MR IMAGING IN THE DIAGNOSIS OF THE KNEE JOINT LESIONS

ESSAY

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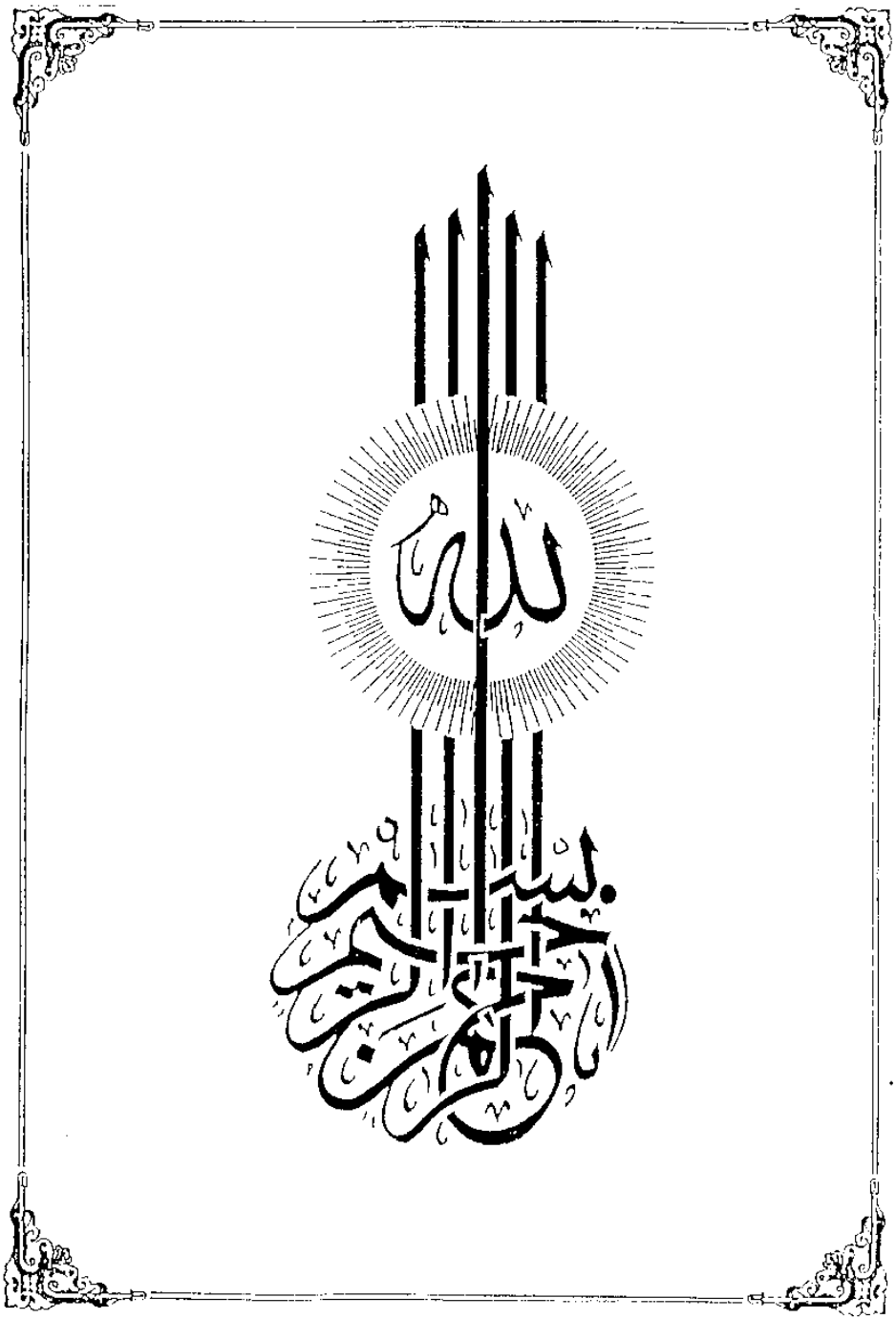

DEDICATION

To my family

... & my Fiance

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Magnetic resonance imaging proved to be superior in providing soft tissue contrast and in the evaluation of the knee for a wide range of pathological conditions.

MRI of the knee is safe and highly accurate means of non-invesively assessing the status of the knee joint.

The aim of this work is to evaluate the role of MRI in the diagnosis of knee joint lesions.

ANATOMY

ANATOMY OF THE KNEE JOINT

The knee joint is massive joint carries severe stresses, yet it has a wide range of flexion limited only by contact between the leg and thigh and a moderate range of rotation when flexed.

In all positions of the joint, the femur articulates with the tibia and patella, but the strength of the joint depends on ligaments and muscles rather than on the close fitting of the bones.

Only a relatively small area of each convex femoral condyle articulates with the central area of the corresponding tibial condyle which is slightly concave.

The wedge - shaped space left at the periphery of each of these cartilage (the meniscus) which extends inwards between the articular surfaces of the bones from the articular capsule.

The ends of both fibro-cartilages are attached to the median, non-articular inter condylar area of the tibia.

The synovial cavity extends over the thin, internal edges of the

menisci and between them and the articular surfaces of the bones. Thus, they are free to slide on these surface as far as their attachments to the articular capsule and tibia permit.

The menisci deepen the articular surfaces of the tibia and help to spread the synovial fluid between the thrust - bearing surfaces of the femur and tibia ***[Cunningham's 1985].***

* BONY CONTOURS:-

The upper surface of the tibia possesses two separate articular facets, each slightly concave. **(Fig : 1)**

The medial facet lies wholly on the upper surface of the condyle, but the facet becomes slightly convex at the back where it curves back over the posterior margin of the tibial condyle. This bevelled margin allows with drawal of the lateral menicus by popliteus. The femur has two condyles, separated posterioly by a deep notch, but fusing anterioly into a trochlear groove for articulation with the patella. The lateral ridge of the trochlear groove is very prominent. The curve of the femoral condyles is caw-shaped in lateral profile. It is flatter on the end of the femur and more highly curved at the free posterior margin of each condyle.