

Name: _____ Lab Day/Time: _____

Endocrine System Study Guide, Chapter 23

Part I. Clinical Applications

1. Pete is very short for his chronological age of 8. What hormone levels should be checked to determine if he has pituitary dwarfism?

Growth hormone

2. A young girl is brought to the clinic by her father. The girl fatigues easily and seems mentally sluggish. You notice a slight swelling in the anterior neck. What condition do you suspect? What is a possible cause and treatment?

Hypothyroidism. Possible cause is iodine deficiency treated by dietary iodine supplements

3. Mrs. Jackson claims she is not menstruating and reports that her breasts are producing milk although she has never been pregnant. What hormone is being hypersecreted?

Prolactin

4. A friend of yours just found out he has diabetes. Being the caring inquisitive person that you are, you ask what type of diabetes he has. He is not sure and didn't realize that there are different types of the disorder. Explain the different types of diabetes

There are two main types of diabetes: **diabetes insipidus** and **diabetes mellitus**

Diabetes insipidus is due to either a defect in the antidiuretic hormone (ADH) receptors or an inability to secrete ADH. Blood glucose levels are normal. A common symptom is excretion of large volumes of urine, with resulting dehydration and thirst.

Diabetes mellitus is caused by an inability to produce or use insulin. There are two types of diabetes mellitus – type 1 and type 2. In **Type 1 diabetes**, the insulin levels are low because the person's immune system destroys the pancreatic beta cells that produce the insulin. It is also called insulin-dependent diabetes mellitus because insulin injections are required to prevent death. In **type 2 diabetes**, there is usually adequate amounts of insulin being produced and in the blood, but the target cells become less sensitive to it due to down-regulation of the insulin receptors. Type 2 diabetes is also called non-insulin-dependent diabetes mellitus.

Part I

1. Nervous; endocrine; hormones
2. ducts; surface; capillaries (blood)
3.
 - a. pituitary gland
 - b. thyroid gland
 - c. parathyroid gland
 - d. adrenal gland
 - e. pineal gland
4. target; receptors
5. master; posterior
6. infundibulum
7. pineal
8. adenohypophysis; neurohypophysis
9. releasing hormones (factors); inhibiting hormones (factors)
10. somatotrophic cells
11. gonadotroph cells
12. thyrotroph cells
13. lactotroph cells
14. corticotroph cells
15. gonadotroph cells
16. tropic
17. neurosecretory; antidiuretic (ADH); oxytocin
18. isthmus; 80 to 120 ml of blood
19.
 - a. follicular; thyroxin (T4) and Triiodothyronine (T3)
 - b. parafollicular (C cells); calcitonin
20. posterior; principal (chief); oxyphil
21. adrenal cortex; adrenal medulla
22.
 - a. mineralcorticoids
 - b. glucocorticoids
 - c. reticularis
23. chromaffin; sympathetic
24. epinephrine; norepinephrine
25. pancreatic islets
26. acini
27. Attached to the posterior roof of the third ventricle above the corpora quadrigemina
28. melatonin
29. promote

Part III

1. adrenal gland
2. sella turcica
3. infundibulum
4. ADH; oxytocin
5. tropic hormones
6. diabetes insipidus
7. gigantism
8. isthmus

9. trachea
10. calcitonin
11. thyroid gland
12. parathyroid hormone (PTH)
13. cortex
14. aldosterone
15. sodium and water
16. islets of Langerhans
17. abdominopelvic cavity
18. insulin
19. glucagon
20. diabetes mellitus
21. A
22. B
23. A
24. D
25. D
26. B
27. B
28. C
29. maintain basic circadian rhythms
30. C
31. D
32. D
33. A
34. C
35. C
36. B
37. B