

A review of joint diseases

Sadhale Varsha*¹, Budruk Pramod²

1. PhD Scholar,
2. PhD Guide and Professor,

Department of Rachana Sharir,

Hon. Annasaheb Dange Ayurved medical College, Ashta, Sangali, Maharashtra.

*Corresponding Author: Mob no. 9822173345,

Email: shravanigirishkulkarni@gmail.com

ABSTRACT:

In India more than 10 million cases of joint diseases are reported every year and amongst these joint diseases prevalence of osteoarthritis is high where patient ends up doing joint replacement. But this has various after effects and financial burden on society. Many patients approach Ayurved for the treatment of joint diseases. A proper differential diagnosis is important to provide accurate treatment so as to prevent further deterioration of patients. The approach of Ayurved and Modern science differs from diagnostic as well treatment point of view. The detail structural elucidation of each joint is not

mentioned in classical texts. And hence main emphasis is given on wholesome status of bodily condition rather than specific joint. In Ayurved the patient is diagnosed only on the basis of symptomatology. whereas in modern science diagnostic tools such as MRI, X ray ,USG, CT scan ,blood investigation are used to know the exact condition of the joint . A critical review of joint diseases is done here in describing the differential diagnosis according Ayurved and Modern science.

KEYWORDS: Sandhi, joint diseases, diagnosis.

INTRODUCTION:

Any of the diseases or injuries that affect human joints is known as joint disease. Arthritis is no doubt the best-known joint disease, but there are also many others. Diseases of the joints may be short-lived or exceedingly chronic, painful or uncomfortable; they may be confined to one joint or may affect many parts of the skeleton. Joint diseases as mentioned in Ayurved or modern science can be classified into proper joint diseases and secondary joint diseases, they can also be understood as inflammatory and non-inflammatory or degenerative. According to Ayurved the diseases have to be justified as Saam or Niram condition for giving accurate treatment. Main emphasis is given on Symptomatic diagnosis as other aspects such as structure of joint, diagnostic criteria are less explored in classical texts.

REVIEW OF LITERATURE:

Structure of Sandhi :

The basic structure of sandhi is described in short in classical texts. In Ayurved sandhi is not only defined as bony joint but many other joints of soft structures are also mentioned. Hence the number of joints as per Ayurved and modern science differs. According to Vagbhat and Sushrutacharya number of joints is

210 and as per Charakacharya it is 200. Modern science have enlisted 360 bony joints in human body.

The structure of each sandhi is not elaborated in detail by Sushrutacharya. A basic structure of sandhi is described as the union of asthi (bony surface), presence of Shleshmadhara kala (synovial membrane) and Shleshak kaph (synovial fluid). Shleshak kaph and Shleshmadhara kala help in smooth movements of joint. But in further part of the text the applied aspect of this is not mentioned. Modern science reveals the basic structure of synovial joint as consisting of a synovial cavity, articular cartilage, a fibrous articular capsule, synovial membrane and ligaments. The other types of joint i.e. fibrous and cartilaginous joint have the respective material composing the joint.

Types of sandhi :

There are two types of sandhi –chala and (movable) and sthira (immovable) the joints of extrimities, tempero mandibular joint and joints of waist are movable and rest all are immovable joints. According to structural classification the joints are of eight types namely kora, ulukhal, samudg, pratar, tunnasevani, vayastund, mandal and shankhavart. Modern science classifies

joints on the basis of structure into three basic types as fibrous , cartilaginous and synovial joints depending on the material composing the joint and the presence or absence of a cavity in the joint. Functional classification divides joints into three categories: Synarthrosis , amphiarthrosis and diarthrosis .

Other references of sandhi are as follows :

It is considered as marma and is described as one of the type based on structural classification of marma. Sandhi also described as rogamarga along with marma and asthi. The diseases of this rogmarg are kashtasadhya and hence joint diseases become difficult to treat. Sandhi is described as mulasthan of Majjavaha srotas .It is the sthan of shleshak kaph and shlesmadhara kala.

Diseases of joint :

In Ayurved mainly six diseases are mentioned in which joints are affected .This includes Sandhigata vata ,Amavata ,Vatarakta ,Abhyantar Phirang ,Kroshtuk shirsh and Vatakantak . Amongst these in first four diseases all the joints are involved whereas in last two diseases knee joint and ankle joint are involved respectively.

In modern science two principal categories are distinguished: joint diseases in which inflammation is the principal set of signs or symptoms and joint diseases, called non inflammatory. Inflammatory joint diseases include Rheumatoid arthritis ,Bursitis, infective arthritis e.g. T.B. of joint, Rubella and serum Hepatitis ,Gonorrhoea ,collagen diseases , diseases related to hypersensitivity reaction e.g. Erythma nodosum (a type of skin disease).

Non inflammatory disease includes traumatic joint diseases, degenerative joint disease e.g. osteoarthritis , congenital and hereditary abnormality e.g. clubfoot ,scoliosis. Secondary joint diseases includes Haemorrhagic joint disease ,aseptic necrosis ,endocrine factors also affects joint e.g. malfunctioning of Pitutary leading to Acromegaly ,Neurogenic Arthropathy and tumors of joint.

In this article only three diseases namely *Sandhigata vata*, *Amavata* and *Vatarakta* are discussed. This can be compared with osteoarthritis , Rheumatoid arthritis and Gout respectively.

If symptoms of theses three diseases are compared it is observed that Sandhishul (pain) and sandhishoth (swelling)are seen in all the three diseases .But in

Amavata the severity of pain is high and it shifts from one joint to other. Sandhigatavata shows a unique symptom called atop (crepitus) only in Vatarakta the pain begins from smaller joints whereas in rest, larger joints are affected first. In all joint diseases Vata dosha is the main vitiated dosha. In Amavata it is associated with Ama and in Vatarakta it is associated with rakta.

Many clinical trials are conducted in Ayurved. As the symptoms which are mentioned in classical texts are subjective parameters there is a need of objective parameters for better accuracy of results through statistical analysis. Hence the diagnosis of these diseases is discussed herein based on modern parameters.

According to modern science three joint diseases are common namely osteoarthritis, Rheumatoid arthritis and Gout. Amongst all these, in osteoarthritis the pathology is degenerative. It is characterized by degeneration of cartilage, formation of osteophytes, reduction in joint space; irritation and inflammation of synovial membrane, deterioration and weakness of tendons, ligaments and muscles around the joint. The diagnosis of stage of OA is very important to prevent bad prognosis. Gradation system based on radiographic

image e.g. Kellgran and Lawrence system is used, to know the structural changes in joint. Range of motion is known by goniometry. MRI grading scale is also available based on cartilage injury and additional findings. The details about synovial membrane and fluid can be assessed by MRI. Rheumatoid arthritis is a form of chronic inflammatory arthritis. It can affect any organ system. Patients with RA often have elevated ESR or C-reactive protein (CRP) which may indicate presence of inflammatory process in the body. Other common blood tests look for RA factor and anticyclic citrullinated peptide antibodies, X-ray are used to track the progression of RA whereas MRI and Ultrasound test can help to judge severity of disease. Gout is diagnosed by joint fluid test. Urate crystals might be visible under microscope. Blood test to measure uric acid and creatinine is very important for diagnosis. Ultrasound can detect urate crystals in a joint or in a tophus. Dual energy CT scan also detect such crystals at joint even when it is not inflamed.

CONCLUSION:

Symptoms of joint diseases should always be correlated with structural and functional changes based on investigations in joints to provide

accurate treatment and prevent bad prognosis in joint diseases.

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