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GOUTHY ARTHRITIS: - MODERN ASPECTS AND UNANI CONCEPT

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INTRODUCTION

Gout Is the disease condition in which there is a pain and inflammation of joint particularly metatarsal joint that is great toe and may effect ankle, metacarpal and wrist joint.

It is common inflammatory arthritis in men and older women.

According to IBN HUBAIL the joint of great toe is called Naqroos from which Naqras is derived and Asian physician called it as PODAGRA in Greek language means great toe. It is disease of king who lives sedentary life style.

DEFINATION

A disorder metabolism associated with retention of uric acid and other purine bodies, characterizes clinically by attack of Acute arthritis. The deposition of sodium urate in an around joint.

GOUT AND LIFE STYLE

It is a lifestyle disorder and a component of metabolic syndrome along with raised B.P, obesity, stress and diabetes.

It also carries a risk of heart disease.

PREVENTION OF GOUT

The Global burden of gout is substances and seems to be increasing in many parts of the world over the past 50 years.
The collected data indicates that the distribution of gout is uneven across the globe with the prevalence being highest in pacific countries.

EPIDEMIOLOGY

The Gouty Arthritis occurs predominantly in post pubertal male and in women before the menopause.
The known incidence varies with population from 0.2 to 0.3% per 1000.

The Self-Reported prevalence increases with age from 2.4 per 1000 in men aged 18-44 to 34.4 per 1000 men 0.05 per 1000 women.

In addition to make sex, risk factors include obesity, excess alcohol consumption lead exposure, hypertension, renal insufficiency the use of diuretics drug's and family history of Gout.

PREDISPOSING FACTOR'S

Hereditary is important from 15 to 75% of all the cases, the disease existed in the ancestors and the transmission is more mark on the male side and more subject then female.

Alcohol is an important factor's in Etiology.
Food place an important role and over eating without exercise with predisposing cause.
Sydenham states that "More-wise men then fool are victims".

Other Factors are

1) Diminished excretion of uric acid.
2) Renal failure.
3) Drugs-Diuretics.
4) Pyrazinamide.
5) Low dose of aspirin.
6) Lead poisoning.
7) Hyper-Parathyroid.
8) Down Syndrome.
9) Increase production of uric acid.
10) Lactic acidosis.

PATHOLOGY

Gout is a disorder of purine metabolism directly related to serum level of uric acid and characterized by deposition of monosodium urate monohydrate crystal in various connective tissue. Deposition of monosodium urate in and around the joins of extremities.

The disease usually begins in the 3rd decade of life and effects men more after than women.

A family history of gout is present in a fairly large proportion of cases indicating role of inheritance big, hyperuricemia.

PATHOLOGIC ANATOMY
The acute lesion is triggered by precipitation of needle shaped crystals of monosodium urate from serum. In the joints the crystals produce an acute synovitis accompanied by an effusion with numerous polymorph nuclear leukocytes. These leukocytes many take up as much as 95% of urate either into their cytoplasm or into the phagosomes.

While recurring attack the lesion become chronic the deposit Enlarge and urate crystal dispersed radially around an amorphous Proteinaceous matrix become the granuloma.

The granuloma is spoken as tophi (Latin) tophus "Porous stone" The top he varies in size from few Millimeter to Several Centimeter in Diameter.

TYPES AND PATHOGENESIS
The fundamental and chemical hallmark of gout is hyperuricemia. A Serum uric acid level in excess of 7Mg/dl.

PRIMARY GOUT
In adult normal excretion of uric acid is 75 to 80% in primary gout. Over production of uric acid and under excretion of uric acid may cause of primary gout.

It may be associated with protein defect with glycogen storage disease type 1 von geirceke disease.

SECONDARY GOUT
Secondary Gout generally constitute 5 to 10% of disease specially in complicating myelo proliferative disorder or hypertensive cardio vascular disease may involve women in 25% of cases.

Chronic Renal disease, Glomerulonephritis pyelonephritis may be associated.

PATHOLOGIC CHANGES
The pathologic manifestation of gout includes acute gout arthritis, chronic tophaceous arthritis tophi in soft tissue and renal lesion.

