allows an individual to meet the demands of life and make survival judgments.

a. Neuroses (Neurotic Disorders). Neuroses are a group of conditions characterized by the development of anxiety because of unresolved unconscious conflicts. The neurotic person is anxious, but he does not know the cause of his anxiety. These conditions tend to become chronic. Reality testing is maintained. That is, the neurotic remains in touch with reality.

b. Psychoses (Psychotic Disorders). Psychoses are a group of disorders with more or less severe disturbances of thought, mood, and/or behavior. Psychoses are usually chronic, but short episodes of psychosis do sometimes occur. Reality testing is always lost in one or more important respects. That is, a psychotic is not entirely in touch with his environment.

c. Personality Disorders. Personality disorders are types of mental disorders characterized by lifelong maladaptive patterns of adjustment to life. These types of disorders tend to be chronic. Personality disorders are usually recognized by adolescence. Reality testing is usually preserved.
d. Transient Situational Disturbances (Adjustment Disorders). Transient situational disturbances (TSD) are temporary emotional disorders of any severity, which occur as reactions to overwhelming environmental stress. Reality testing may or may not be impaired during the acute phase of these disorders.

9-3. TERMINOLOGY ASSOCIATED WITH PSYCHOTHERAPEUTIC AGENTS

Before discussing the various psychotherapeutic agents, some terms and their definitions will be presented. These terms will be used later in the discussion of the psychotherapeutic agents.

a. Fear. Fear is a feeling of apprehension caused by a real object in the environment. For example, a person who is unexpectedly confronted with a rattlesnake would probably display fear of the snake. If you closely observed such a surprised person, you would see such signs as increased blood pressure, increased respiratory rate, and increased heart rate. These physiological responses are mediated by the sympathetic nervous system.

b. Anxiety. Anxiety is a feeling of apprehension that has no specific object. Most people have experienced the feeling of anxiety that occurs during test-taking time. Anxiety has both positive and negative components. On the positive side, anxiety motivates you to study for the exam rather than to go to the movies. On the negative side, anxiety can interfere with performance on the examination (that is, "black outs" during a pencil and paper test). Interestingly enough, a person who is frightened (that is, with a snake) or is anxious (as with a test) will display the same body signs such as increased blood pressure, increased heart rate, and increased respiratory rate.

c. Antianxiety Agent. An antianxiety agent is a drug that is used to calm a patient. Although the drug reduces the subjective feeling of anxiety, it will have no effect on the cause of the anxiety.

d. Depression. Depression is a disturbance of mood manifested by decreased self-esteem, decreased vitality, and increased sadness.

e. Antidepressant. An antidepressant is a drug that will, after a period, cause an improvement in a depressed patient’s mood.

f. Antipsychotic Agent. An antipsychotic agent is a drug that will reduce specific symptoms (that is, hallucinations, delusions) in patients experiencing a psychosis.

 g. Tranquilizer. The term tranquilizer refers to a wide-variety of drugs that produce a calming change in patient attitude and behavior. At one time, these drugs were categorized into two major categories: the major tranquilizers and the minor tranquilizers. The major tranquilizers are now generally referred to as antipsychotic agents and the minor tranquilizers are referred to as antianxiety agents.

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Section II. ANTIANXIETY AGENTS

9-4. INTRODUCTION TO ANTIANXIETY AGENTS

It is not unusual for a person to experience stress and anxiety. Most people can deal with the minor stresses of life without using antianxiety agents. However, when the degree of anxiety increases to the point of causing social and/or economic impairment, the attending physician may decide to prescribe an antianxiety agent. It should be remembered that the antianxiety agent will calm the patient, but the drug cannot remove the cause of anxiety. Often the antianxiety therapy is combined with counseling or therapy to help the patient deal with the stress and anxiety.

9-5. INDICATIONS FOR ANTIANXIETY AGENTS

Antianxiety agents are indicated in patients to control moderate to severe degrees of anxiety. Antianxiety agents are also extremely useful in treating patients when periods of overwhelming stress occur.

