

Chapter 11

WHY DO WE FALL ILL?

Different species of microbes have evolved to home on different parts of body with specificity.

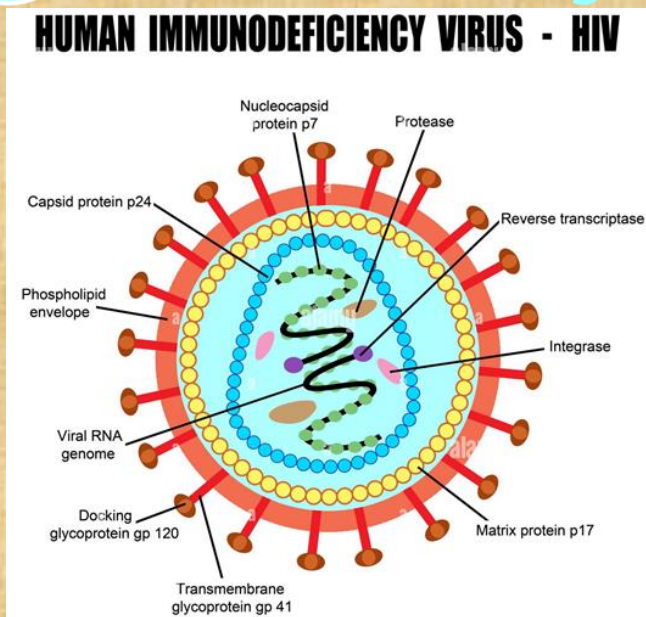
There is an organ specific and tissue specific manifestation of the microbe. This evolution of selection is often connected to the entry of pathogen.

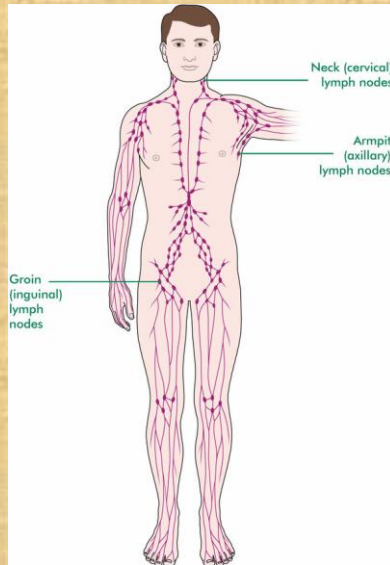
Ex.

If the entry is, through nose its likely to go to lungs. (Ex. Tuberculosis).

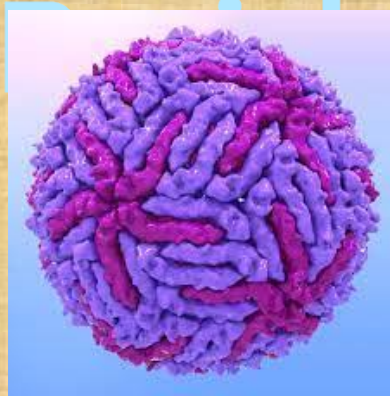
If the entry is through mouth, it's likely to go to gut (Ex. Typhoid) or it may to liver, in the case of jaundice. But not all microbes have tissue-specific manifestation.

HIV, which enters through sexual organs, goes to lymph nodes all over the body.





The plasmodium that enter through mosquito bite – goes to liver and then to RBC. Japanese encephalitis causing virus enters through mosquito bite and goes on to infect brain.



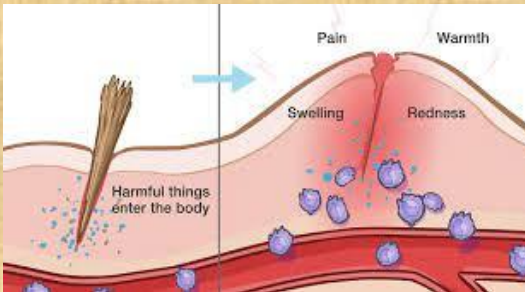
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Now, the signs and symptoms of disease will depend upon the tissue or the organ which the microbe targets. If its lungs the symptom is cough & amp; breathlessness. If Liver is the target system then the symptom might be – jaundice and if brain is target, headache, vomiting, fits or unconsciousness might be the symptoms.

If we know the tissue or organ manifestation of the microbe, and the function of that tissue or organ, we can speculate some of the signs and symptoms.

In addition to tissue specific effects of infectious disease, there will be other common effects as well. These common effects depend on the fact that body's immune system is activated in response to infection.

The immune system recruits many cells to affected tissue to kill the microbe. This process is called inflammation.

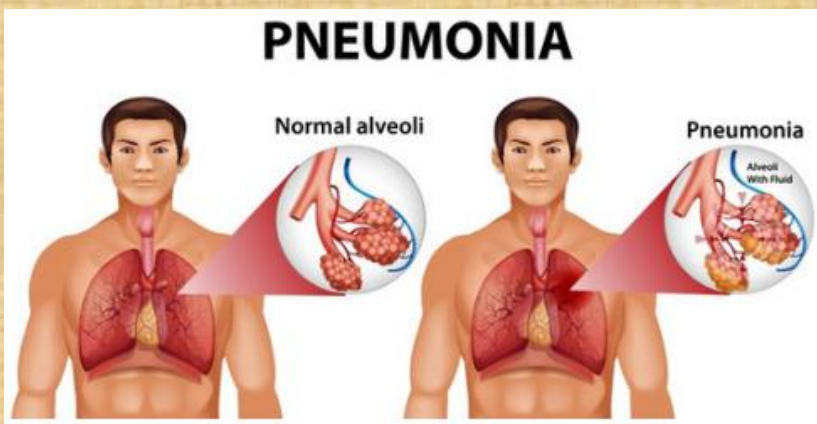


Due to this, local effects such as swelling and pain and general effects such as fever is visible in the infected individual.

Sometimes, tissue specificity of infection may leads to very general seeming effects.

Ex. Is the HIV infection.

During HIV infection, the virus infects the immune system & damage its functions. We are immune – compromised and many effects of HIV infection are because the body can no longer fight many infections that we face every day. Even common cold can become pneumonia.



A minor gut infection can cause diarrhea with blood loss. These additional infections are what kills the AIDS patients.

The severity of disease manifestation depends on the number of microbes in the body.

Smaller the no of microbes – Minor the disease.

Larger the no of microbes – Life threatening the disease.

The no. of microbes surviving in our body depends on how good the immune system is. -

