

Review Questions: Neurobiology of Mood Disorders

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The questions below are based on the article “Neurobiology of Mood Disorders,” which begins on page 17 of this issue. Choose the single best answer for each question.

- 1. Which of the following best describes the genetic aspects of major depression and bipolar disorder?**
 - (A) Both are nongenetic disorders
 - (B) Both are caused by one specific gene abnormality
 - (C) Both are genetic disorders with complex patterns of inheritance
 - (D) Genetic studies have had mixed results, leaving the question of whether these disorders are genetic in nature unresolved
 - (E) Environmental factors are primary and the genetic role for both is minimal
- 2. The action of antidepressants can be described in part by which of the following mechanisms?**
 - (A) Neurotrophic effects by way of upregulation of brain-derived neurotrophic factor
 - (B) Increasing levels of glutamate in the frontal cortex
 - (C) Normalizing the function of γ -aminobutyric acid (GABA) neurons
 - (D) Increasing neuron numbers in the caudate nucleus
 - (E) Increasing the reuptake of serotonin in selected neurons
- 3. Abnormalities in which of the following neurotransmitter systems are thought to contribute to the pathophysiology of mood disorders?**
 - (A) Serotonin and norepinephrine
 - (B) Dopamine and serotonin
 - (C) Histamine, dopamine, and serotonin
 - (D) Glutamate, GABA, and serotonin
 - (E) Serotonin, norepinephrine, dopamine, acetylcholine, histamine, GABA, and glutamate
- 4. Which of the following management strategies is suggested by evidence implicating a neurodegenerative pathology of mood disorders?**
 - (A) Use of neuroimaging studies to diagnose major depression
 - (B) Short-term treatment only until symptom remission
 - (C) Long-term medication treatment to prevent relapse and repair neuronal damage
 - (D) Treatment with psychotherapy only whenever possible
 - (E) None of the above
- 5. Recent evidence suggests that the cerebellum may play a role in which of the following functions?**
 - (A) The modulation of emotions
 - (B) The production of serotonin
 - (C) The control of norepinephrine reuptake
 - (D) Inhibition of frontal cortex development
- 6. Although many brain structures are involved in the limbic system, which of the following is generally considered to be the “primary” limbic structure?**
 - (A) The hippocampus
 - (B) The caudate nucleus
 - (C) The amygdala
 - (D) The globus pallidus
 - (E) The anterior cingulate

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For answers, see page 43.

Answers to the review questions asked on page 36. The article on neurobiology of mood disorders appears on page 17.

1. (C) Both are genetic disorders with complex patterns of inheritance
2. (A) Neurotrophic effects by way of upregulation of brain-derived neurotrophic factor
3. (E) Serotonin, norepinephrine, dopamine, acetylcholine, histamine, and glutamate γ -aminobutyric acid
4. (C) Long-term medication treatment to prevent relapse and repair neuronal damage
5. (A) The modulation of emotions
6. (C) The amygdala

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