INTRODUCTION AND AIM OF THE WORK

Management of fractures of long bones has been the focus of interest for a long time. First the management was limited to conservative lines of treatment.

Internal fixation of fractures is traceable into the last century when Hansmann described a percutaneously removable plate in 1886. Later, Lane, Lambotte and Sherman developed implants and techniques of plate osteosynthesis, Danis pioneered technique of compression osteosynthesis and defined primary union biologicals. [1]

The development of anesthesia and radiology hundred years ago marked the advancement in the surgical management of fracture. Thirty years ago the principles of anatomical reduction and rigid internal fixation were established by the A.O. associations. [2]

However, the main concern was perfect anatomical reduction and rigid internal fixation regardless of the other factors affecting bone healing. With proper follow-up and reassessment of cases managed surgically it was found that anatomical reduction and rigid internal fixation were not the

only factors affecting bone healing and rehabilitation of the patient.

Local blood supply and soft tissue condition are among the most important factors affecting fracture healing. [3]

Loading of bone at the proper time and in the proper way was found to be more important than anatomical reduction and rigid internal fixation. This finding led to the introduction of what maximum preservation of biological factors affecting bone healing. fixation in which the utmost respect is given to soft tissue and vascularity of bone. [4]

The aim of this study is to discuss the different aspects of diaphyseal fracture Fixation with emphasis on the principles of biological fixation.

In order to achieve this, a good knowledge of the anatomy, blood supply. Biomechanics of bone and different factors affecting bone healing, will also be discussed.