

AN ANATOMICAL REVIEW ON CHANGES IN GULPHA AND MANIBANDHA SANDHI SHARIR PARTICULARLY IN RHEUMATOID ARTHRITIS (AMAWAT)

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ABSTRACT

Amavata is one of the *vaatavyaadhi*, mainly affecting the *sandhi* to produce *ruja* and *shopha*. In this disease, vitiated *vata* along with *kapha* gets *sthaanasamshraya* in *sandhi* to produce different *lakshanas*. *Gulpha Sandhi* is a kora variety of *chala sandhi* and one of the most important *Sandhi* of the lower extremities as it is mainly associated with locomotion and to balance our body weight and help in walking. *Gulpha* sandhi in our body are two in number, which is present in between *pada* and *jangha*. The ankle joint present at the junction of leg and foot can be understood as the same. *Amavata* is a disease in which vitiation of *Vata Dosha* and accumulation of *Ama* take place in joints, which simulate rheumatoid arthritis (RA). Localized *ama* gets in the body tissue or joints, it can lead to production of pain, stiffness, swelling, tenderness, etc., in the related joints. Rheumatoid arthritis (RA) is a systemic inflammatory condition that results in cartilage and bone destruction. It is characterized by a typical pattern and distribution of synovial joint involvement.

Keywords: *Gulpha sandhi, Manibandha, Amavata, mamsa peshi, Snayu,*

INTRODUCTION

According to Achaarya Sushruta, *Gulpha sandhi* is *adhoshakhagata* sandhi are two in number. Detailed description about *sira*, *dhamani*, *snaayu*, *peshi* etc. related to *gulpha pradesha* is not found in the classical texts of Ayurveda. *Sandhi* can be taken as union of two or more bones. Where two or more articular surfaces of bones are joined is known as *Sandhi* (Joint). Acharya Sushruta has considered only *asthi sandhi*, while the joints between *mamsa peshi*, *Snayu*, and *Sira* are innumerable.¹ According to Acharya Vagbhata *Sandhi's* are lubricated by *Kapha*. In between articular surfaces of bones *Shleshaka kapha* is situated. Thus, making the

joints to move comfortably.² Person having *Vata prakruti* is *krusha* and produces sound on movement in joints.³ Joints of pitta *prakruti* person are generally *Shithila* and banded by *mamsa*.⁴ *Kapha prakruti* person having *gudha*, *snigdha*, *shlishta sandhi asthi*.⁵ *Sandhi's* are considered as the one of the *moola sthana's* of *Majjavaha Srotas*.⁶

Amavata is the term which is formed by two distinct individual terms i.e. *Ama* and *Vata*.⁷ *Amavata* is mainly affecting the *sandhi* to produce *ruja* and *shopha*. In this disease, vitiated *vata* along with *kapha* gets *sthaanasamshraya* in *sandhi* to produce different *lakshanas*.⁸

Objectives: To study anatomical changes in *Gulpha and Manibandha sandhi* particularly in Rheumatoid Arthritis (Amawat).⁷

Concept of Sandhi:

Sandhisharir:

The *Kora sandhis* are found in the places *Anguli* (Interphalangeal), *Manibandha* (Wrist), *Gulpha* (Ankle), *Janu* (Knee), and *Kurpara* (Elbow). This is Hinge joint according to modern science.

Classification based on Rachana:⁹

As per Acharya Sushruta; based on structure *Sandhi*'s are classified under eight types.

Kora - *Anguli, Manibandha, Gulpha, Janu, Kurpara.*

Ulukhala - *Kaksha, Vanshana, Danta*

Samudga - *Amsapeeda, Guda, Bhaga.*

Pratara - *Greeva, Prishtavamksha*

Vayasatunda - *Hanu.*

Tunnasevini - *Shira, Kati, Kapala.*

Mandala - *Netra, Hridaya, Kanda. Yakrut pleeha, klomanaadi*

Sankhavartha - *Srotra, Sringhataka*

Gulpha Sandhi:^{10,11}

Gulpha Sandhi is one of the most important *Sandhi* of the lower extremities as it is mainly associated with locomotion and to balance our body weight and help in walking. It is a *kora* variety of *chala sandhi*, which is of 2 in number (one in each limb).