9-6. USES OF ANTIANXIETY AGENTS

Antianxiety agents are used in a variety of situations. Listed below are some of those situations.

a. Control Moderate to Severe Stress and Anxiety in Neurotic and Depressed Patients. Some neurotic and depressed patients are prescribed antianxiety agents to reduce the amount of subjective anxiety; thus enabling them to more productively participate in counseling or therapy.

b. Control Stress and Anxiety in Previously Normal Persons in Periods of Overwhelming Stress. In most cases, normal individuals are able to cope with the stress and anxiety of life. However, when unusual circumstances of extreme stress arise, physicians sometimes prescribe antianxiety agents to assist people during these periods. Antianxiety agents should not be prescribed for dealing with the stresses of everyday life (Food and Drug Administration ruling).

c. Treat Withdrawal Symptoms in Alcoholism. These agents are very effective in the treatment of delirium tremens associated with the withdrawal of alcohol from alcoholics.

d. Treat Psychotic Patients in Periods of Acute Agitation. Sometimes patients who have certain psychotic conditions undergo periods of acute agitation. Antianxiety agents are used to calm these types of patients during these periods. Thus, the patients become much more manageable. Generally speaking, antipsychotic drugs are more effective when used for this particular purpose.
e. Decrease Preoperative and Postoperative Apprehension. Patients who will undergo or have undergone surgery frequently have periods of apprehension. Antianxiety agents have been used to reduce this type of stress and tension.

9-7. ADVANTAGES OF THE USE OF ANTIANXIETY AGENTS

Anti-anxiety agents have two main advantages over drugs that were previously used to calm or sedate patients:

a. Antianxiety Agents Do Not Cause Excessive Loss of Alertness. Barbiturates were frequently used to calm patients. Unfortunately, the barbiturates sometimes calmed the patients to an undesirable degree. Although the antianxiety agents produce some degree of sedation during the initial days of therapy, this sedation is usually short-lived.

b. Overdosage of Antianxiety Agents Rarely Results in Death to the Patient. As previously stated, the barbiturates were previously used to calm patients. Unfortunately, overdose of barbiturates can frequently result in coma, respiratory depression, and death. Antianxiety agents, on the other hand, are somewhat safe in terms of the amount of drug required to produce coma, respiratory depression, and death. This factor makes the wise use of antianxiety agents in special circumstances useful in the treatment of extremely anxious patients who are entertaining thoughts about suicide.

9-8. DISADVANTAGES OF THE USE OF ANTIANXIETY AGENTS

Although the antianxiety agents do have many advantages over previously used drugs, they are not free from potentially harmful effects. The discussion below focuses on two major disadvantages of the group of drugs classified as antianxiety agents.

a. Drowsiness. Antianxiety agents, especially during the first few days of therapy, produce drowsiness in many patients. Further, many patients who take antianxiety drugs experience loss of judgment and a loss of mental powers. Consequently, patients who are on antianxiety therapy should be cautioned not to operate machinery.

b. Drug Interaction Effects. The antianxiety agents can interact with central nervous system depressants to produce a further degree of depression to the central nervous system. Thus, patients who are on antianxiety therapy should be cautioned against drinking alcohol or taking other central nervous system depressants.
9-9. EXAMPLES OF ANTIANXIETY AGENTS

This area of the subcourse is designed to provide you with a brief overview of some commonly prescribed antianxiety agents. If you desire further information about the agents discussed below, you should consult a reference (for example, AMA Drug Evaluations) which is well written and easy to understand.

a. Chlordiazepoxide Hydrochloride (Librium®).

   (1) **Uses.** Chlordiazepoxide hydrochloride is widely used as an antianxiety agent to help people deal with stress. Further, it is used preoperatively to reduce patient apprehension. As an antianxiety agent, it has less anticonvulsant activity, and it produces less drowsiness than diazepam, another antianxiety drug.

   (2) **Adverse effects.** Chlordiazepoxide is likely to produce such adverse effects as drowsiness and lethargy. These adverse effects are more likely to occur in older patients.

   (3) **Cautions and warnings.** Patients taking chlordiazepoxide should be cautioned not to take a central nervous system depressant like alcohol since the additive effect might produce depression of the central nervous system. Furthermore, patients taking chlordiazepoxide should be cautioned against operating machinery (for example, driving an automobile).

b. Diazepam (Valium®).

