# THE THERAPEUTIC VALUE OF THE MAGNETIC FIELD IN SOME TYPES OF ARTHRITIS

(PRELIMINARY STUDY)

THESIS

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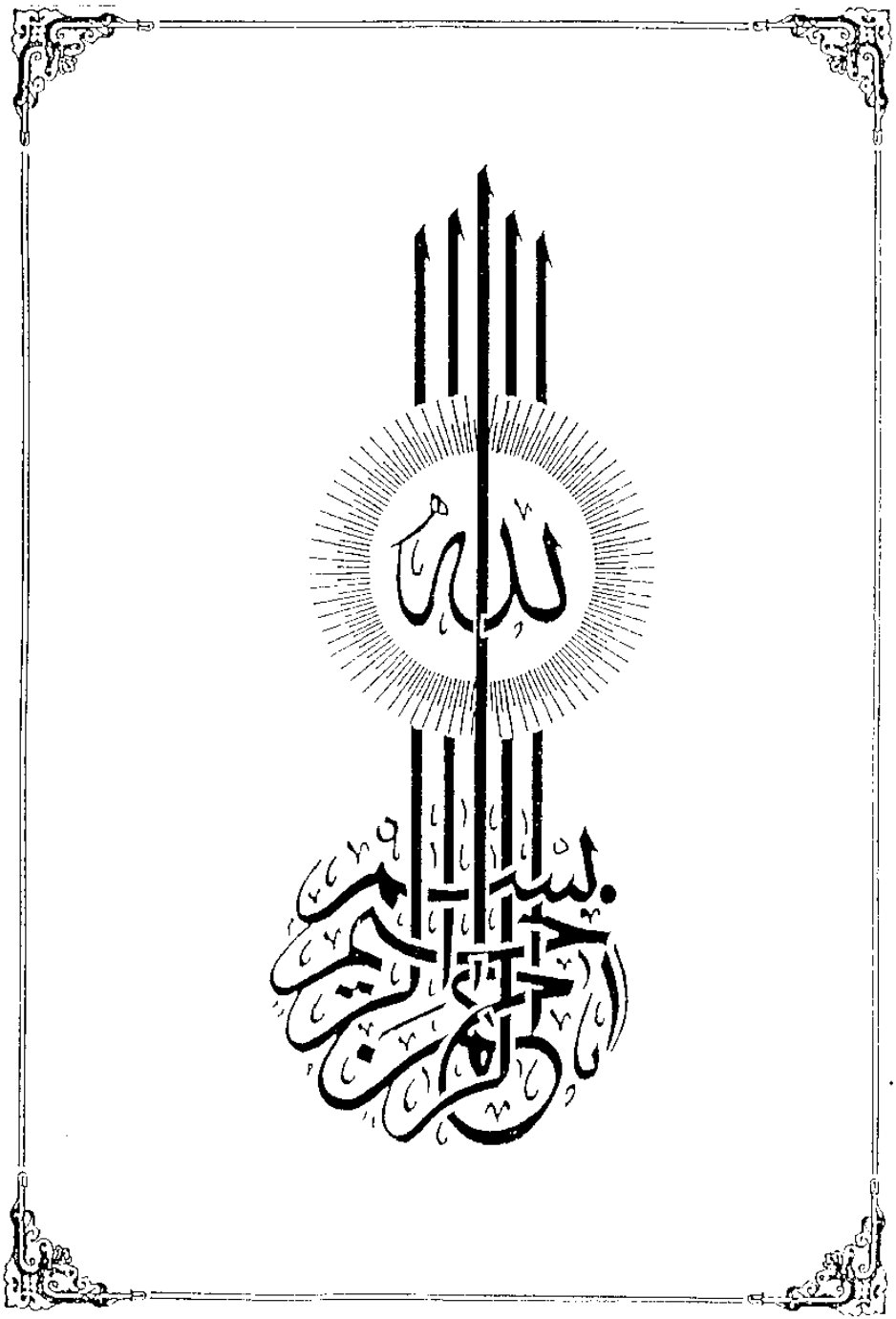
TO MY EVERGIVING PARENTS



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# INTRODUCTION AND AIM OF THE WORK

# INTRODUCTION

Rheumatoid arthritis is a generalised disorder of connective tissue involving extra articular structures as well as joints. The course of the disease is very variable. It is impossible ot predict the outcome of a case Rheumatoid arthritis with any degree of certainty. Periods of exacerbation and remission are the rule (Golding, 1982).

Osteoarthritis is achronic degenerative disease which develops from the articular cartilage in the earliest stage and gradually extends to other parts of the joint. Until now, there is no such a drug which stops the disease completely.

The magnetic field had been used in the following disorders with varying degrees of success, acute and chronic thrombophlebitis in veins of the lower extremities, obliterative endoarteritis, trophic ulcers of the lower extremities, acute suppurative diseases of the skin and subcutaneous cells and for the fusion of skin transplants. (Agzamkhodzhaev et al., 1980).

