INTRODUCTION

Patients suffering from osteoarthrosis of the knees in whom conservative therapy has failed are often left with only osteotomy or implant arthroplasty as surgical options. Salvage of any of these patients by abrasion arthroplasty has been considered worthwhile. Furthermore, the use of abrasion arthroplasty does not preclude later osteotomy or implant arthroplasty.

Currently, arthroscopic debridement are offered as an intermediate step and not as a replacement for osteotomy or implant arthroplasty.

At the time of registration of this thesis (1989), it was originally thought that it would be possible to have enough number of cases to be able to make a study of the effect of abrasion arthroplasty with upper tibial osteotomy for treatment of osteoarthrosis of the knee joint.

In spite of the fact that osteoarthrosis is a very common condition in orthopaedic practice, patients in eastern society are reluctant to have surgery especially females, so we had to collect these materials from more than one center.

During the course of this thesis our understanding of the subject and available technique had changed, and was approved by the council as a minor change in 1992.

The technique by which most of the cases were performed was that either of Pridie's procedure in few cases, which was

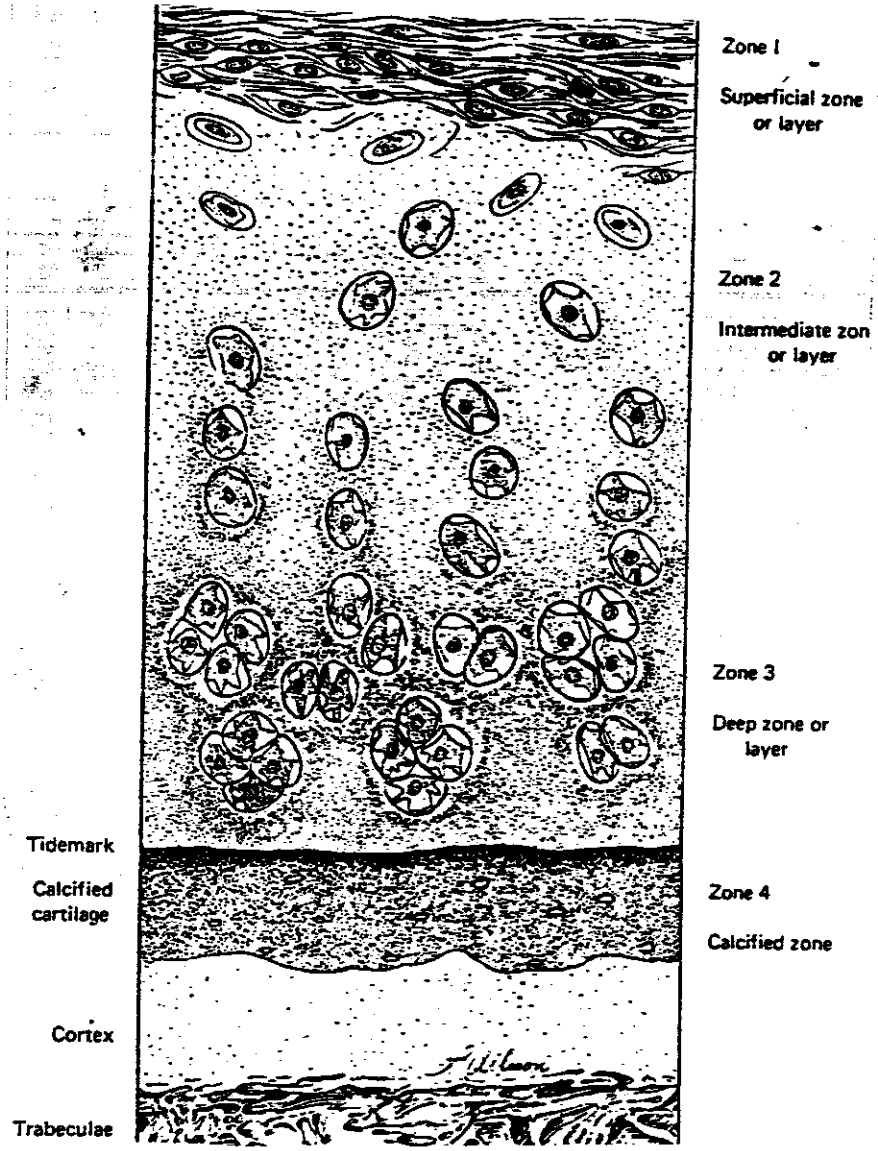

Fig. (1): Zones of adult articular cartilage (Turek, S L 1977)

b) The deeper, and usually much thicker, radiate layer, in which the cells are arranged in more or less vertical columns.

3. A deep calcified zone which is quite thin as a rule and which in adults is opposed to the subchondral bone plate.

The surface of articular cartilage is divided into two areas,

First, a lateral area covered by a delicate cellular layer, an extension of synovial membrane which functions as perichondrium.

Second, a central area devoid of this cellular layer of synovial origin but having a superficial cell layer which is regarded as a perichondrium both anatomically and functionally (Weiss et. al., 1968).

The chondroblast is a large cell with a basophilic nucleus and contains a large amount of rough endoplasmic reticulum and prominent golgi apparatus. The cytoplasm stains metachromatically with basic aniline dyes such as toluidine blue.

The degree of metachromasia depends on the molecular size of the chondroitin sulphate molecules. The cytoplasm also contains much glycogen and large cytoplasmic lakes which may contain secretory material. The cytoplasmic walls of the chondroblasts are produced by a thickening or condensation of the matrix and is not a true membrane.

The nutrition of the cartilage tissue is usually by diffusion and osmosis. The water content is high, varying from 95% in children to 60% in old age groups. Chondroblasts contain lipid, cholesterol and glycogen within the cytoplasm which decreases with aging, as well as precursor granules of the nucleus which gradually become finer during aging. Enzymes