   (1) **Uses.** Diazepam is widely used for the treatment of anxiety and tension. Further, it is used in the treatment of muscle spasms.

   (2) **Adverse effects.** Diazepam produces such adverse effects as drowsiness, fatigue, and ataxia (lack of coordination). Physical dependence can develop over a period with resultant withdrawal symptoms to include seizures.

   (3) **Cautions and warnings.** An individual taking diazepam should be cautioned against taking central nervous system depressants (that is, alcohol) and operating machinery.

c. Lorazepam (Ativan®).

   (1) **Uses.** Lorazepam is primarily used in the treatment of anxiety.

   (2) **Adverse effects.** Lorazepam produces such adverse effects as drowsiness, fatigue, and ataxia (lack of coordination). Physical dependence can develop over a period of time with resultant withdrawal symptoms to include seizures.
(3) **Cautions and warnings.** An individual taking lorazepam should be cautioned against taking central nervous system depressants (that is, alcohol) and operating machinery.

d. **Alprazolam (Xanax®).**

(1) **Uses.** Alprazolam is primarily used in the treatment of anxiety and has been useful in the management of panic attacks.

(2) **Adverse effects.** Alprazolam produces such adverse effects as drowsiness, fatigue, and ataxia (lack of coordination). Physical dependence can develop over a period with resultant withdrawal symptoms to include seizures.

(3) **Cautions and warnings.** An individual taking alprazolam should be cautioned against taking central nervous system depressants (that is, alcohol) and operating machinery.

e. **Hydroxyzine Hydrochloride (Atarax®) or Hydroxyzine Pamoate (Vistaril®).**

(1) **Uses.** Hydroxyzine has the following three primary uses:

   (a) Antianxiety agent. The drug is used to treat anxiety, tension, and agitation.

   (b) Antiemetic agent. Because hydroxyzine does have some antiemetic (antinausea and vomiting) properties, it is used in its injectable form (hydroxyzine pamoate (Vistaril®) to manage postoperative nausea and vomiting.

   (c) Antipruritic agent. Hydroxyzine has been used because of its antipruritic (anti-itch) properties.

**NOTE:** Atarax® is sometimes used as a sedative.

(2) **Adverse effects.** There is an extremely low incidence of adverse reactions with this drug. Some drowsiness may occur during the initial days of therapy; however, this drowsiness is short-lived.

(3) **Cautions and warnings.** An individual taking hydroxyzine should be cautioned against drinking alcohol and taking other central nervous system depressants because of the additive effect that may be produced. Furthermore, persons taking this drug should be cautioned against operating machinery (for example, driving an automobile).
f. **Buspirone (Buspar®).**

(1) **Uses.** Buspirone is used in the management of anxiety or the short term relief of symptoms of anxiety. It is unrelated to the benzodiazepines and therefore lacks the sedative and addictive properties of these agents.

(2) **Adverse effects.** The most common adverse effects include dizziness, nausea, and headache.

(3) **Cautions and warnings.** Although buspirone does not produce significant drowsiness, patients should be cautioned about driving or operating machinery until they are certain that this drug does not affect them adversely.

**NOTE:** Antidepressants which are discussed in the next section are becoming the agents of choice for anxiety disorders.

### Section III. ANTIDEPRESSANT AGENTS

#### 9-10. INTRODUCTION TO ANTIDEPRESSANT AGENTS

Depression is a frequently occurring psychiatric disorder. Patients with medical and surgical conditions frequently have signs and symptoms associated with depression. People who are depressed usually have low moods, decreased physical activity and mental alertness, decreased appetite, abnormal sleep patterns, and morbid preoccupations. Depression can be of rapid or slow onset. For example, a soldier who has been denied leave might display several signs of depression. This type of depression could be of rapid onset.

