Part I

Introduction and Aim of the work

Introduction

Micro-organisms are classified according to oxygen requirments into:

Anaerobic bacteria: that don't use oxygen for growth.

Capnophilic bacteria: that require carbon dioxide for growth.

Facultative anaerobes: which can grow in the presence or absence of oxygen.

Microaerophilic bacteria: which can grow in the presence of minimal amount of oxygen, but can not grow in the absence of oxygen.***(Jawetz, et al., 1991).***

Lowis pasteur, 1861 is the first one who introduced the terms of aerobes and anaerobes to designate respectively micro-organisms that live in the presence and absence of oxygen. ***(Smith, 1967)***.

There is an increasing interst in the role of anaerobic bacteria in human infections, any organ or tissue is susceptible to this infection, certain anaerobic infections are fulminating and most tend to produce tissue necrosis. ***(Finegold and sutter, 1982)***.

Charles (1980), reflected the increased incidence of sepsis by anaerobic bacteria, to the improvement of laboratory techniques of identification and isolation rather than a real increase in the incidence. The predominant anaerobic organisms in infected bone are Bacteroides species, Anaerobic cocci, Fusobacterium species, Propionibacterium acnes and Clostridium species. ***(Brook and Frazier, 1993)***.

Bacterial infection following compound comminuted fracture is a serious orthopaedic complication, as the infection is a determintal factor in delayed union and non-union of the fracture.

The bacterial organisms gain entrance directly into the bone through the interrupted tissues as a result of compound fracture, the fracture hematoma serves as a fertile culture medium. ***(Rockwood and Green, 1984).***

Aim of the work:-

The aim of this study is to spot more light on the incidence of anaerobic bacteria in chronic osteomyelitis.