

Pathogenesis of Bacterial Infection and its Treatment

Calvin Smith*

Department of Respiratory Medicine, Fukuoka University, Fukuoka, Japan

DESCRIPTION

Bacterial pathogenesis is the interaction by which microbes contaminate and cause sickness in a host. Not all microbes are pathogens and have the ability for pathogenesis (otherwise called virulence). To cause sickness, a microorganism should effectively accomplish four stages or phases of pathogenesis: exposure (contact), grip (colonization), invasion, and infection. Pathogenesis is characterized as the start and development of an infection. This illness etiology and improvement, are the two significant aspects of pathogenesis, are the forecast in the prevention, and treatment of different diseases. The control of naturally happening microorganisms in the environment, especially in water, food and the environment which we will create for pathogens is now a challenging task for all over the world. The three types of phagocytes are neutrophils, monocytes and macrophages. They destroy microbes by phagocytosis. They form the cellular barrier and are responsible for innate immunity. Infection is the invasion of the host by microorganisms, and then they multiply in close association with the host's tissues. Infection is distinguished from disease, a replace pathological method that does not essentially involve infection. Bacteria will cause various infections with in the body. The capacity of a bacterium to cause disease reflects its relative pathogenicity. Antibiotics are powerful medication that fights bacterial infections. They either kill bacteria or stop them from reproducing, allowing the body's natural immune system to eliminate the pathogens.

Neutrophils

When microorganisms, like bacteria or viruses, enter the body, neutrophils are quite possibly the first immune cells to respond. They travel to the site of disease, where they destroy the microorganisms by ingesting them and releasing enzymes that kill them. Neutrophils also help to boost the reaction of other immune cells.

Monocytes

Monocytes are a kind of leukocyte, or white platelet. They are the largest kind of leukocyte and can separate into macrophages and conventional dendritic cells. As a part of the vertebrate natural resistant immune system monocytes also impact adaptive immune reactions and exert tissue repair functions.

Macrophages

Macrophages are key parts of the natural resistant immune system that live in tissues, where they work as immune sentinels. Their function is to sense and respond to tissue invasion by infectious microorganisms and tissue injury through different scavenger and phagocytic receptors.

Prevention and treatment

- Keep vaccinations up to date.
- Wash your hands frequently.
- Prepare and handle food hygienically.
- Use antibiotics only for infections caused by bacteria.

Pathogenicity is the capability of organism to cause disease. During viral infections, diseases symptoms arise from two causes, direct injury caused by virus replication and the side effects of the immunologic response due to infection. The balance between these two is variable. The virus infections do not cause any disease. Only a few range of infections cause serious or life-threatening consequences such as immunodeficiency, or tumors. Genetic, biochemical, and structural features that lead to the ability of the pathogen to cause disease are known as its determinants of virulence. Phagocytes are a kind of white platelets which ingest foreign particles and destroy them. Lymphocytes are one more type of white platelets which recognize microbes *via* cell surface receptors and destroy them through various ways.

Correspondence to: Calvin Smith, Department of Respiratory Medicine, Fukuoka University, Fukuoka, Japan, E-mail: calvin11@stvincents.com.au

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