## AIM OF THE WORK

It to study the therapeutic value of the magnetic field in Rheumatoid arthritis and osteoarthritis.

* * *

# INTRODUCTION TO ARTHRITIS

- Rheumatism is derived from Greek word "Rheumatismos" which designated mucus (catarrh) as an evil humor which was thought to flow from the brain to the joints and other portions of the body, Producing pain. Since many studies (Mikkelsen, 1976) have shown that an altration of an important constituent, the joint mucin (the mucopoly-saccharide: Hyaluronic acid) actually occurs in at least some of the "rheumatic diseases", the term at long last, may be somewhat appropriate. The rheumatic diseases are those conditions in which pain and stiffness of some portion of the musculoskeletal system are prominent. These include diseases of connective tissue.

- Arthritis is the general term used when the joints themselves are the major seat of the rheumatic disease. Fibrositis denotes inflammation of connective tissue in any location, particularly around joints, and in or near muscles or tendons.

- Rheumatology is the study of rheumatic diseases, including arthritis, rheumatic fever, fibrositis, neuralgia, myositis, bursitis, gout and other conditions producing somatic pain, stiffness and soreness.

- The nature of arthritis pain was recently studied by (Richard, et al., 1985). They found that the affective component of the pain was found to be more intense than the sensory component, indicating the importance of emotional factors in pain experience. the sensory aspects of the pain were more complex than the affective ones reflecting the varied sources and combinations of somatic pathology. The relationship of affective and sensory components of the pain experience did not alter with duration of disease.

- It is impossible to divide arthritis into acute and chronic forms, as almost any acute arthritis can pass into subacute or chronic stage and many cases of chronic arthritis began acutely or are subject to acute exacerbations.

- Most of cases of arthritis fall into one of five major groups (Osgood, 1940):

1. The frankly infectious cases caused by a specific micro-organisms.
2. Cases representing degenerative forms of joint disease.
3. Cases that are possibly infectious but of unproved etiology.
4. Cases in which arthritis results from direct trauma to the joint.
5. Cases of metabolic arthritis (e.g., Gout).

- Many classifications of diseases of joints and related structures have been suggested. All have certain disadvantages. For the sake of simplification, clarity and unification of terminology, the classification tentatively is approved by American Rheumatism Association in 1963 is recomended for general use. (Blumberg, et al., 1964).

= Nomenclature and classification of Arthritis and Rheumatism =

(Tentatively accepted by American Rheumatism Association)

I. Polyarthritis of unknown etiology:

A. Rheumatoid Arthritis

B. Junvenile rheumatoid Arthritis (Still's disease)

C. Ankylosing spondylitis.

D. Psoriatic arthritis.

E. Reiter's syndorme.

F. Others.

II. "Connective tissue" disorders

A. Systemic Lupus Erythematosis

B. Polyarthritis Nodosa.

C. Scleroderma (Progressive systemic sclerosis).

D. Polymyositis and dermatomyositis.

E. Others.

III. Rheumatic fever.

IV. Degenerative joint disease

A. Primary

B. Secondary

V. Non articular rheumatism

A. Fibrositis

B. Intervertebral disc and low back pain syndromes.

C. Myositis and myalyia

D. Tendinitis and Peritendinitis (bursitis)

E. Tenosynovits

F. Fascitis

G. Carpal tunnel syndrome

H. Others.

VI. Diseases with which arthritis is frequently associated:

A. Sarcoidosis

B. Relapsing Polychondritis.

C. Henoch-Schönlein Syndrome

D. Ulcerative colitis

E. Regional ileitis

F. Whipple's disease

G. Familial Mediterranean fever

H. Sjögren's Syndrome

VII. Associated with known infectious agents

A. Bacterial

1. Brucella

2. Gonococcus

3. Mycobacterium tuberculosis

4. Pneumococcus

5. Salmonella

6. Staphylococcus

7. Streptobacillus moniliformis (Haverhill fever)

8. Treponema Pallidum (Syphilis)

9. Treponema pertenue(Yaws)

10. Others.

B. Rickettsial

C. Viral

D. Fungal

E. Parasitic

VIII. Traumatic and/or neurogenic disorders.

A. Traumatic arthritis

B. Lues (Tertiary Syphilis)

C. Diabetes

D. Syringonyelia

E. Shoulder-hand syndrome

F. Mechanical derangements of joints

G. Others

IX. Associated with known biochemical or endocrine abnormalities:

A. Gout

B. Ochronosis

C. Hemophilia

D. Hemoglobinopathies (e.g., Sickle cell clisease)

E. Agammaglobulinemia

F. Gaucher's disease

G. Hyperparathyroidism

H. Acromegaly

I. Hypothyroidism

J. Scurvy

K. Xanthoma tuberosum

L. Others.

X. Tumors and Tumor Like Conditions:

A. Synovioma

B. Pigmented Villonodular Synovitis

C. Giant cell tumor of tendon sheath

D. Primary juxta-articular bone tumors