A Case of a Pheochromocytoma

by

David F. Dean
Department of Biology
Spring Hill College

Case Presentation

Rollie Hendrix is a 35-year-old husband and father of three children. Over the past six months he has experienced headaches and palpitations of increasing frequency and severity. In addition, he has had periods of intense anxiety and panic attacks. His wife Arlene has noticed that Rollie’s face is often pale and that he sweats more. Upon examination by his physician, Rollie was found to be severely hypertensive and in atrial fibrillation. Rollie’s physician suspected that he might have a pheochromocytoma and ordered a battery of tests, which confirmed his diagnosis.

Questions

1. What is the mechanism by which small, benign neoplasms arising from endocrine organs produce deleterious affects on the patient?
2. Name the hormones secreted by the adrenal medulla. How are they classified?
3. Explain the role of the adrenal medulla in the “fight-or-flight” response.
4. What is a pheochromocytoma? Do they occur at anatomic sites other than the adrenal gland?
5. List the most common symptoms associated with pheochromocytomas.
6. Explain the mechanism which underlies the cardiovascular affects of epinephrine and norepinephrine in terms of the distribution of adrenergic receptor types.
7. Why are patients with a pheochromocytoma often hyperglycemic?
8. Why would a patient with a pheochromocytoma sweat excessively, have facial pallor, and be constipated?
9. Describe the methods used to diagnose a pheochromocytoma.
10. How are pheochromocytomas usually treated?