A REVIEW ON SNAYU (NERVOUS TISSUE) BASED ON ITS FUNCTIONAL ASPECTS
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ABSTRACT
Snayu are the structures present in human body which has a close relationship with the functional elementvata (vatadosha). The classification of Snayu is based on its structure, function and specific location. The injury to Snayu is very much painful because pain is the attribute of Vatadosha. While doing surgical as well as para surgical procedures a surgeon should be very careful in protecting these structures. The concept of Snayu Marma (vital points) also identifies the importance of these structures which are to be protected. Clinical manifestations like Gudrasi, (Sciatica) Pakshaghata (paralysis) etc are due to the impairment in functional aspects of Snayu along with other structures like Sira (vascular structure) and Kandara (one type of Snayu-ligaments or tendon). In the present era of globalization and fast life the diseases affecting the Upadhatu Snayu (subsidiary body elements) are increasing, and this is becoming a challenge to the health professionals.
Keywords – Snayu(nervous tissue), Kandara(tendon or ligaments), Marma(vital points), Vata.

INTRODUCTION
The classification of various tissues, organs, systems etc in human body is based on structure, functions and locations. Ayurveda also defines and classifies the structures present in the human body. The anatomical, physiological, and pathological understanding of any structure is very much essential for prevention as well as treatment of diseases related to that structure. Snayu is one among such structure which has been classified into mainly four types based on its structure, function and location. They are Pratanavathi snayu (spreading), Vrithasnayu (round), Pruthu Snayu (flat and thick) and Sushira Snayu (porous). The classification of Snayu is based on its structure, function and specific location. The injury to Snayu is very much painful because pain is the attribute of Vatadosha. While doing surgical as well as para surgical procedures a surgeon should be very careful in protecting these structures. The concept of Snayu Marma (vital points) also identifies the importance of these structures which are to be protected. Clinical manifestations like Gudrasi, (Sciatica) Pakshaghata (paralysis) etc are due to the impairment in functional aspects of Snayu along with other structures like Sira (vascular structure) and Kandara (one type of Snayu-ligaments or tendon). In the present era of globalization and fast life the diseases affecting the Upadhatu Snayu (subsidiary body elements) are increasing, and this is becoming a challenge to the health professionals.

PHYSIO-ANATOMICAL UNDERSTANDING OF SNAYU
Snayu is described as ‘Vaatahini Nadi’ (structure carrying Vata). They are of four types.
• Pratanavathi Snayu- present in all extremities and all joints and can be considered as branched.
• Vrutha Snayu- they are circular in shape and are known as Kandara.
• Sushira Snayu- they are porous in nature and are found in the end of stomach, intestines and urinary bladder.
• Pruthu Snayu- they are flat in nature and are present in sides, chest, back and head. Based on their distribution in the Shadanga (six body parts) of human body they are mainly 900 in number. Among these 600
are present in the extremities, 230 in the trunk and 70 above towards neck\(^{1}\). Just as a boat consisting of planks becomes capable of carrying load of passengers in river after it is tied properly with bundle of ropes, all joints in the body are tied with Snayu by which persons are capable of bearing load\(^{1}\). The injury to Asthi (bones), peshi (muscles), sira (vascular structure), and Sandhi (joints) may not be as severe as to Snayu\(^{1}\).

A surgeon should have a clear cut idea about the Bahya (external) and Abhyantara (internal) Snayus for extracting the foreign body without causing harm to the Snayu\(^{2}\). The Moolasthana (root) for 900 Snayus are mentioned as Masthulunga (brain)\(^{3}\). Maamsa (muscles), Kandara (tendon or ligaments) and Sira (vessels) are considered as the Saara (essence) of raktha (blood) dhatu whereas Asthi, Snayu and Sandhi are the Sara of Medhodhatu\(^{4}\). Snayu is considered as the Upadhatu (subsidiary) of Medhodhatu\(^{5}\). While explaining the Dheerghayulakshana (long life) one feature is that the Sira, Snayu and Sandhi should be properly covered and it should not be visible externally\(^{4}\). Asthiis the most deeply seated structure in the body. To it Snayu is binded, and these are covered by Mamsa. All these get nourishment from Sira. Above all these are covered and protected by skin\(^{3}\).