ACUTE GOUTY ARTHRITIS
It is characterized by acute synovitis triggered by precipitation of sufficient amount of needle shaped crystal of mono sodium urate from serum or synovial fluid. There is joint effusion containing numerous polymorphs macrophages and micro crystals of urate.

The mechanism of acute inflammation appears to include phagocytosis of crystal of leucocytes activation of the kallikrien system activation of compliment system.

CHRONIC TOPHACECUS ARTHRITIS
Recurrent attack of acute gouty arthritis lead to progressive evolution into the chronic arthritis. The deposits of urate encrust the articular cartilage. Deposits of urates in the tophi may be found in per articular tissue.

TOPHI IN SOFT TISSUE
A Tophus (Meaning a pare stone) is a mass of urates measuring few millimeters to few centimeters in diameter. Tophi may be located in the per articular tissue as well as sub cutaneously such as on hand and feet tophi are surrounded by inflammatory reaction consisting of macrophages. Lymphocytes, fibro blast and foreign body giant cells.

RENAL LESIONS
Chronic gouty arthritis frequently involve the kidneys three type of renal lesions are present they are acute urate nephropathy chronic urate nephropathy and uric acid nephrolithiasis.

CLINICAL FEATURES
1) Asymptomatic hyperuricemia
2) Acute Gout

The acute attack of gouty arthritis in the metatarsus phalangeal joint of gout. The attack begins abruptly at night with local pain which wakes the patient from sleep. The palm is moderate at first may become almost intolerable in the course of an hour or two.

Acute gout may be precipitate by many factors and they are
Trauma
Unusual physical exercise
Surgery
Severe systemic illness

Severe dieting
Alcohol
Dietary excess
Drug
Diuretics

INTERCRITICAL GOUT
Variable symptoms free period between acute attack with progressive.

CHRONIC TOPHACOUYS GOUT
Follow Recurrent attack and is characters by asymmetrical joint swelling.

- Tophi develops in per articular tissue cartilaginous helix of ear, bursea and tender sheath.
- CTA MRI reveal tumor like masses of tophi in patient with gout.

GOUT IN OLD AGE

Gout is usually secondary to chronic diuretic therapy (Thiazides, Loop diuretics) nodal generalized osteoarthritis an important additional risk factors for gout.

RISK FACTOR'S

1) Diet
2) Obesity
3) Medical Conditions
4) Certain Medication
5) Family history of gout
6) Age and Sex
7) Recent surgery and trauma

COMPLICATION OF GOUT

1) Recurrent gout
2) Advanced Gout
3) Kidney Stones

PROGNOSIS

"Once gouty always gouty"

By care the frequency and intensity of attack can be reduced.

MANAGEMENT

1) Hygiene
2) No alcohol
3) Eat moderately
4) Exercise Regularly

INVESTIGATIONS

CBP - Elevated WBC Count
ESR – Raised ESR
Serum uric acid – Above 7mg/d
RBS –raised
X Ray – Tophi changes noted.

DIFFERENTIAL DIAGNOSIS

1) Infective Arthritis
2) Cellulitis
3) Rheumatoid Arthritis
4) Osteoarthritis
5) Psoriatic Arthritis

DIAGNOSIS

Acute gouty arthritis need to be distinguished from acute rheumatic fever, acute rheumatoid arthritis and infective arthritis and in chronic stage osteoarthritis.

Acute inflammatory mono arthritis in foot

1) History of renal colic or nephrolithiasis.
2) History of Hypertension.
3) Family history of gout, hyperuricemias.
4) Recurrent attacks of arthritis limited to big toe.
5) Patients habits and occupation.
6) Presence of Tophi.

