REVIEW ARTICLE

A CONCEPTUAL STUDY OF BASIC PRINCIPLES OF SANDHI (JOINTS) IN AYURVED AND ITS SIGNIFICANCE IN JOINT DISORDERS

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ABSTRACT

Ayurved the prestigious literature with origin in India is a masterpiece in itself and considered to be extremely beneficial in several diseases. The body is the utmost essential component in treatment, however in Ayurved the mind and soul also depict a crucial role in treatment hence immensely beneficial in various diseases. The shamana and shodhana chikitsa in Ayurved is effective in various acute and chronic diseases. Ayurved has exclusive and unique principles and the application of these profound principles are the key to success for treatment in Ayurved. These principles explain the physiology, etiology, pathology and treatment of diseases hence covering all the facets essential for understanding the specific ailment. Ayurved is useful in various chronic diseases which include joint disorders. Ayurvedic text do not describe the joint diseases under one title, however the classics illustrates the concepts of joint and its disorders meticulously. Sandhivata, vatarakta and amavata are the most prevalent joint diseases which are quoted in Ayurved. This article is an attempt to compile the basic principles of sandhi (joints) in Ayurved and its conceptual application in joint disorders.

Key words: sandhi, joint disorders, sandhivata, vatarakta, amavata, shamana and shodhana chikitsa.

Key messages

1. Ayurved, the age-old science of India is considered to be highly effective in various chronic diseases, joint disorders are one amongst them. Joint disorders are related to vata dosha, kapha dosha, asthi dhatu and majja dhatu. The dosha, dhatu, mala and kala concept classically describe various clinical presentations in several types of arthritis.

2. Application of all the ayurvedic principles of sandhi in joint disorders’ treatment is seen to have miraculous effects and prime reason for success of ayurvedic treatment in these disorders.

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INTRODUCTION

Ayurved an ancient and divine Indian literature is a vast ocean of knowledge adorned with elite principles proving their relevance even in the twenty first century. Various diseases are classically treated and cured by ayurvedic treatment, joint disorders are amongst them. Concepts of ayurved are exclusive, unique and apt, hence application of these concepts in treatment leads to high rate of success in curing several diseases. The appropriateness of the Ayurvedic concepts of sandhi is the salient reason for attainment of success in curing various joint diseases by ayurvedic treatment.

AIMS AND OBJECTIVE

This article is an attempt to explicate the fundamental concepts and principles associated to sandhi (joints) in ayurvedic literature beneficial in understanding the etiology and pathogenesis of joint disorders.

MATERIAL AND METHODS

A literature search for references on sandhi and basic concepts of Ayurved related to sandhi and joint diseases was done from Charak Samhita, Sushrut Samhita, Ashtanga Sangraha, Ashtanga Hrudaya, Yogaratnakara and Madhava Nidana. The respective commentaries of Samhitas was also referred for citations. Simultaneously literature material of arthritis from modern science was compiled from the textbook “Davidson’s Principles and Practice of Medicine”.

LITERARY REVIEW

Sandhi means a meeting point of two or more bones [1]. Hence asthi dhatu (bones) has its own importance in joint disorders. Vata dosha is supposed to be pioneer in executing all movements in the body including joint movements, hence of prime importance along with asthi [2]. Vata dosha and asthi dhatu have an ashrayaashrayi relation with reverse effect i.e. increase in vata dosha results in asthi dhatu kshaya [3]and vice versa. Asthi are the vital elements in the joints, occurrence of vata prakopa will cause asthi vitiation resulting in joint related symptoms. Joint disorders are essentially associated with aggravation of vata dosha resulting in asthi dhatu vitiation which ultimately has a reducing effect on the bones and eventually effects the joints. Prevalence of arthritis is most common in old age. Ayurved expounds predominance of vata dosha in old age hence joint disorder prevalence in old age is most obvious [4].

