Discussion

For proper understanding of various aspects of a subject discussion is an essential component. In different kind of research works it adds quantum of knowledge and makes the approach more scientific and versatile. It also forms the basis for the future research works. It should be based on certain authentic classics, experiences and proofs.

Äyurveda is a holistic science which provides treatment for various diseases based on their aetiopathogenesis. Acharya *Caraka* mentioned that *Shastra-Sahita-Tarka* (comments and discussions based on texts) is essential for *Jïäna Sädhana (*to attain the knowledge*).* Present era is of proofs and verifications. The research work should have a scientific basis well endorsed by proper experiments, observations and statistical analysis. The authenticity of a fact can be well established by a good reasoning and scientific explanation of the same. An idea becomes an established fact only after passing through series of examinations and reasoning.

The selected topic *Sandhigataväta* seems to be more problematic from the days of *Suçruta* and appears to be remained a challenge for physician. *Suçruta* has given for most place to *Väta Vikära* as *Vätavyädhi Nidäna* in *Nidäna Sthäna*. All *Äcärya* have unanimously accepted and mentioned *Vätavyädhi* on the top of the *Añöamahägada*. However description available regarding its aetiopatogenesis is very concise, and no extensible approach has been made to this disease like other diseases. *Suçruta* has given scientific principles regarding its aetiopathology, symptomatology, and management. Based upon this hypothesis a definite *Sampräpti* has been put forth to understand the nature of disease. Due to more exposure to *Vätika Ähära Vihära*

(continuous work, *Dukhäsana*, *Dukhaçaiyä* occupational trauma etc.) *Väta* gets vitiated and circulates all over the body and after *Sthänasaàçraya* gets accumulated in the joints, normal function of the joint is disturbed and *Sandhi* does not get nutrition from *Pürvadhätu.* Vitiated *Väyu* gradually starts degenerative process and diminishes the *Çleñmaka Kapha* which fascinate the joint movement. If it is not controlled in this phase *Sandhi* loses its normal structure and anatomical deformity takes place. The pathogenesis leads to the restriction of the movements of the joints. *Suçruta* has mentioned cardinal symptoms of *Sandhigataväta* are *Sandhiçüla*, *Sandhiçopha*, *Caraka* has given new symptom *Vätapürëadåti Sparça* on palpation *Çopha* feels like a bag filled with air and pain during flexion and extension. This sign is most appropriate for Osteoarthritis. *Mädhava* has added another new symptom *Äöopa.* Appearance of cracking sound (Crepitus) on affected joint. It may be caused by increased *Rükña Guëa* of vitiated *Väta Doña*. This sign also most appropriate for osteoarthritis.

This disease is not fatal instantly but causes more severe complications in later stage. It cripples the patient, make him a burden to others, he cannot perform day to day routine work on his own due to severity of disease. It does not cut years to life but life of the years. Modern medical science provides various types of medical and surgical treatments but no one is able to cure the disease completely. Due to untoward effects of pain relieving drugs like NSAIDS, Steroids, and Surgical procedure, there is a need of alternative medicine to find out better remedy for the same. In present research work *Cap*. *Çallaké* and *Abhädi Cürana* were selected for internal administration.

Discussion on Observations

1. **Age**: In this study 22% of the patients were in the age group of 51-60 years, 36% of the patients were in the

age group of 61-70 years, 31% patients were in the age group of 71 years and above, and only 11% patients were found in age group of 41-50 years.

The study shows that this disease is more prevalent from the age of 51 years. At this age group *Väta* is more predominant which takes part in *Dhätu Kñaya* hence from this age group natural *Dhätu Kñaya* or degenerative process starts and manifest as *Sandhigataväta*. Thus, observations made are similar to textual references. [Table number-13].

2. **Sex**: 64% of patients were females while 36% were male in the trial. Female sex is a risk factor for osteoarthritis above 55 years. Similar view is evolving in this study. [Table number- 14].
3. **Religion:** In this study participation of Hindu patients were more i.e. 62% as compared to other religions which was 19% of Muslims, 13% of Christians and 6% of Sikhs. [Table number- 15].

   It may be due the reason that the catching area of the hospital was Hindu prone. No textual reference is found about relation of disease with any kind of religion.
4. **Socio-economic status**: In this study 46% of patients were from Middle class and 37% from Lower middle class and 17% were from Upper middle class. [Table number-16].