Definition of Ama:

Due to the decreased digestive capacity of *Agni* in *amashaya*, the food is not digested properly, this causes the formation of vitiated *rasa dhatu* which spread in the body and obstruct the *srotas* it is known as *ama*. It is also considered as *mala Sanchaya, apakva anna rasa* which is the root cause for all disease.¹²

Amavata is one of challenging diseases caused by *Ama* combining with vitiated *Vata Dosha*. The *Samprapti* (pathogenesis) starts in the *Annavaha Srotasa* and then spreads through *Madhyama Roga Marga* with special inclination for *Kapha Sihanasa* especially *Sandhis* (joints).¹³

DISCUSSION

Acharya *Madhavakar* first time explained regarding the *Amavata*. It is a disease in which vitiation of *Vata Dosha* take place and there is accumulation of *Ama* take place in the different joints, which simulate rheumatoid arthritis (RA).¹⁴ This *Ama* gets localized in the body tissue and circulate in joints, it further leads to develop symptoms like pain, stiffness, swelling, tenderness, etc., in the related joints.¹⁵ The *Ama* which plays an important role in the joint disease associating itself with *vata*, moves quickly to the different sites of *kapha* in the body and accumulates them along the *dhamanis* (Blood vessels) this blocks the tissue pores and passages. Hence it effects the heart and joints etc. when vitiated *doshas* are severe then these effects the joints like, *Gulpha, Jaanu, Trika* etc.¹⁶ The features of *Amavata* are similar to rheumatoid arthritis, an autoimmune disorder which causes chronic inflammatory and symmetrical polyarthritis.¹⁷

Anatomical Changes in Rheumatoid arthritis:

Rheumatoid arthritis (RA) condition is progress in three stage; in first stage there is swelling of synovial lining, pain in joints, warmth, stiffness, swelling around the joint. In the second stage there is a rapid division and growth of cell, which cause the synovium to thicken in joints sometimes along with fever. Last stage the inflamed cell releases the enzyme that may digest bone and cartilage and causing the involved joint to lose its shape and alignment, more pain and loss of movement. It is a systemic inflammatory condition that results in cartilage and bone destruction. It is characterized by a characteristic outline and distribution of synovial joint involvement. Inefficiency of the joint leads to deformities and loss of function which then results in the quality of life. In the hands, the metacarpophalangeal (MCP), proximal interphalangeal (PIP), and thumb interphalangeal (IP) joints are most frequently involved. The distal interphalangeal (DIP) joints are involved only in the presence of a coexisting MCP or PIP disease. Tenosynovitis of the flexor tendons causes a reduction in finger flexion and grip strength. Nodular thickening in the tendon sheath may also produce a trigger finger.¹⁸

The MCP joints characterize a good model system for studying synovitis and bone impairment in RA because these joints have a comparatively simple anatomy, are invariably involved at disease onset, and are characteristic sites of bone destruction.¹⁹ Bone erosion in RA has been considered in the context of primary immunologic abnormalities, or cellular abnormalities of synovial fibroblasts, osteoclasts, and other cells.²⁰

In radiological findings it can be noted that joint space narrowing is due to destruction of articular cartilage. Osteo arthritis and Osteoporosis around joint is earlier and due to synovial inflammation. Soft tissue swelling in infective arthritis with joint effusion. Articular Erosion is an area of destruction of the articular cortex.²¹

CONCLUSION

Rheumatoid arthritis is the common form of articular disorder commonly infected joints mainly *Gulpha*, *Manibandha sandhi*. The Ama produced due to vitiation of *dosha* get circulated in various joints associating with *vata*, moves quickly to the different joints in the body. Rheumatoid arthritis can be correlated with *Amavat* as per the aetiology, sign and symptoms. With appropriate diagnosis and treatment, attempt should be made to prevent Anatomical Changes in *Gulpha* and *Manibandha sandhi* to avoid excessive impact on the quality of the life of an individual.

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