

# Chapter one

## Introduction

### 1.1 Inflammation

Is a non-specific defense mechanism of the body to harmful stimuli, such as pathogens, abrasion, chemical irritations, damages cells and extreme temperatures. The common signs and symptoms of inflammation are: redness, pain, heat and swelling, and could also lead to loss of function in the injured area. Inflammation is a protective attempt by the organism to remove microbes, toxins, or foreign material at the site of injury, to prevent their spread to other tissues and to initiate the healing process. Inflammation can be classified into acute or chronic, where acute is the initial response of the body to the noxious stimuli which is characterized by the movement of plasma and leukocytes to the injured area, while the chronic inflammation leads to progressive shift in type of cells present at the inflammation area. (Gerard, tortora, 11th edition2006)

Since the inflammation is non-specific resistance mechanism, the response of tissue cut or burn is similar to bacterial or viral invasion, the inflammatory response has three basic stages(Fig 1.1):

- 1-vasodilation and increased blood vessels permeability.
- 2- migration of phagocyte from the blood into interstitial fluid and.
- 3-tissue repair.