#### 9-11. INDICATIONS FOR ANTIDEPRESSANT AGENTS

a. Most people undergo changes in mood. You can probably remember when you have been "up" (that is, right before a three-day weekend) and when you have been "down" (that is, right after a three-day weekend). Physicians have found antidepressant agents to be useful in the treatment of depression, which is not time limited and causes the patient social and economic difficulties.

b. Depression can be caused by chemical imbalances in the body, by stress, and by situations in the environment. It has been found that psychotherapy, reduction of stress, and improvement in the environment can be successful in treating some types of depression. However, in depression that results from chemical imbalances in the body, these types of treatment have not proven to be very effective.
9-12. EFFECTS OF ANTIDEPRESSANT AGENTS

Antidepressant agents elevate mood, increase physical activity and mental alertness, improve appetite and sleep patterns, and reduce morbid preoccupations. These effects are not seen immediately upon beginning antidepressant therapy. Instead, one to four weeks may pass before the patient shows any signs of improvement in the depression. This period is called the therapeutic lag period.

9-13. PRECAUTIONS ASSOCIATED WITH THE USE OF ANTIDEPRESSANT AGENTS

Although the antidepressant agents are safe for patient use, there are some precautions associated with their use:

a. Antidepressants should be used cautiously with patients who are hyperactive or agitated.

b. Antidepressants should be used cautiously with the elderly, with patients who have glaucoma, and with patients who have hypertension (high blood pressure).

c. Antidepressants may interact with other types of drugs. For example, references should be consulted to determine if any interaction could occur between a particular antidepressant and a drug a patient is taking to control high blood pressure, since some antidepressants partially block the action of some antihypertensive drugs. In addition, the action of some drugs (that is, the barbiturates) is increased in duration when they are administered to patients who are taking certain antidepressant agents.

9-14. SPECIFIC ANTIDEPRESSANT AGENTS

Immediately following is a discussion of several antidepressant agents. By no means is the listing below complete in terms of the number of agents available to the physician. Further, no attempt has been made to provide an in-depth discussion of each individual agent. If you desire additional information about any of the agents discussed below, you should consult a pharmacology reference (for example, AMA Drug Evaluations).

a. Fluoxetine (Prozac®).

(1) Uses. Fluoxetine belongs to a class of antidepressants called Selective Serotonin Reuptake Inhibitors (SSRIs). SSRIs are usually regarded as the treatment of choice for depression due to less side effects and a better safety profile than older agents. Fluoxetine is used to treat depression and anxiety disorders. The Serafem® product is approved for premenstrual dysphoric disorder (PMDD).
(2) **Adverse effects.** Fluoxetine may produce the following adverse effects:

(a) Miscellaneous effects (that is, sexual dysfunction).

(b) Central nervous system effects (for example, agitation and insomnia).

(c) Gastrointestinal effects (that is, nausea and diarrhea).

(3) **Cautions and warnings.**

(a) Do not overlap with other anti-depressants or monoamine oxidase inhibitors.

(b) The drug may produce drowsiness.

(c) The patient should not consume any alcohol while taking the drug.

NOTE: Other SSRIs include Sertraline (Zoloft®), Paroxetine (Paxil®), Citalopram (Celexa®), and Fluvoxamine (Luvox®).

b. **Imipramine Hydrochloride (Tofranil®).**

(1) **Uses.** Imipramine is used to treat depression; however, it can paradoxically aggravate the anxiety sometimes associated with depression. Imipramine also produces an anticholinergic effect and is therefore approved by the Food and Drug Administration (FDA) for the treatment of enuresis (bedwetting) in children.

(2) **Adverse effects.** Imipramine may produce the following adverse effects:

(a) Cardiovascular effects (that is, orthostatic hypotension).

(b) Central nervous system effects (for example, confusion and anxiety).

(c) Gastrointestinal effects (that is, nausea and vomiting).

(d) Anticholinergic effects (for example, dry mouth and constipation).

(3) **Cautions and warnings.**

(a) Abruptly taking the drug away from the patient after long-term therapy may produce withdrawal symptoms.

(b) The drug may produce drowsiness.
(c) The patient should not consume any alcohol while taking the drug.  
(d) The drug should be used with caution in patients with glaucoma or urinary retention because of its anticholinergic effects.

c. **Desipramine (Norpramin®).**

(1) **Uses.** Desipramine is used to treat depression. It has also been used in facilitating withdrawal from cocaine.

(2) **Adverse effects.** Desipramine is closely related to imipramine but has only minimal cardiovascular, CNS, GI, and anticholinergic effects.

(3) **Cautions and warnings.**

(a) Abruptly taking the drug away from the patient after long-term therapy may produce withdrawal symptoms.

