To see correct answers, show “hidden text”

1. With increased age, the following event does not occur in the major salivary glands:
   a. Parenchymal volume decreases
   b. Greater likelihood for developing medication-induced hypofunction
   c. Diminished fluid production in healthy adults (C)
   d. Increased adipose tissue in glandular tissue
   e. none of the above

2. The following medication category can diminish salivary fluid secretory capability:
   a. Muscarinic agonists
   b. Anticholinergic drugs (B)
   c. Non-steroidal antiinflammatory medications
   d. Estrogen replacements
   e. none of the above

3. The adverse affect of medications on salivary glands occurs on all of the following salivary tissues except:
   a. Ductal epithelium
   b. Acinar muscarinic receptors
   c. Acinar luminal membranes (C, This question was not counted because of apparent problems)
   d. Acinar baso-lateral membranes
   e. none of the above
4. One of the most common causes of salivary gland disorders is:
   a. Cerebral palsy
   b. Depression
   c. Cerebrovascular accident
   d. Sjögren’s Syndrome (D)
   e. none of the above

5. Parotid and submandibular glands produce similar amounts of fluids across the human life span in the following group:
   a. Healthy, unmedicated adults (A)
   b. Children of dentists
   c. Head & neck cancer patients who have received radiotherapy
   d. Persons from northern climates
   e. none of the above

6. A dry mouth in an older person may be due to all of the following except:
   a. Head and neck radiotherapy for cancer
   b. An antidepressant medication
   c. Dehydration
   d. Recurrent dental caries (D)
   e. none of the above

7. Permanent acinar damage occurs due to:
   a. Antihypertension diuretic medications
   b. Head & neck radiotherapy for cancer (B)
   c. Mumps
   d. Excessive drooling in a Down's Syndrome patient
   e. none of the above
8. Salivary gland obstructions are:
   a. A nidus for retrograde infection (A)
   b. Treated solely by salivary stimulants
   c. Are due to muscarinic agonists
   d. May be prevented with antidepressants
   e. none of the above

9. The likelihood for salivary disorders increases with age due to:
   | i.    | Increased use of antihypertensive medications |
   | ii.   | Polypharmacy                                 |
   | iii.  | Loss of acinar cells                         |
   | iv.   | Impaired t-cell immunity                     |
   a. i and ii
   b. i and ii and iii (B, This question was not counted due to apparent problems)
   c. ii and iv
   d. i and iii
   e. none of the above

10. Stimulation of salivary secretions in a patient with salivary hypofunction can be accomplished with the following except:
    a. Masticatory stimulants
    b. Gustatory stimulants
    c. Adrenergic antagonists (C)
    d. Muscarinic agonists
    e. none of the above
11. IgG and IgM concentrations in whole saliva are generally higher than that obtained from isolated parotid or submandibular gland saliva because
   a. only sublingual glands secrete IgG and IgM.
   b. these immunoglobulins are derived from gingival crevicular fluid secretions and minor glands. (B)
   c. IgG and IgM are produced by the specialized M cells.
   d. IgG and IgM are “pumped” across the epithelial cell layer by a transepithelial transport system
   e. none of the above

12. Secretory component is derived from
   a. the polymeric immunoglobulin receptor. (A)
   b. secretory IgA binding protein.
   c. the atopic Mast cell Fc receptor.
   d. Fred, the unknown IgA grabber.
   e. none of the above

13. It has been proposed that IgA is a non-inflammatory immunoglobulin because
   a. inflammation is not an effective process for the elimination of microbes.
   b. IgA is not effective at binding to microbial antigens.
   c. chronic inflammation in the oral cavity and gut could result in significant destruction of host tissues. (C)
   d. inflammation will cause the infectious processes to persist.
   e. none of the above
14. Lactoferrin plays an important role in controlling microbial infection because it
   a. chelates iron and makes it unavailable for microbes to use as a nutrient.
   b. binds copper and makes it unavailable for microbes to use as a nutrient.
   c. binds to bacterial iron receptors and blocks their ability to utilize iron.
   d. has a direct bactericidal effect.
   e. a and d (E)

15. A major source of the hydrogen peroxide utilized by the salivary peroxidase system is
   a. the oral flora. (A)
   b. food.
   c. lactoferrin.
   d. the gut flora.
   e. none of the above.

16. Because the pK for HOSCN/OSCN is 5.3
   a. acid conditions in the oral cavity favor OSCN.
   b. acid conditions in the oral cavity favor HOSCN. (B)
   c. hydrogen peroxide cannot be formed.
   d. thiocyanate cannot be utilized in the peroxidase pathway.
   e. none of the above.
17. Histatins are a small group of histidine-rich proteins that
   a. are very effective iron chelators.
   b. complex carbohydrates
   c. are potent inhibitors of C. albicans. (C)
   d. function very much like the mucins.
   e. none of the above

18. Cystatins are inhibitors of cysteine proteases and
   a. appear to protect from the unwanted proteolysis of bacterial proteases.
   b. appear to protect from the unwanted proteolysis of lysed leukocytes.
   c. appear to inhibit proteases in periodontal tissues.
   d. all of the above. (D)
   e. none of the above.

19. Saliva is useful as a diagnostic fluid because
   a. salivary concentrations of hormones, drugs and other biologics are generally proportional to serum concentrations
   b. saliva collection is not invasive
   c. saliva is readily accessible
   d. all of the above (D)
   e. none of the above
20. Whole saliva is composed of
   a. gland secretions
   b. gingival crevicular fluid
   c. microbes and their products.
   d. shed epithelial cells.
   e. all of the above. (E)

21. A variety of clinical conditions can be monitored using saliva, including:
   a. digitalis toxicity.
   b. immunodeficiency.
   c. cigarette usage.
   d. gastric cancer
   e. all of the above. (E)

22. Gene therapy may offer new hope to radiation therapy and Sjögren’s patients because
   a. viruses may be used to re-introduce acinar cell functions into glands. (A)
   b. viruses may be used to transport water into irradiated salivary glands.
   c. viruses may be used to plug holes in damaged acinar cells.
   d. all of the above
   e. none of the above
23. Inability to produce a specific salivary protein is usually not devastating to the patient because
   a. most of the salivary proteins have no specific function and are just present to ensure a specific total protein concentration (see “b”).
   b. there is “multifunctionality” in salivary proteins, in that most proteins have overlapping biological activities. **(B, E was also accepted as a correct answer)**
   c. the correct answer is “b”.
   d. if you cannot decide that the correct answer is “b” then you have real problems.
   e. none of the above (except for “b”).

24. At birth the secretory IgA in saliva is
   a. probably not detectable. **(A)**
   b. equal to adult levels.
   c. equal to those of IgG and IgM
   d. greater than adult levels.
   e. none of the above.

25. The peroxidase system is able regulate the concentrations of oral microorganisms because
   a. hypothiocyanous is constantly produced at high levels.
   b. thiocyanate levels are always high.
   c. the system produces high levels of HOSCN following food ingestion and active bacterial growth. **(C)**
   d. all of the above.
   e. none of the above.