Sandhivata, vatarakta and amavata are the classic joint disorders quoted in Ayurved Samhitas. A keen observation of the samprapti(pathogenesis) of these ailments reveal that vata prakopa is a vital step in occurrence of these diseases. Sandhivata is described in vatavyadhi chapter of all Samhitas. Aggravated vata dosha takes
sthanasanshraya (shelter) of sandhi and causes sandhigata vata resulting in shula (pain) and shotha (inflammation) at sandhi. The vitiation of vata dosha occurs due to vata prakopa hetu sevana (factors causing increase in vata dosha) and causes dhatukshaya, this further aggravates the vata dosha. Another prime reason for vata prakopa is strotorodha (obstruction), it causes hindrance to vata dosha performing particular functions and hence causes aggravation of vata dosha. Further this vitiated vata either due to dhatukshaya or strotorodha takes sthanasanshraya in sandhi and causes sandhivata.

Vatarakta another joint disorder is associated with vata prakopa accompanied with aggravation of rakta dhatu. The prakupita rakta along with vitiated vata gets distributed in the entire body and further settlement at sandhi of hand and feet causes vatarakta.
Similarly, in *amavata vata prakopa* and *ama* formation are the essential stages in *samprapti*. *Ama* is the improperly digested *ahararasa* (the elite part of *ahara* responsible for *dhatu* formation) Further *ama* is driven in the direction of the *shleshma sthana* (places of *kapha dosha*) through the *dhamanis* due to aggravated *vata*. The *ama* while traversing in the *dhamani* gets further vitiated by the *dosha* and ultimately enters the *shleshma sthana* especially *trika* and *sandhi* resulting in *amavata* [9]. Thus, *vata prakopa* is an essential stage in entire joint disorders.

**Fig. no. 3 AMAVATA SAMPRAPTI**

Observations from modern literature elucidate presence of various *vata prakopa lakshana* [10] (signs and symptoms of increased *vata*) in different forms of arthritis. Osteoarthritis (OA) is associated with pain(*ruk*), functional restriction, (*saada*), palpable coarse crepitus and bony swelling around bone margins (*spandan*) [11]. Rheumatoid Arthritis (RA) classically has morning stiffness (*stambha*), pain (*ruk, toda, bhedana*) and persistent synovitis (*spandan*). Stiffening (*stambha*), inability to contract (*asankochatva*) and pain (*ruk*) are signs and symptoms associated with ankylosing spondylisis [12]. Similarly, reactive arthritis [13] and arthritis related to Inflammatory Bowel Disease (IBD) [14] also has a strong relation with *vata prakopa lakshana*.

Along with *vata dosha*, *kapha dosha* is closely related to joints. *Shleshak* a type of *kapha* is mentioned to be present in the joints and play a vital role in lubricating the space between the bones [15]. If this *shleshak kapha* gets vitiated surely it will result in joint disorders, hence normal functioning of *shleshaka kapha* plays a crucial role in
appropriate joint functioning. Also, joints are lined by shleshmadhara kala, which provides protection against friction and wear and tear like oiling facilitates the movement of a wheel [16]. All joint diseases definitely have altered shleshaka kapha hence improper functioning of joints is obvious.

After consideration of dosha concept another essential body element described by Ayurved are the sapta dhatu. Joints are formed by joining of two or more bones hence asthi dhatu is definitely related to joint disorders. Also as mentioned earlier asthi and vata are ashrayaashrayi, hence the impact of increased vata will definitely result in asthi dhatu kshaya(decrease) and ultimately this will have an adverse effect on the joint. The supreme asthi vaha strotas dushti karana (factors responsible for vitiation of asthi vaha strotas) is described as sevana of vatakara reasons [17] hence asthi dhatu has a crucial role in joint disorders.

Majja dhatu also has an important role in joint disorders. Majjavaha strotas mulasthana is asthi and sandhi [18] this clearly reflects the importance of majja dhatu in arthritis. Diseases caused due to majja dhatu vitiation include pain in interphalangeal joints, sthulata(swelling) at interphalangeal joints [19]. Thus, majja dhatu is related to joint disorders. Samprapti of various sandhi disorders like sandhivata, vatarakta and amavata have sthanasanshraya of aggravated body constituents at sandhi. Sandhi is closely related to asthi and majja dhatu and their vitiation along with other factors is responsible for several joint disorders. Whilst other incidences of samprapti are in course simultaneously asthi and majja dhatu functioning also is disturbed which ultimately effects the sandhi strength and makes it prone to various joint diseases. Thus, it can be stated that asthi and majja have a vital role in appropriate functioning of joints.

