Available online at
www.agrospheresmagazine.com

ISSN: 2582 – 7022

Agrospheres:e-Newsletter, (2021) *2*(11), 1-3

Article ID: 316

Infectious Disease

Hariom[1*] and Sonu[2]

[1]Department of Veterinary Gynaecology and Obstetrics, LUVAS, Hisar, Haryana, India
[2]Department of Veterinary Medicine, LUVAS, Hisar, Haryana, India

*Corresponding Author
Hariom*

Article History
Received: 21. 10.2021
Revised: 29. 10.2021
Accepted: 7. 11.2021

INTRODUCTION

Infection

The invasion and growth of germs in the body is known as Infection. The germs may be bacteria, viruses, fungi, or other microorganisms. Infections can begin anywhere in the body and may spread all through it. An infection can cause fever and other health problems, depending on where it occurs in the body.

Mainly three Types of Infections are there -

1. Bacterial Infection
2. Viral Infection
3. Protozoal Infection

There are many Bacteria, Virus and Protozoa present in the environment. Level of exposure of animals is more, as the animals are reared mostly on open grounds and tend to eat food which is comparatively less Hygienic then the Human Beings. But animals display signs of infection when the animal get infected due to increased level of exposure or decreased level of immunity.

Impact of Bacterial Infection in Animals

a. Decreased Feed Intake
b. Decreased Production Level -

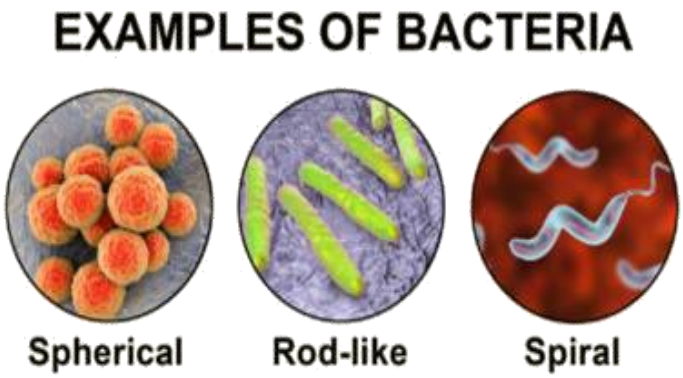
- Sudden decrease in Milk Production
- Poor quality of Wool
- Contaminated meat production

c. Suppression of Immunity
d. Increased chance of Secondary Infection

Bacteria

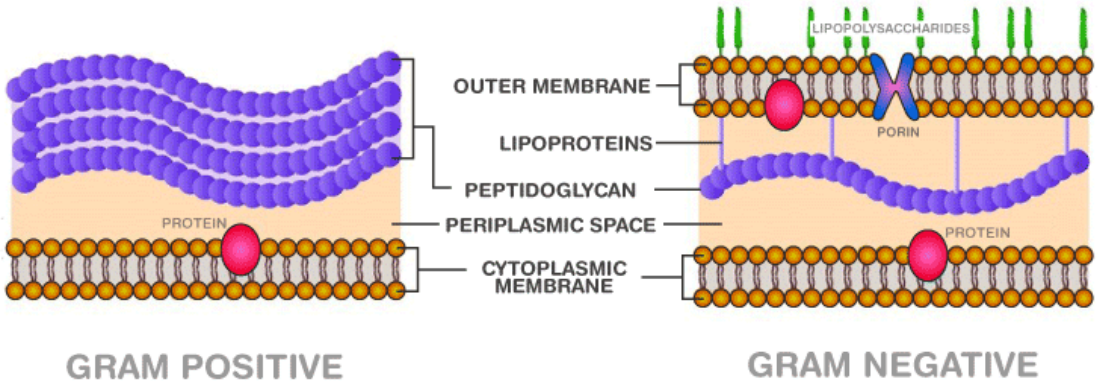
Bacteria are a type of biological cell. They constitute a large domain of prokaryotic microorganisms. Typically a few micrometers in length, bacteria have a number of shapes, ranging from spheres to rods and spirals. Bacteria were among the first life forms to appear on Earth. There are typically 40 million bacterial cells in a gram of soil and a million bacterial cells in a millilitre of fresh water.