(b) The drug may produce drowsiness.

(c) The patient should not consume any alcohol while taking the drug.

(d) The drug should be used with caution in patients with glaucoma or urinary retention because of its anticholinergic effects.

d. **Amitriptyline Hydrochloride (Elavil®).**

(1) **Uses.** Amitriptyline is used in the treatment of depression and neuropathic pain syndromes.

(2) **Adverse effects.** Amitriptyline tends to cause confusion in elderly patients. In addition, it has other adverse effects that are similar to those produced by imipramine hydrochloride.

(3) **Cautions and warnings.**

(a) Abruptly taking the drug away from the patient after long-term therapy may produce withdrawal symptoms.

(b) The drug may produce drowsiness.

(c) The patient should not consume any alcohol while taking the drug.

(d) The drug should be used with caution in patients who have glaucoma or urinary retention due to its anticholinergic effects.
(4) **Precautions.** Amitriptyline can be cardiotoxic to some individuals.

d. **Nortriptyline Hydrochloride (Aventyl®).**

(1) **Uses.** Nortriptyline is used in the treatment of depression and neuropathic pain disorders.

(2) **Adverse effects.** The adverse effects produced by nortriptyline are the same as those produced by imipramine hydrochloride (see para 9-14b).

(3) **Cautions and warnings.** The adverse effects produced by nortriptyline are the same as those produced by imipramine hydrochloride (see para 9-14b).

e. **Trazodone (Desyrel®).**

(1) **Uses.** Trazodone is used in the treatment of depression. It is unrelated to any of the antidepressants discussed thus far.

(2) **Adverse effects.** The adverse effects produced by Trazodone include skin rash, chest pain, drowsiness, tachycardia, vivid dreams/nightmares, and muscle aches.

(3) **Cautions and warnings.** Trazodone may produce drowsiness and may cause irregular heartbeat. The patient should observe caution when driving or performing other tasks requiring alertness. Alcohol and other depressant drugs should be avoided while taking Trazodone.

f. **Nefazodone Hydrochloride (Serzone®).**

(1) **Uses.** Nefazodone hydrochloride is an oral antidepressant that is totally unrelated to the other available antidepressants.

(2) **Adverse effects.** The adverse effects of Nefazodone hydrochloride are similar to selective serotonin reuptake inhibitors.

(3) **Contraindications.**

(a) The drug is contraindicated in patients who are taking other monoamine oxidase (MAO) inhibitors, and those having hypersensitivity to Nefazodone or other phenylpiperazine antidepressants.

(b) The drug is contraindicated on patients who are taking nonsedating antihistamines (that is, Terfenadine and Astemizole).
(4) **Cautions and warnings.** Patients taking Nefazodone hydrochloride should be cautioned against the following:

(a) The drug may produce drowsiness.

(b) The patient should not consume any alcohol while taking the drug.

(c) Patients with cardiovascular or cerebrovascular disease that could be exacerbated by hypotension should use with caution.

(d) The potential for a fatal outcome is significantly increased by the concurrent use of alprazolam and triazolam.

**Section IV. ANTIPSYCHOTIC AGENTS**

**9-15. INTRODUCTION TO ANTIPSYCHOTIC AGENTS**

The general term psychoses encompass a wide variety of conditions. Each specific condition has particular signs and/or symptoms that assist the psychiatrist in making a diagnosis. Some psychotic conditions require long-term hospitalization, while others can be managed on an outpatient basis. Many psychotic patients show marked disorganization of thought patterns and behavior with either increased or decreased psychomotor activity. Antipsychotic agents help psychotic patients better organize their thoughts and coordinate their motor activities. In some cases, the use of antipsychotic agents can mean the difference between hospitalization and home-care.

**9-16. INDICATIONS FOR USE OF ANTIPSYCHOTIC AGENTS**

In order for an antipsychotic agent to be wisely used to treat a psychotic patient, the attending psychiatrist must carefully examine the patient and diagnose the specific condition. Proper diagnosis is the key word for beginning drug therapy for the psychotic patient.