Along with this the mala (excretory products) concept of Ayurved has a determining impact in arthritis. Ayurved has mentioned a no where explained concept of mala, besides purisha (faeces), mutra (urine)and sweda(sweat) dhatu mala are specified [20]. These mala certainly have a clinical correlation with the respective dhatu. Asthi dhatu mala is nakha(nails), danta (teeth) and kesh(sha(hair) [21]. Clinical observation state to have involvement of nakha in various bone and joint disorders [22]. Similarly, majja dhatu mala is akshisneha (oily part of excretion of eyes). Observing signs of arthritis various ocular signs and symptoms are seen e.g. RA is associated with dry eyes [23], anterior uveitis in Ankylosing spondylosis [24], conjunctivitis in Reactive Arthritis [25], conjunctivitis and uveitis in Psoriatic arthritis [26].
IBD is often associated with arthritis [27], the kala concept in ayurved can describe the association [28]. Asthidhara kala and purishdhara kala are mentioned to be one and the same [29]. Similarly, pittadhara kala and majjadhara kala are one and the same [30]. IBD is a disease which could be associated with purishdhara kala and pittadhara kala; These kals play a crucial role in formation of stools and digestion respectively. The vitiation of these two entities further will definitely lead to asthi and majja related disorders. Asthi and majja dhatu play a crucial role in arthritis. Hence evidence of arthritis in IBD can be justified.

Psoriasis is another disease associated with arthritis [31]. Psoriasis is a skin disorder which can be classified under kustha vyadhi in Ayurveda [32]. The prime reason of kustha is viruddhanna [33]. Majja dhatu vitiation reasons (majja dhatu dushti karana) has virudhanna sevana as a major cause [34]. Majja dhatu is definitely related to arthritis, hence occurrence of arthritis in psoriasis can be understood.

Chikitsa (treatment) also inculcates these principles mentioned above. Basic ayurvedic treatment is broadly divided into shodhana and shaman chikitsa [35]. Snehan, swedana and, basti is prescribed as treatment in various joint disorders. Snehana and swedana is the prime treatment of vata vyadhi whereas basti is the supreme treatment of vata dosha [36]. Basti chikitsa is also suggested in asthi dhatu related diseases [38]. Joint disorders are directly related to vata prakopa and asthi dhatu diseases hence these remedies are recommended. Treatment of sandhivata being a classical vatavyadhi is in accordance to above principles. However, in vatarakta along with vata dosha chikitsa treatment includes raktamokshana [39], raktamokshana is the prime treatment for rakta dosha which is vitiated in vatarakta. Similarly, in amavata pachana (digestion) of ama is key factor in treatment hence along with vata dosha chikitsa use of langhana and swedana without snehan is prescribed [40]. Thus, all the basic principles related to etiology and pathogenesis are applied during treatment of joint disorders in Ayurved.

Shamana chikitsa includes use of various types of guggulu preparation according to varied complaints in arthritis. Guggulu is niryas(resin) of Commiphora mukul which resembles to the majja dhatu present within the asthi dhatu and in accordance to samanya vishesha siddhant [41] its use in sandhi vikara is highly beneficial.

CONCLUSION

Although Ayurved has not described the joint disorders under one chapter or heading but compilation of basic principles of Ayurved, various joint disease related
references and their application proves to serve this purpose. Application of basic principles of dosha, dhatu and mala concept along with strotas and kala concept entirely describes the physiology, etiology, pathology and treatment of joint disorders in Ayurved. These principles are so accurate and precise that though cited several years earlier they can be aptly applied in present era and the results of treatment are incredibly brilliant proving the quote “Old is Gold” valid.

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