

First 2009
VIVA 2

This viva will test your knowledge of the physiology and pharmacology of the Immune System. Outline the body's defence mechanisms against infection.

“Describe how the body defends against infection?”

Via non immune defences which act as barriers and the immune system

“Tell me about some of the non immune defences”

these are the physiochemical defences in the body which prevent infection access

skin

mucous membranes

cilia

hydrochloric acid in the gut

secretions such as tears, saliva and bile

“Can you describe the classification of the immune system”

the immune system has three main characteristics

recognition

effector responses

memory

the immune system is functionally classified into the innate and adaptive systems

“Tell me about the innate system”

this is the non specific immune defences

it has humoral components - complement, acute phase proteins, fibronectin and lysozymes

and cell based components - NK cells, neutrophils, monocytes, phagocytes, eosinophils, mast cells

“What is complement?”

are a series of heat labile proteins which regulate inflammation

there are three major pathways recognised, classical, alternative and lectin

main aim of the pathways is to deposit C3b on the target surface for phagocytosis, inflammatory cascade

“What do you know about the adaptive immune system”

as the name suggests it changes its behaviour over time to improve responses to infection

humoral components include antibodies and complement (hence the original term)

cell based via T-cells and B-Cells

“What are the differences between T-Cells and B-Cells”

Macroscopically they appear identical

They are differentiated by clusters of differentiation caused by expression of different surface proteins

B-Cells express CD20 and are involved in the production of humoral responses (Ab production)

T-Cells express CD4 cells which are involved in antigen presentation and CD8 cells which are cytotoxic