Ch 43.3 Notes

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Vocab

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Humoral Immune Response: Occurs in the blood and lymph (once called body humors, or fluids)

Cell Mediated Immune Response: Specialized T cells destroy infected host cells

Helper T Cell: Activates humoral and cell-mediated immune responses

Antigen Presenting Cell: Can be a dendritic cell, macrophage, or B cell

Cytotoxic T Cells: Use toxic proteins to kill cells infected by viruses or other intracellular pathogens before pathogens fully mature

Immunization: The use of antigens artificially introduced into the body to generate an adaptive immune response and memory cell formation

Active Immunity: The defenses that arise when a pathogen infection or immunization prompts an immune response

Passive Immunity: The antibodies in the recipient (in this case, the fetus) are produced by another individual (the mother)

Monoclonal Antibodies: Produced by such a culture are identical and specific for the same epitope on an antigen

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Notes

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Adaptive immunity defends against infection of bodily fluids and body cells

* Humoral immune response= occurs in blood and lymph

Antibodies help neutralize/eliminate toxins/pathogens

* Cell-mediated immune response= T-cells destroy infected host cell

Helper t-cells: Activating adaptive immunity

Activates cell mediated and humoral immunity

* APC must display antigen to helper T-cell
* MHC/antigen fragment on APC surface binds to CD4 on APC
* Cytokines from APC cause Helper-T to secrete its own= activate it and cause it to proliferate (clones)

APC= dendritic cell, macrophage or B cell

APCs have MHC 1 and 2. Most cells only have MHC1.

Cloned helper-T all have the same antigen specificity

B cells and antibodies: A response to extracellular pathogens

Activating B cells is the first step to antibody secretion

B cell engulfs pathogen and presents the fragments for an activated helper T-cell to recognize

Binding of the helper T-cell activates the B cell

B cell differentiates into memory cells and plasma cells

Plasma cells are the ones that secrete Abs

Antibody Function

Bind to pathogen

Interfere with activity

Mark for inactivation/destruction

Cytotoxic t-cells: a response to infected host cells

Use toxic proteins to kill infected cells before the pathogens can mature and take over the cell

Cytotoxic t-cells need to be activated from helper t-cells

Immunization

Antigens specifically introduced to generate an adaptive immune response= memory cell formation

Edward Jenner- smallpox

Active vs Passive immunity

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