   The Data of this study indicate that habits, nutrition and economic status may play supportive role in manifestation of *Sandhigataväta*. This data is in accordance with the literature that economic status affects the incidence of disease and this disease is more prevalent in middle class population.
5. **Marital Status:** In this study 98% patients were married. This observation has no relation with prevalence of OA, because it is a degenerative disease which mostly occurs after 4^{th} and 5^{th} decade of life. However no textual reference is found regarding the relation between the marital status and osteoarthritis,

but as in various text stated that OA is the disease of old age. This data support our text. [Table number-17].

6. **Dietary Habits**: The observational data show that 28% of patients were consuming vegetarian diet while 72% of them were consuming mixed diet. The diet shows no relation with disease. [Table number - 18]
7. **Duration of illness**: In the present study, the duration of illness shows that maximum number of patients 61% give the history of disease for more than one year, 27% give the history of 6 to 12 months duration 12% were suffering for 6 months and less. [Table number - 19]

   Most of the patients are found affected from more than one year, it indicates the chronicity of the disease. The most important cause behind it is the negligence of disease by using pain killer medicines which give only symptomatic relief. However, there is no precise reference in any text in support of this data but it may be due to the slow onset of disease that increases the chronicity of disease.
8. **Family History:** In maximum number of patients (89%) there was no family history of disease whereas only 11% showed the family history of *Sandhigataväta*. [Table number - 20]

   According to our literature OA have its relation with family history which indicate that the disease is hereditary as well as acquired. This data also shows that 11% patients show family history. So this data support our literature.
9. **Incidence of education:** The patients educated up to Primary school were 53%, 21% were educated up to pre university level, whereas 9% were educated up to graduate level, 17% patients were illiterate. School education doesn't have any impact on the pattern of this disease. [Table number - 21]
10. **Nature of Work:** This study illustrate that 88% patients were active and were having ambulatory life

style where as 12% were having sedentary life style. [Table number - 22]

This observation shows that excessive work plays an important role in the development of pathology in weight bearing joints to produce *Sandhigataväta*. This also support the textual references which quote that excessive use of any joint causes OA of that particular joint.

11. *Koñöha*: In this study 59% of patients had *Krüra Koñöha* and 27% had *Madhyama Koñöha* and 14% had *Mådu Koñöha* . [Table number - 23]

This is in accordance with *Äyurvedika* view that *Karüra Koñöha* which is due to Predominant *Väta Doña* is also the causative factor for *Sandhigataväta* (OA).

12. *Çärérika Prakåti*: The data shows that in *Doñika Prakåti*, *Vätakaphaja* is at predominant incidence of 62% followed by *Vätapittaja* 29% and *Pittakaphaja* 9%. [Table number - 24]

It can be interpreted that peoples of *Väta* associated *Prakåti* are more prone to this disease. It is in accordance to textual references.

13. *Mänasa Prakåti:* In this study 72% patients were of *Räjasa Mänasa Prakåti* followed by 28% of *Tämasa Mänasa Prakåti.* [Table number - 25]

Räjasa Mänasa Prakåti is developed from *Vätika* predominance. We can understand that the main etiological factor behind the whole thing is *Väta*. So, the people with *Räjasa Mänasa Prakåti* are more prone to this disease. However precise textual reference in support of this fact is not available.

14. *Ähära Mäträ*: In the present study 61% had moderate amount of consumption of food and 27% had *Avara* (subnormal) consumption of food followed by 12% *Pravar* consumption of food. [Table number - 26]

The amount of food taken do not show any relation to disease. And no textual references are available in this relation.

15. ***Vikåti***: The data shows that 86% of cases had *Prakåti Sama Samaveta* type of pathology and 14% had *Vikåti Viñama Samaveta*. [Table number - 27]

    However, incidence of *Vikåti* doesn't have any impact on the pattern of this illness.

16. ***Saàhanana:*** In this study 91% patients were of *Madhya Saàhanana* followed by 5% of *Héna* and 4% *Susaàhata Saàhanana.* [Table number - 28]

    Madhya Saàhanana people were found most affected in this study. There is no exact reference available in our texts to justify the above data.

17. ***Abhayäharaëa Çakti***: The data shows that 81% of cases had moderate capacity to take food and 16% had least capacity, whereas 3% had Maximum capacity of food intake. [Table number - 29]

18. ***Järaëa Çakti:*** The data shows that 83% of the cases had moderate capacity of digestion (*Madhyam Çakti*), 12% had subnormal capacity (*Héna Çakti*) and 5% had Extreme (*Uttama Çakti*) power of digestion. [Table number - 30]

    In the patients suffering from *Sandhigataväta*, the vitiated or aggravated *Väta* may not reduce the appetite of patients so mostly patients come with *Madhyam Abhayäharaëa Çakti* and *Madhyam Järaëa Çakti.*

19. ***Vyäyäma Çakti:*** In this study 72% patients were of *Avara Vyäyäma Çakti*, 26% were of *Madhya* followed by 2% of *Pravara Vyäyäma Çakti*.

