MIDDLE EAR OSSICLES IN RHEUMATOID ARTHRITIS

THESIS

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BY

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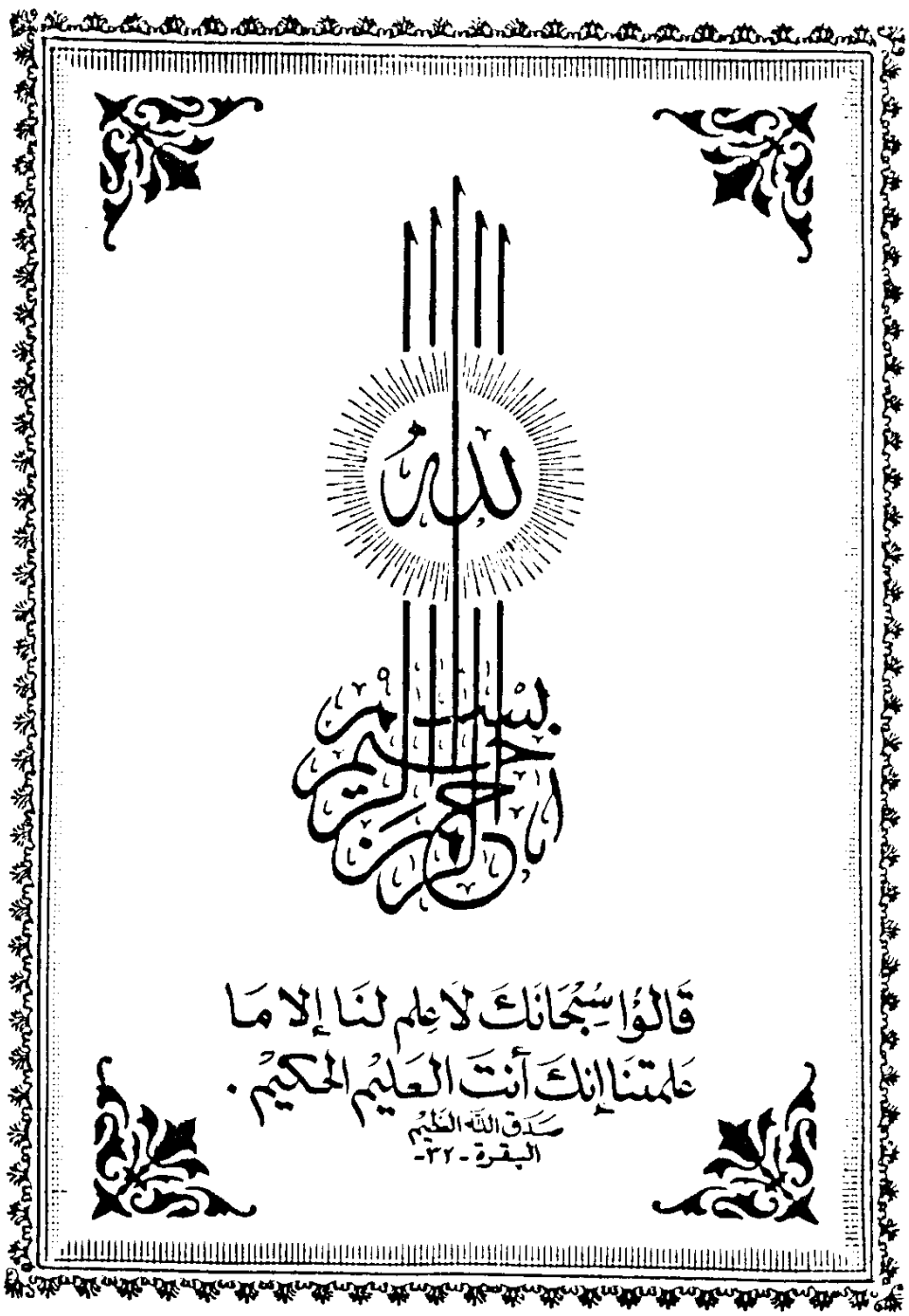

