NORMAL FLORA OF HUMAN BODY

Normal Flora

- **Definition**

  Normal flora is the mixture of microorganisms (bacteria and fungi) that are regularly found at any anatomical site of human body.

INTRODUCTION

Denotes the population of microorganisms that inhabit the skin and mucous membranes of healthy normal human body without causing any harm to the host.

Internal organs such as blood, kidney, heart, lungs, brain etc are sterile in normal healthy individuals. Therefore, if microorganism is found in these internal organs it is referred as diseased condition.

The skin and mucous membranes always harbor a variety of microorganisms that can be arranged into two groups:

1. **The resident flora** consists of organisms which are regularly present in a particular area and when disturbed it re-establishes itself.

   Example- ***Escherichia coli*** is a normal inhabitant of the intestine.

2. **The transient flora** consists of microorganisms that **inhabit the skin or mucous membranes for hours, days, or weeks** which is derived from the environment, does not produce disease, and does not establish itself permanently on the surface.

CHARACTERISTICS OF NORMAL FLORA

- **Not disease-inducing:** They are not typical disease causing micro-organisms found in and on healthy individuals.
- **Very abundant:** The normal flora are extremely abundant in terms of numbers. For instance, an ordinary human has approximately 1013 body cells and 1014 individual normal flora.
- **All found externally:** Normal flora are found more often on the skin, eyes, nose, oral fissure as well as on the throat and lower parts of the urethra and the large intestine.

TYPES OF NORMAL FLORA

1. Commensal micro flora
2. Mutualistic micro flora
3. Opportunistic micro flora

1. **Commensal micro flora:** These microorganisms gets benefits from human host and give neither benefits nor harmful effects to host. Majority of normal flora are commensal types .
2. **Mutualistic micro flora:** These microorganisms gets benefits from host and at the same time give benefits to the host.
3. **Opportunistic microflora:** These microorganisms, under normal condition live as commensal on host body but they causes diseases if opportunity is available. **For example;** Normal flora of GI tract i.e. E.coli causes urinary tract infection (UTI), if the site of habitat is changed.