Joual of Molecular Pathophysiology, 2022
VOL 11, NO. 1, PAGE 01

PERSPECTIVE

Open Access

# An Outline of Immune-Pathophysiology

**James Lee***
*Department of Neurosurgery, Morehouse School of Medicine, Atlanta, USA*

**ARTICLE HISTORY**
Received: 03-Jan-2022, Manuscript No. JMOLPAT-22-52283;
Editor assigned: 05-Jan-2022, PreQC No: JMOLPAT-22-52283 (PQ);
Reviewed: 19-Jan-2022, QC No: JMOLPAT-22-52283;
Revised: 24-Jan-2022, Manuscript No: JMOLPAT-22-52283 (R).
Published: 31-Jan-2022

## About the Study

The function of an immune system is to protect and defend the body against invasion of pathogens. Any disruption of homeostasis in the body causes specific symptoms, and can cause death if untreated or the immune system is unable to fight it off. The agents which cause disease are considered as pathogens they may be fungi, bacteria, virus, protist (biological agents). Virus- strand of DNA or RNA wrapped in a protein coating which invades infection. Invading the nucleic acid either RNA or DNA into the cell causes the cell to make more virulent rather than the cell's normal function. Superbugs are the evolved resistance bacteria to most antibiotics. *S. aureus* is typically found on the skin and can cause pimples. But, if infected with MRSA, then it may be life-threatening. Some bacteria may possess the genes that make them immune to the effects of the antibiotics. If antibiotics are used, the bacterial immune doesn't suppress, leaving behind only the ones that have those genes. Therefore, all their offspring have that genetic material, and therefore is immune. Fungi can parasitize humans. The ones that can tend to attack the skin, but a few can invade their genome inside the body. Protista are the microscopic and eukaryotic organisms that cause disease. Bone, thymus and bone marrow helps in defense mechanism against pathogens. Lymph is extracellular fluid that white blood cells can travel through and protect our body from pathogens. Spleen is an organ that filters bacteria and the broken cells from the lymph. Lymph nodes are also filters of bacteria. There are two ways in which the immune system operates: Nonspecific defenses- keep everything (pathogens) out such as skin, mucus, cilia, tears, stomach acid, etc. and specific defenses- Fights off infection once the pathogen gets inside the body. White blood cells are the soldiers of the human body. They seek out and destroy pathogens. Have several different names: Lymphocytes, WBC's, Leukocytes, and Phagocytes. White Blood Cells moves towards the infection site quickly and cause inflammation at the particular site, where the pathogen invades inside the body. These defense mechanisms slow down the infection rate. Fever is the symptom of the defense mechanism which raises the body temperature which to helps to denature the pathogen's proteins. An allergy is a condition where the body misrecognizes the body cells as foreign particles and triggers its action that is harmless as a pathogen. Histamines are the chemicals released to cause the inflammatory response. Example: Pollen can cause a runny nose, fever and sneezing. Some allergies can cause a severe reaction, called as anaphylactic shocks. This can cause choking due to a constricted of the airways. T Cells are the recon cells. They travel through the body in search of pathogens when they find a pathogen, they engulf it and destroy it, and then they do something weird. T-cells display parts of the pathogen on their membranes called as antigen. Antigens are proteins that all cells have on their membranes, but the shape of the antigen varies according to the species of pathogen invade. Sometimes, the pathogen itself referred as an antigen. Antibody causes the pathogen to be unable to enter the pathogens into the body cells and attracts a WBC to engulf the pathogen. Active immunity itself develops the antibodies within the body. Passive immunity develops antibodies from the source, but body doesn't know how to make them, e.g. Mother's milk, injection of antibodies, vaccinations is only done for viral pathogens.

**Contact:** Lee J, E-mail: leejames123@gmail.com