Sheet number: 22

Refer to slide:5

Done by: Doaa alkhouli

Corrected by: Dara Abdullah

Note: the doctor mostly read the slides; we only included the extra notes in the sheet.

Slide #2:

Immune system developed from stem cells (at least 3 different types of stem cells):

- Totipotent: the stem cell that can develop into any type of cell.

- pluripotent: stem cell can only produce cells belonging to an organ.

- multipotent: stem cell can give rise to other types of cells but it’s limited in its ability to differentiate.

- Unipotent: stem cell can produce only one type of cell.

●stem cells go to the bone marrow to produce megakaryocyte, erythrocyte, platelets & B-lymphocyte. Some of them go to the thymus to produce T-lymphocyte.

Slide #4:

Immune cells: B-cells “specific”, T-cells, natural killer cells “non-specific”.

Slide #5:

Antigens induce immune system. Antigens could be pathogens, bacteria, protozoa or fungus or their respective products. Proteins, polysaccharides or nucleic acids could also induce the immune system.

Slide #6:

- Innate: non-specific.

- innate immune system is the first line immune defense mechanism. First: anatomic barriers. Last: inflammation.

- Adabtive: specific.

- LN: lymph nodes; MLAT: mucus associated lymph tissue.

Slide #9:

- Recall that the airway, the GI tract & the reproductive tract all have epithelial cells.

- pathogens: “no need to know”

Slide #11:

●within 0-4 hours removal of infectious agent, if not next phase (within 4-96 hours).

Slide #12:

- Complement function: is to destroy target cell. End result: destruction.

- After the infection certain proteins will be synthesized immediately at the infectious area; those are called “human acute phase proteins”.

- activate phagocytosis: two types: oxygen dependent & oxygen independent.

Slide #13: here we have 3 different types of complement activity.

- if T-lymphocyte is activated the antigen is presented with class 2.

- if cytotoxic T-lymphocyte is activated the antigen is presented with class 1.

●MUCOSAL IMMUNE SYSTEM

Secretion: mucus, proteolytic enzymes that destroy microorganisms.

Slide #26:

-Th17 (t-helper 17) is found in gut. A Th17 abnormality will cause sjogren’s disease.

- As we all know, biofilms help microorganisms grow; brushing removes them.

Slide #28:

- the mouth is an excellent media for microorganisms growth.

- When referring to oral diseases, plaque is the least serious, periodontitis being the most.

Slide #29:

-normal flora prevent colonization of pathogens.

Slide #31:

The presence of the saliva makes it much easier to swallow. Thus, could help in the transformation of microorganisms to the gut.

Slide #34:

- cervice: junction between gum and teeth.

- immunoglobulin mainly IgG & IgA.

- If a person is not tolerated to food “oral tolerance” this will cause excessive response upon exposure of oral cavity to food, ending up with an allergic reaction.

●skip “limitations”.

- Predentate: normal flora will start to be established in upper respiratory tract.

Slide #49:

We don’t know if these antibodies are protective.

Slide #55:

- May mimic RAS: rarely end up with oral stomatitis.

- Do not usually mimic RAS: autoimmune disease & cancers. Will affect:1-GI. 2-Skin. 3-connective tissue.