**9-17. USES OF ANTIPSYCHOTIC AGENTS**

a. The antipsychotic agents are used to treat various conditions of psychosis. When used in this manner, they help reduce the patient’s fear, panic, and hostility. With this help, the patient is better able to organize life and more realistically respond to the environment.

b. Some antipsychotic agents are used as adjuncts in anesthesia to control nausea and vomiting.

c. The state of psychotic hyperarousal is the first group of symptoms to respond to antipsychotic medication. Delusions and hallucinations resolve more gradually over a period.
9-18. ADVERSE EFFECTS ASSOCIATED WITH ANTIPSYCHOTIC AGENTS

As with most drugs, the antipsychotic agents produce some adverse effects. Discussed below are some of those reactions:

a. Extrapyramidal Reactions. Extrapyramidal reactions are manifested by a parkinson-like syndrome. That is, the patient has tremors, muscular rigidity, postural abnormalities, pill-rolling movements with the fingers, and hypersalivation. Fortunately, these symptoms may be relieved or lessened, or the reactions may be prevented before they occur by the administration of diphenhydramine (Benadryl).

b. Drowsiness, Dizziness, and Fatigue. Although a sedative-effect is produced by many of the antipsychotic agents, this effect is short-lived because tolerance develops after one to three days.

c. Orthostatic Hypotension. Orthostatic hypotension (low blood pressure) is an adverse reaction produced by some of the antipsychotic agents. Patients experiencing this problem are at risk of fainting and injuring themselves.

9-19. DOSAGE PRINCIPLE ASSOCIATED WITH THE ANTIPSYCHOTIC AGENTS

You should be familiar with a dosage principle associated with the antipsychotic agents. This principle is: "High dosage-low potency/low dosage-high potency."

a. High Dosage/Low Potency. Initially when treating a psychotic patient, a psychiatrist might choose to select a drug that can be given in a high dosage (large amount of drug) because of its low potency. This allows the psychiatrist some freedom in dosage-especially if the patient is uncontrollable--without potential harm to the patient. High dosage/low potency drugs usually have a high incidence of anti-cholinergic side effects, but low incidence of extrapyramidal side effects.

b. Low Dosage/High Potency. After a patient has been on one antipsychotic agent and has been stabilized, the psychiatrist may choose to use another agent that can be given in smaller amounts (low dosage) because of its high potency. Usually, more potent drugs are easier to administer (that is, in tablet form). Low dosage/high potency drugs usually have a low incidence of anti-cholinergic side effects, but high incidence of extrapyramidal side effects.
9-20. SPECIFIC ANTIPSYCHOTIC AGENTS

a. Chlorpromazine (Thorazine®).

(1) **Uses.** Chlorpromazine is a phenothiazine drug (a particular class of drugs) used in the treatment of acute and chronic psychoses. It is also used as a pre- or postoperative agent in the prevention of nausea and vomiting.

(2) **Adverse effects.** Chlorpromazine produces three major adverse effects:

(a) Extrapyramidal reactions. These reactions are frequently seen in both young and elderly patients who are taking large doses of the drug.

(b) Drowsiness.

(c) Orthostatic hypotension. Orthostatic hypotension is most likely to occur when the patient has been administered the drug intravenously. This can be prevented by having the patient remain reclined for at least one hour after the administration of the drug.

(d) Dryness of the mouth.

(3) **Cautions and warnings.** Chlorpromazine should not be prescribed to patients who have liver disease or glaucoma. Furthermore, patients taking the drug should be cautioned not to drink alcoholic beverages.

b. Fluphenazine Hydrochloride (Prolixin®, Permitil®).

(1) **Use.** Fluphenazine hydrochloride is used in the treatment of psychotic disorders.

(2) **Adverse effects.**

(a) Extrapyramidal reactions.

(b) Drowsiness or lethargy.

(c) Hypertension (increased blood pressure).

(3) **Cautions and warnings.** Abrupt withdrawal of the drug may result in nausea and vomiting, gastritis, and dizziness.
c. Thioridazine Hydrochloride (Mellaril®).

(1) Use. This is a phenothiazine used to treat acute and chronic types of psychosis. Thioridazine is safe in treating psychotic patients who also have liver disease.

(2) Adverse effects. Thioridazine produces the following adverse effects:

(a) Sedation and lethargy.

