Urogenital module

Research 1

Describe in details the following points:

1. The structure of urineferous tubule
2. Spermatogenesis and spermiogenesis
3. The anatomy of right and left ureters.
4. Give a note of the development of the testis
5. Bacterial origin of urinary tract infections: Etiology, diagnosis and treatment
6. Pharmacodynamics of Spironolactone as regard :
   a. Mechanism of diuretic action and its consequences
   b. Adverse effects
7. Parasites may affect human urinary system
   a. Enumerate these parasites
   b. Compare between them as regard morphology, life cycle, mode of infection, pathogenesis, clinical picture, diagnosis, treatment and prevention.
8. Give an account on:
   a. Autoregulation of GFR, explain its significance.
   b. Autoregulation of RBF, explain its significance.
   c. Its role in regulation of arterial blood pressure?
9. **Male Pseudohermaphroditism: 5a-Reductase Deficiency**
   Scarlett was 13 years old; all of her girlfriends had developed breasts and were having periods. Scarlett was experiencing none of these changes and, alarmingly, her voice was deepening and she was becoming very muscular, like the boys. Scarlett was diagnosed with a form of male pseudohermaphroditism caused by a deficiency of 5α-reductase.
   Questions
   a. In males, what is the difference between primary and secondary sex organs?
   b. Dihydrotestosterone differ from testosterone Explain?
   c. Mention in details control of testosterone?
   d. Explain the manifestations appear on Scarlett?
   e. If Scarlett wishes to continue life as a woman, what is the appropriate treatment?

Research 2

Describe in details the following points:

1. Glomerular structure by light and electron microscope with reference to blood renal barrier and juxta-glomerular apparatus
2. The structure of seminiferous tubule
3. The anatomy of the prostate.
4. Give a note of the development of the urinary bladder and urethra.
5. Bacterial origin of urinary tract infections: Etiology, diagnosis and treatment
6. Comparing between Thiazides and furosemide as regard:
   a. Mechanism of action
   b. Adverse effects
7. Parasites may affect human urinary system
   a. Enumerate these parasites
   b. Compare between them as regard morphology, life cycle, mode of infection, pathogenesis, clinical picture, diagnosis, treatment and prevention.
8. As regarding the function of kidneys:
   a. Summarize the various transport processes in the renal tubule
   b. Define the term transport maximum of a substance.
   c. Mechanisms of hormonal regulation of tubular handling of Na and K in the kidney?
9. **Male Pseudohermaphroditism: 5a-Reductase Deficiency**
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   b. Dihydrotestosterone differ from testosterone Explain?
   c. Mention in details control of testosterone?
   d. Explain the manifestations appear on Scarlett?
   e. If Scarlett wishes to continue life as a woman, what is the appropriate treatment?

Research 3

Describe in details the following points:

1. Secondary sexual glands
2. The structure of urineferous tubule
3. Give a note of the development of the testis
4. The anatomy of the urinary bladder.
5. Viral origin of urinary tract infections: Etiology, diagnosis and treatment
6. Differentiate mechanism of action and adverse effects of Carbonic anhydrase inhibitors versus Osmotic diuretics
7. Parasites may affect human urinary system
   a. Enumerate these parasites
   b. Compare between them as regard morphology, life cycle, mode of infection, pathogenesis, clinical picture, diagnosis, treatment and prevention.
8. Give an account on the :
   a. The fate and results of H+ secretion in renal tubules.
   b. Mechanism of urine acidification and alkalinization.
   c. Adjustment of HCO_3 reabsorption in the renal tubules.
9. **Male Pseudohermaphroditism: 5a-Reductase Deficiency**
   Scarlett was 13 years old; all of her girlfriends had developed breasts and were having periods. Scarlett was experiencing none of these changes and, alarmingly, her voice was deepening and she was becoming very muscular, like the boys. Scarlett was diagnosed with a form of male pseudohermaphroditism caused by a deficiency of 5α-reductase.

   Questions
   a. In males, what is the difference between primary and secondary sex organs?
   b. Dihydrotestosterone differ from testosterone Explain?
   c. Mention in details control of testosterone?
   d. Explain the manifestations appear on Scarlett?
   e. If Scarlett wishes to continue life as a woman, what is the appropriate treatment?

Research 4

Describe in details the following points:

1. The structure of seminiferous tubule
2. Glomerular structure by light and electron microscope with reference to blood renal barrier and juxta-glomerular apparatus
3. The structure of the spermatic cord.
4. The anatomy of male urethra.
5. Bacterial origin of urinary tract infections: Etiology, diagnosis and treatment
6. Reporting the effects of the following drugs on serum K+, Urinary Na+ and other metabolic changes:
   a. Acetazolamide
   b. Frusemide
   c. Hydrochlorothiazide
   d. Spironolactone
7. Parasites may affect human urinary system
   a. Enumerate these parasites
   b. Compare between them as regard morphology, life cycle, mode of infection, pathogenesis, clinical picture, diagnosis, treatment and prevention.
8. Give an account on:
   a. Function of the loops of Henle.
   b. Water reabsorption in the renal tubules.
   c. Explain the mechanisms of urine dilution and concentration.
9. **Male Pseudohermaphroditism: 5a-Reductase Deficiency**

   Scarlett was 13 years old; all of her girlfriends had developed breasts and were having periods. Scarlett was experiencing none of these changes and, alarmingly, her voice was deepening and she was becoming very muscular, like the boys. Scarlett was diagnosed with a form of male pseudohermaphroditism caused by a deficiency of 5α-reductase.

   Questions
   a. What are the factors affecting spermatogenesis?
   b. Mention in details functions and control of testosterone?
   c. Explain the manifestations appear on Scarlett?
   d. If Scarlett wishes to live the rest of her life as a man, what is the appropriate treatment?

Research 5

Describe in details the following points:

1. Glomerular structure by light and electron microscope with reference to blood renal barrier and juxta-glomerular apparatus
2. Secondary sexual glands
3. The surface anatomy and relations of the kidneys.
4. The anatomy of the testis.
5. Viral origin of urinary tract infections: Etiology, diagnosis and treatment
6. Parasites may affect human urinary system
   a. Enumerate these parasites
   b. Compare between them as regard morphology, life cycle, mode of infection, pathogenesis, clinical picture, diagnosis, treatment and prevention.
7. Describe Mechanism of action and adverse effects of drugs used in treatment of Benign Prostatic hyperplasia
   a. Darifenacin
   b. Tamsulosin,
   c. Fenastride ,
   d. Flutamide
8. Give an account on:
   a. Normal blood pH and its determinant factors.
   b. Explain the role of kidneys in acid base balance.
   c. How the conditions of alkalosis are corrected in the body.
9. **Male Pseudohermaphroditism: 5a-Reductase Deficiency**

   Scarlett was 13 years old; all of her girlfriends had developed breasts and were having periods. Scarlett was experiencing none of these changes and, alarmingly, her voice was deepening and she was becoming very muscular, like the boys. Scarlett was diagnosed with a form of male pseudohermaphroditism caused by a deficiency of 5α-reductase.

   Questions
   a. What are the factors affecting spermatogenesis?
   b. Mention in details functions and control of testosterone?
   c. Explain the manifestations appear on Scarlett?
   d. If Scarlett wishes to live the rest of her life as a man, what is the appropriate treatment?