**CONCEPT OF SNAYU MARMA**

Marma are the vital points in the human body where there is the location of Praana (life). These points are the conglomeration of Mamsa, Sira, Snayu, Sandhi, and Asthi. There are 107 Marmas in the human body. Of these there are 27 Snayumarma. They are four Ani, two Vitapa, two Kashadhara, four Koorcha, four Koorchasira, one Basthi, four Kshipra, two Amsa, two Vidhura and two Utkshepa\(^{6}\). The four types of Sira (vata, pitta, kapha and rakthavaha) are specifically located in these Marma and are nourished. Injury to all these Snayumarma leads to vaikalya except kshipra, basthi and utkshepa. Mainly convulsive disorders, severe pain, stiffness, disabilities, feeling of discomfort in all situations and even death may result in injury to Snayumarma\(^{7}\).

**CLINICAL MANIFESTATIONS**

Snayu is considered as the structure which comes in Madhyamarogamarga (middle route for diseases)\(^{8}\). When Vatadosha get aggravated in Snayu Grudrasi, Ayama (bending), Kubjatha (short stature), Sthambha (stiffness), Akshepana (convulsions)\(^{9}\) etc are the results, and Kaphadosha in Snayu results in pain in Sandhi (joints)\(^{10}\). In many diseases like Pakshaghatha (paralysis), Viswachi, Khanja, Pangu (lane), Kushtha (skin diseases) etc there is the involvement of vitiation of Dosha either in Snayu or Kandara along with other structures like Sira. In treatment aspect, whenever there is Athisthambhana there will be Snayusamkocha (stiffening), and kampa (convulsions)\(^{11}\). Whenever the foreign body (Salya) is located in Snayu there will be severe pain along with stiffness\(^{12}\). While doing the Sastra karma and Agni karma (cauterisations) the surgeon should be very careful in protecting Marma, Sira, Snayu, Dhamani (blood vessels) and Sandhi\(^{13}\). Dhahanopakarana (materials used for cauterisations) mentioned for diseases of Sira, Snayu, Asthi and Sandhi are Kshoudra (honey), guda (jiggery) and Sneha (oil or ghee), and also Dhahana of Mamsa will pacify the Vata in those structures\(^{14}\). In the
concept of Vishavega (stages of toxicity) Alambhayana has considered Snayu as the location of Visha in 4th Vegavastha. One among the VranaVasthu is Snayu (seat of wound). The Srava (oozing) of Vrana in Snayu is similar to mucous mixed with blood and thick in consistency. In Dushta-vrana (infected wound) involvement of Snayu is mentioned. The Vrana (wound) will be Sukhasaadhya(easily curable) only if there is no involvement of Sira, Snayu and Sandhi.

DISCUSSION

As the structure Snayu is defined as Vatavahanaadi, it may be the reason why injury to this structure leads to severe pain than any structure in the body. The reason for this can be considered as pain is mainly due to vitiation of Vata. Without Vata there is no pain. Various types of pain like churning, crushing, pricking etc are due to Vatadosha. Since Vata is responsible for maintaining life the structure which holds Vata should be protected with much effort. While doing surgical procedures these structures should be given much importance. Since Marma is the seat for Prana (life) for pain free long life these structures should be protected. Vata is responsible for almost all deformities in the body. While considering most of the diseases related to Snayu there is involvement of Vatadosha. Utkshepamarma is one among the Snayumarmas which has Vayumahabhootha predominance, and this is the reason why it becomes Visalyaghna in nature. Pranavata which is located in Shira (head) may be travelling through these structures throughout the body may be the reason why Masthulunga is considered as the Moolasthana of snayu. The types mentioned are mainly for the better understanding of structural entity of Snayu based on location and functions and importance of protecting them while doing Sastrakarmas (surgical procedures) on those areas.

CONCLUSION

Snayu are the structures present in the human body which has a close relation with Vatadosha. It is one among the Upadhatu which helps the Dhatu (maintainence) of body. Snayumarmas are those specific locations in the human body which has predominance of Snayu component. The study of human body structures is very much essential for preventive as well as curative measures. The importance of Shareera Sthana has been described as to understand the Shareera for bhishak and yogi. Knowledge of Snayu is very much essential for surgeons as well as physicians who are mainly dealing with Shalya (foreign body) and vitiation of Dosha in Dhatu and Upadhatu respectively.

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