ISSN: 2582 - 7022

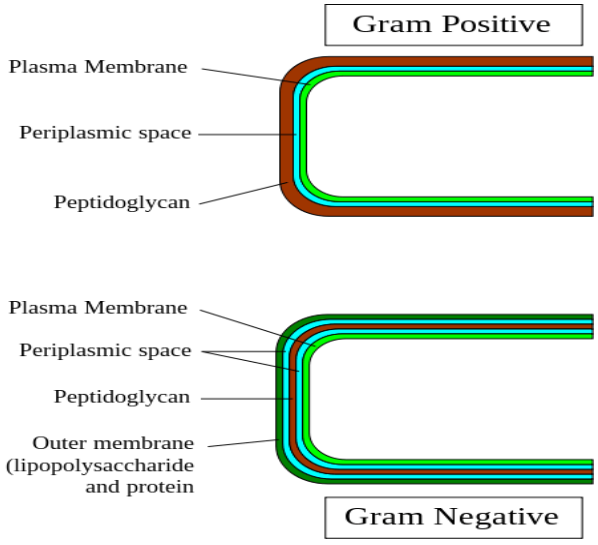


Types of Bacteria –

There are two types of Bacteria on the basis of staining. Bacteria those who retains Crystal Violet Stain and appear Purple in colour under microscope are **Gram +ve** and those who doesn't retain Purple colour are **Gram –ve Bacteria's**.



STRUCTURE OF CELL MEMBRANES OF BACTERIA



Few Diseases Caused By Bacteria:

1. **Tetanus** – It is caused by Gram +ive Bacteria *Clostridium tetani*. It is a very fatal disease for animals. In Horses "Prolapse of third eyelids (Conjunctiva)" occurs. And "Lock Jaw" also occurs due to

which animal is unable to eat. In Cattle the Tail looks like handle of Pump. And Horses stands in a typical pattern known as "**Saw Horse Stance**".

2. **Actinomycosis/Lumpy Jaw –** It is caused by *Actinomyces bovis*. Actinomyces are gram-positive, anaerobic bacteria that cause disease primarily in cattle and swine but also occasionally in other animals. Lumpy jaw is a localized, chronic, progressive, granulomatous abscess that most frequently involves the mandible, the maxillae, or other bony tissues in the head.
3. **Actinobacillosis/Wooden tongue -** Actinobacillosis is caused by several species of gram-negative coccobacilli of the genus *Actinobacillus*. Clinical signs vary, depending on the specific bacteria and the animal species they infect. Mainly Actinobacillosis is caused by *Actinobacilli lignieresii* in Cattle. In cattle, Actinobacillosis mainly affects the tongue ('wooden tongue'), the lymph nodes of the head and neck. The characteristic lesion is a granuloma of the tongue, with discharge of pus to the exterior. Infection usually begins as an acute inflammation with sudden onset of: inability to eat or drink for several days.
4. **Mastitis –** Bovine mastitis is an inflammation of mammary gland commonly caused by bacterial infection of teat canal and characterized by qualitative and quantitative changes in milk and mammary gland. It is still a one of the three most important diseases of cattle that affects economy of dairy farmer's across the world followed by lameness and infertility.
5. **Hemorrhagic Septicemia/Gal-Ghotu –** Hemorrhagic septicemia is a bacterial disease cause by Gram –ive cocco bacilli *Pasteurella multocida* that mainly affects cattle and water buffalo, and is an important cause of livestock mortality in tropical regions of Asia, Africa and the Middle East. It is known as "**Gal Ghotu**" due to development of severe edema around throat and brisket which leads to asphyxia and inadequate supply of Oxygen to animal. Animal suffers from high fever, salivation, serous nasal discharge and produces grunting sound while struglling for breathing.
6. **Calf Pneumonia –** In Calves immunity level is very less. And in contrast to this the level of Bacteria is very high. Due to presence of mucus and placental fluid in lungs, it becomes easy for Bacteria to multiply exponentially. This leads to development of Pneumonia in calf.
7. **Metritis –** This is defined as inflammation of Uterus. It mainly occurs in cases of Retained Fetal Membranes or any uterine injury during parturition. And after infiltration of bacteria pus formation occurs. This leads to infertility.
8. **Naval ill –** It is observed in newly born calves. It mainly occurs due to infiltration of Bacteria through Umbilicus. And then it spreads into whole body as a generalized infection. Calf suffers from Swollen joints, Lameness, Fever and anorexia. And then dies due to Anemia.

**** Like above there are many other such Bacterial Infectious Conditions which poses threat to lives of animals and also leads to economic loss by means of decline in Milk Production.**

Sign and symptoms of Bacterial Infections:-

1. Fever
2. Poor Calf Growth
3. Muscle degeneration
4. Decrease in Feed Intake
5. Joint Swelling in Calves
6. Decrease in Milk Production
7. Decline in Body Condition Score
8. Nervous sign as observed in Tetanus

Approach Required

To eliminate such Bacterial Infections we need to use a potent, long acting Antibiotic which will kill the microorganism and remove from the body thus facilitating normal functioning of body.