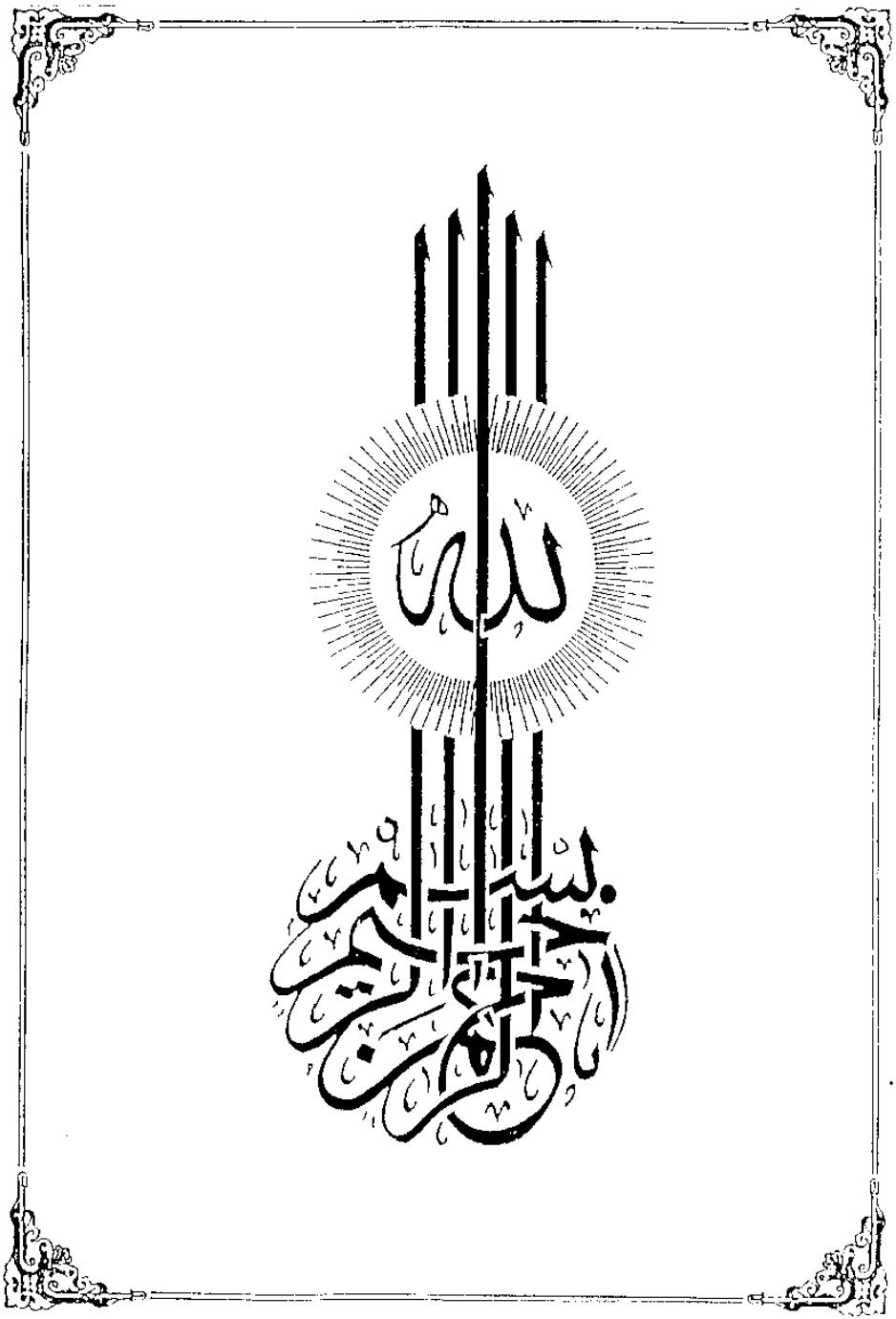

To my son

AMR

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ARABIC SUMMARY .

Introduction and Rationale

INTRODUCTION AND RATIONALE

Rheumatoid arthritis is a chronic inflammatory disease of unknown cause, chiefly affecting the synovial membranes of multible joints. The disease has a wide clinical spectrum with considerable variability in joint and extra-articular manifestations (Shearn, 1986).

The discovery of rheumatoid factor in the synovial inflammatory process has focused attention on the immune system for the past 30 years. At present, it is considered to be an autoimmune disease according to Burnet (1959).