(b) Gastric irritation.

d. Perphenazine (Trilafon®).

(1) Uses. Perphenazine is used in the management of psychotic disorders.

(2) Adverse effects. Perphenazine, like chlorpromazine, can produce extrapyramidal reactions, orthostatic hypotension, drowsiness, and dry mouth (drowsiness and orthostatic hypotension are less than that seen with chlorpromazine).

(3) Cautions and warnings. Perphenazine may cause drowsiness. Patients should avoid alcohol and other CNS depressants while taking this drug.

e. Trifluoperazine Hydrochloride (Stelazine®).

(1) Use. This phenothiazine is used in the treatment of various types of acute and chronic psychoses. This drug is used primarily in the maintenance treatment of psychotic patients.

(2) Adverse effects. Two adverse effects are produced by this drug:

(a) Drowsiness may occur with the use of this drug.

(b) Extrapyramidal reactions may occur with the use of this drug.

(3) Cautions and warnings. The following cautions and warnings are associated with trifluoperazine:

(a) The use of alcohol with this agent should be avoided because of the possible interaction between the two substances.

(b) Since the drug can produce sedation, the patient should be cautioned against operating vehicles while under the effects of this drug.
f. **Haloperidol (Haldol®).**

   (1) **Use.** This drug is used in the treatment of acute and chronic psychosis. In its parenteral (injectable) form (10 milligrams per milliliter of solution), haloperidol is a potent antipsychotic medication which is well suited for emergency room use. Haloperidol can be safely prescribed to patients who have liver disease.

   **NOTE:** Haloperidol is considered the gold standard for antipsychotics.

   (2) **Adverse effects.** Two adverse effects are seen with this drug:

   (a) Extrapyramidal reactions.

   (b) Depression, anxiety, and/or dizziness.

g. **Lithium Carbonate (Eskalith®, Lithane®).**

   (1) **Use.** Lithium carbonate is used in the treatment of manic-depressive psychosis. After initial administration, approximately 7 to 10 days are required before the effects of the drug can be observed in the patient.

   (2) **Adverse effects.** The following are some of the adverse effects associated with lithium carbonate:

   **NOTE:** The level of lithium carbonate in the bloodstream of the patient is very significant. The severity of the toxic symptoms tends to increase as the level of the drug in the patient’s blood increases.

   (a) Nausea, vomiting, cramps diarrhea.

   (b) Drowsiness and muscular weakness.

   (c) Tremors.

   (d) Height loss or weight gain.

   (3) **Cautions and warnings.** Cautions and warnings associated with the use of this agent are:

   (a) Patients who are administered lithium carbonate should be kept under close medical supervision at all times. This is necessary because the amount of drug required to produce the desired effects is very close to the amount of drug that will produce toxic effects.
(b) Blood levels of lithium carbonate should always be performed at regular intervals to ensure that the appropriate therapeutic levels of the drug are maintained.

(c) Lithium carbonate should not be administered to patients who are taking diuretics (that is, some antihypertensive medications), because diuretics tend to cause an accumulation of the drug, and toxic levels of the drug could rapidly occur.

(d) The efficacy (clinical effectiveness) of lithium carbonate in the treatment of the depressive phase of manic depressive illness remains controversial. The drug is the most effective treatment for true bipolar illness, particularly in the control of manic episodes. The drug is not effective in established depressed episodes. It may prevent reoccurrence of both manic and depressive episodes.

(e) Drowsiness. Patients taking the drug should be cautioned against operating heavy machinery (for example, driving an automobile).

h. Risperidone (Risperdal®).

(1) Use. This drug belongs to the class of antipsychotics called “atypical”. They are used for treatment resistance in older agents and reduce the likelihood of extrapyramidal side effects. They may be used as first line agents.

(2) Adverse effects. Adverse effects are seen with this drug:

(a) Extrapyramidal reactions.

(b) Orthostatic hypotension.

NOTE: Other atypical antipsychotics include Olazapine (Zyprexa®), Clozapine (Clozaril®), and Quetiapine (Seroquel®).

Continue with Exercises

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EXERCISES, LESSON 9

INSTRUCTIONS: Answer the following exercises by marking the lettered response that best answers the exercise, by completing the incomplete statement, or by writing the answer in the space provided at the end of the exercise.