TREATMENT

1) NSAIDS
2) COLCHINE
3) STEROIDS
4) HYPOURICEMIC DRUG:

- Allopurinol
- Febuxostat
- Probenecid
- Lesinurad

DIETARY MANAGEMENT

- Cheese
- Egg
- Cereals
- Bread
- Butter
- Oat Meal
- Milk
- Vegetable's
- Chicken

AVOID THESE FOODS

- Meat Extract
- Internal organs
- Nuts. Peanuts, Cashew nuts
- Fish
- Sweat bean's
- Fruits (Avacado)

UNANI CONCEPT

- Naqras is a type of joint pain IBN Hubail states the joint of great toe is called naqroos which means the joint of great toe.
- Naqras start from one joint the gradually spread to other joint of body such as ankle, knee, wrist joint, elbow.
- The disease is commonly found in person who live sedentary life style.
- The Eminent Greek physician Galen 130 BC described tophi as the manifestation of long standing naqras.
- According to ALRHAZI Naqras occurs due to abnormal phlegm that reaction through blood to joints and they gradually get hardened become stone.
- IBN E HUNAIN states that the naqras e harr subside within 40 days.
- IBN E ILYAS says that severity of naqras depend on the warn kitangi.
- According to Zakriya Rhazi the disease occurs in three types of temperament steps.

- Dammvi
- Safravi
- Balghami

HUMOURAL CONCEPT

- The concept of humors has occupied a central place in Tibb. It is one of the seven basic physiological principles.
- Akhlat are those most and fluid parts of the body which are produced after transformation and metabolism.

- The humoural theory was postulated by father of medicine HIPPOCRATES (460 BC). The body contains four Humours.
- Damm (Blood)
- Balgham (Phlegm)
- Safra (Bile)
- Sauda (Blackbile)
- A right proportion according to quality and quantity and mixing of which (Homeostasis) constitute health and disturbance cause the disease.

BALRAM

Balgham is the white and color less fluid.
IBN NAFIS State that the cold and moist is the temperament of balgham.
Two Types of phlegm are there.

- Balgham e Tabayee
- Balgham e Gairtabayee

BALGHAM E TABAYEE

IBN NAFIS says that when there is deficiency in food in body balgham is transformed easily in to blood and it is metabolized and mobilized to the blood and perform the function of the blood.

Balgham provide moisture to the organ and all the cells and tissues of the body.

Some kind of balgham are stored in the synovial cavity to supply nourishment to the intra capsular parts of joint and furnish lubrication.

BALGHAM E GAIRTABYEE

Abnormality is the balgham takes place in the same manner as a develop in the other kinds of akhlat (Humour).

Thus either the temperament of balgham is itself alter or some other abnormal khilt is mixed with balgham to the extent of altering the temperament and making it abnormal.

These abnormalities are identified with various sign and symptom produce by the abnormal balgham due to alteration in kaifat (Quality) or Kamiyat (Quantity).

Types of balgham according to taste

Balgham e Maleh (Saline phlegm) it is saline in taste and alkaline. It is inclined towards heat and dryness.
Balgham e Haamiz (Sour phlegm) it is cold and dry in temperament and sour in taste.
Balgham e Tiffah (Tasteless) cold and Dry.
Balgham e Iffas (Gallic phlegm) it is cold.
Balgham e Hulu (Sweet phlegm) it is hot and moist and sweet in taste.

Types of balgham according to its consistence

Balgham e maaie (watery phlegm) it is thin and extremely fluid and contain more serous fluid.
Balgham e joss (Ling phlegm). It is thick in consistency.
Balgham e mukhati (Mucoid phlegm).
Balgham e zujaji (Vitrous phlegm).

CAUSES

Mostly the disease is hereditary.
Common in men than in women.
Age group 30 to 40 years.

It occurs in person who live sedentary life style common in rich people person who eats the meat a lot the disease is found.

Constipation

Naqras occurs mostly in rabi and Khareef seasons,
Excessive consumption of alcohol.

Cold and Wet temperament persons are prone to disease.
Excessive intercourse immediately after the dinner my predisposed the gout.

LINE OF TREATMENT (USOOL-E-ELAJ)

Line of treatment in the gout.
To relieve the sign and symptoms.
To reduce the pain and swelling.
Treating the root cause.
To eat easily digestible food.
Strengthening Quaint e mudabir e badan.
To use Mushillat, Mudirratt, Muraiqat medicines.
Stop usage of muharikat like tea, alcohol, meat and fish.