Rheumatoid arthritis has a highly variable clinical course that may range from a mild disease of brief duration to a progressive destructive and crippling arthritis. Although there is no direct correlation among the extent of articular manifestations, joint destruction and systemic manifestations, individuals who have very high titre of rheumatoid factors tend to have a more erosive, destructive arthritic process (Shearn, 1986). It is established that rheumatoid arthritis affects the arthrodial type of joints, that is characterized by the presence of joint cavity, synovial lining and fibrous capsule. Montgomery (1963) assumed that the cricoarytenoid joint might be subjected to rheumatoid arthritis as it is an arthrodial type.

Both the incudo-stapedial and incudo-malleolar joints are synovial in type (Anson and Donaldson, 1967), consequently they could be

involved in the rheumatoid process with involvement similar to other joints elsewhere in the body (Reiter et al., 1980).

Copeman (1963) described three patients with hearing loss that increased with the activity of definitely diagnosed rheumatoid arthritis. In these cases, the hearing loss appeared to resolve with reduction in rheumatoid arthritis activity. The possibility of conductive impairment was stressed.

Gussen (1977) reported rheumatoid arthritis like involvement in the ossicular articulations obtained post-mortem from a patient with rheumatoid arthritis. However, the nature and extent of middle ear affection in rheumatoid arthritis has not been thoroughly investigated.

This work was designed to explore the relationship between middle ear affection and rheumatoid arthritis.

Aims of the work

AIMS OF THE WORK

The aims of the study were:-

1- To study the type and degree of hearing loss, if any, in patients with rheumatoid arthritis.

2- To correlate between the middle ear status and computerized tomography scanning of the temporal bone.

Review of Literature

RHEUMATOID ARTHRITIS (RA)

Rheumatoid arthritis is a chronic inflammatory disease of unknown etiology, characterized by an erosive proliferative synovitis (Yocum et al., 1989).

The first convincing clear description of the disease was reported by Landre-Beauvais in 1800 (Parish, 1963).

Establishing a diagnosis of rheumatoid arthritis requires adherance to the American Rheumatism Association Criteria for the diagnosis of rheumatoid arthritis. The most recent of these criteria was published in (1988) by Arnett et al. These Criteria have replaced the criteria published earlier by Ropes et al. (1958).

Table (1): The revised criteria for the classification of Rheumatoid Arthritis:

Criterion	Definition
1- Morning stiffness	* Morning stiffness in and around the joint, lasting at least 1 h. before maximal improvement.
2- Arthritis of three or more joint areas	* At least three areas simultaneously have had soft tissue swelling or fluid (not bony

Cont. table (1):

Criterion	Definition
	overgrowth alone) observed by a physician; the PIP, MCP, wrist, elbow, knee, ankle and MTP joints
3- Arthritis of hand joints	* At least one area swollen in a wrist, MCP, or PIP joint
4- Systemic arthritis	* Simultaneous involvement of the same joint areas on both sides of the body (bilateral involvement of PIPs, MCP or MTPs is acceptable without absolute symmetry).
5- Rheumatoid nodules	* Subcutaneous nodules, over bony prominances or extensor surfaces or in juxta-articular regions, observed by a physician.
6- Serum rheumatoid factor	* Demonstration of abnormal amounts of serum rheumatoid factor by any method for which the result has been positive in 5%. of normal control subjects.
7- Radiological changes	* Radigraphic changes typical of rheumatoid arthritis on postero-anterior hand and wrist radio-

Cont. table (1):

Criterion	Definition
	graphs, which must include erosions or unequivocal bony decalcification localized in or most marked adjacent to the involved joints osteoarthritic changes alone do not qualify).

N.B.:
PIP = Proximal interphalangeal joint
MCP = Metacarpophalangeal joint
MTP = Metatarsophalangeal joint

For classification purposes, the patient who has satisfied at least four of these seven criteria is considered to have rheumatoid arthritis.

Criteria 1 through 4 must have been present for at least 6 weeks. Patients with two clinical diagnosis, e.g rheumatoid arthritis and gout are not excluded, and according to recent criteria, designation as classic, definite or probable rheumatoid arthritis is not to be made.

The main difference in the new criteria from the old ones, is that they offer only one degree of certainty of rheumatoid arthritis, requiring four of seven listed criteria. There is a greater emphasis on the involvement of the wrist and hands (MCP and PIP joints) and the older