After you have completed all of these exercises, turn to "Solutions to Exercises" at the end of the lesson and check your answers. For each exercise answered incorrectly, reread the material referenced with the solution.

1. Select the best description of personality disorders.

   a. Types of conditions characterized by the development of anxiety because of unresolved unconscious conflicts.

   b. Temporary emotional disorders that occur as reactions to overwhelming environmental stress.

   c. Types of mental disorders characterized by lifelong maladaptive patterns of adjustment to life.

   d. A group of disorders with more or less severe disturbances of thought, mood, and/or behavior.

2. From the statements below, select the statement that best differentiates between fear and anxiety.

   a. Fear is a feeling of apprehension caused by a real object in the environment, feeling of apprehension that has no specific object in the environment.

   b. Fear and anxiety produce entirely different physiological reactions.

   c. Fear cannot be controlled, while anxiety can be controlled without the use of drugs.

   d. Fear is a feeling of apprehension that has no specific object in the environment, anxiety is a feeling of apprehension caused by a real object in the environment.
3. Select the correct definition of the term antianxiety agent.
   a. A drug used to improve the depressed mood of a patient.
   b. A drug used to calm a patient.
   c. A drug which will reduce certain symptoms such as hallucinations and delusions.
   d. A drug which will remove a patient’s fear.

4. Select the statement that best describes the use(s) of antidepressant agents.
   a. The treatment of depression that results because of chemical imbalances in the body.
   b. The treatment of depression that is not a result of chemical imbalances in the body.
   c. The treatment of patients who are experiencing periods of overwhelming stress.
   d. The treatment of acute and chronic psychoses.

5. Select the statement that best describes the adverse effects associated with antipsychotic agents.
   a. Antipsychotic agents are noted for the lack of adverse effects they produce.
   b. Antipsychotic agents can cause severe stimulation in many patients.
   c. Antipsychotic agents produce orthostatic hypertension.
   d. Antipsychotic agents can produce reactions that consist of tremors, muscular rigidity, and hypersalivation.
6. Select the statement that best describes the disadvantage(s) of antianxiety agents.
   a. Antianxiety agents can produce drowsiness in patients and can interact with
      central nervous system (CNS) depressants to produce a greater degree of
      CNS depression.
   b. Antianxiety agents produce an excessive loss of alertness.
   c. Because of their side effects, overdosage of antianxiety agents frequently
      results in death.
   d. Antianxiety agents produce tremors, muscular rigidity, and hypersalivation in
      many patients.

7. From the statements below, select the statement(s) that describes the
   advantage(s) of antianxiety agents over drugs which were previously used to calm
   or sedate patients.
   a. Antianxiety agents do not cause excessive loss of alertness.
   b. Antianxiety agents can be safely taken while driving or operating machinery.
   c. Overdosage of antianxiety agents rarely results in death to the patient.
   d. Both a and c.
   e. Both b and c.

8. Select the use of hydroxyzine hydrochloride (Atarax®).
   a. Antidiarrheal agent.
   b. Antianxiety agent.
   c. Antipsychotic agent.
   d. Antipyretic agent.
9. Select the statement that best describes an adverse reaction associated with haloperidol (Haldol®).
   
a. This drug may cause extrapyramidal reactions.
   
b. This drug may produce hypotension.
   
c. This drug may produce overstimulation.
   
d. This drug may produce withdrawal.

10. Select the statement which best describes the use(s) associated with chlorpromazine (Thorazine®):
   
a. The drug is used to treat acute and chronic types of psychosis.
   
b. The drug is used as an antiemetic to prevent pre- or postoperative nausea and vomiting.
   
c. The drug is used as an antianxiety agent.
   
d. a and b.
   
e. b and c.

Check Your Answers on Next Page
SOLUTIONS TO EXERCISES, LESSON 9

1. c  (para 9-2c)
2. a  (para 9-3a, b)
3. b  (para 9-3c)
4. b  (para 9-11b)
5. d  (para 9-18a)
6. a  (para 9-8a, b)
7. e  (para 9-7a, b)
8. b  (para 9-9c)
9. a  (para 9-20f)
10. d (para 9-20a)

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