    This disease affects mostly old aged patients in which the power and vigour has already lost. Hence no relation of *Vyäyäma Çakti* with disease could be established. [Table number - 31]

20. ***Nidrä:*** 82% patients in this trial showed *Alpa Nidrä*, 14% *Samyaka Nidrä* and only 4% patients showed *Ati Nidrä*. [Table number - 32]

    As per Ayurvedic principals the persons of *Vätaja Prakåti* show the symptom *Alpa Nidrä*. Hence it can be established that persons suffering from *Alpa Nidrä* can suffer more from this disease as compare to others.

21. ***Särа:*** The data shows that *Meda Särа* 52% were the maximum number of patients suffering from *Sandhigataväta* (OA) followed by 32% *Asthi Särа* & 16% *Mäàsa Särа*. [Table number - 33]

    It may be due to the reason that *Meda* of *Meda Särа* patients causes the obstruction of channels of *Väta,* whereas *Asthi Särа* patients are already *Väta* predominant. Both these conditions causes aggravation of *Väta* and causes this disease.

22. **Involvement of joints**:- The data shows that all patients (100%) were suffering from OA of knee joint, which was followed by Lumbosacral joint (76%), Cervial spine (56%), Hip joint was 26%, interphalangeal joints was 12%, and shoulder joint was just 2%. This data is very near to the global trend of osteoarthritis. [Table no. 34].

    It may be due to the reason that knee joint is weight bearing joint which carry whole weight of the body, after knee joint the next joint which carry the load of body during various day to day activities is Lumbosacral spine.

Discussion on Effect of Therapy:

A. Subjective Criteria

1. Effect of therapy on *Vedanä* (Pain in joints)

The symptom *Vedanä* was improved by 15.83% after one month of therapy, 40% after two months of therapy and 30% at follow up after third month in Group 1. Where as in Group 2 the improvement after one month of treatment was 20.59%, it was 68.66% after second month of therapy and 61.19% at follow up after third month. [Table number - 35]

In intergroup comparison, the data showed that the difference in efficacy on ***Vedanä*** in Group 1 and Group 2 was Highly Significant ($p < 0.0001$). [Table number - 36]

2. **Effect of therapy on *Vätapürëa Dåtivata Sparça*** [Table number - 37]
   The symptom ***Vätapürëa Dåtivata Sparça*** was improved by 31.58% after one month of therapy, 47.37% after two months of therapy and 42.11% at follow up after third month in Group 1. Where as in Group 2 the improvement after one month of treatment was 45%, it was 65% after second month of therapy and 55% at follow up after third month.

   In intergroup comparison, the data showed that the difference in efficacy on ***Vätapürëa Dåtivata Sparça*** in Group 1 and Group 2 was insignificant (p=0.513). However, Group 2 showed 65% improvement as compare to Group 1 which showed 47.37% improvement. [Table number - 38]

3. **Effect of therapy on *Sandhiçotha* (Swelling)** [Table number - 39]
   Improvement in ***Sandhiçotha*** was 19.15% after one month of therapy, increased to 48.93% after two months of therapy and 38.29% at follow up after third month in Group 1. The improvement in Group 2 was 28.57% after one month of treatment, it was 73.21% after second month of therapy and 55.35% at follow up after third month.

   In intergroup comparison, the data showed that the difference in efficacy on ***Sandhiçotha*** in Group 1 and Group 2 was insignificant (p=0.074). However, Group 2 showed 73.21% improvement as compare to Group 1 which showed 48.93% improvement. [Table number – 40]

4. **Effect of therapy on *Vedanä during Prasäraëa & Äkuïcana* (Pain during flexion &Extension)** [Table number - 41]
   Effect of therapy on *Vedanä during Prasäraëa & Äkuïcana* was 13.47% improvement after one month period, further increased to 23.32% after two months

of therapy and reduced to 17.09% at follow up after third month in Group 1. Whereas in Group 2 the improvement was 30.54% after one month of treatment, it further improves to 67.55% after second month of therapy and 61.06% at follow up after third month.

In intergroup comparison the data showed that the difference in efficacy on *Vedanä during Prasäraëa & Äkuïcana* in Group 1 and Group 2 was highly significant ($p<0.0001$). Group 2 showed better recovery i.e. 67.55% as compare to Group 1 which showed only 23.32% improvement in the patients of *Sandhigataväta*. [Table number - 42]

5. Effect of therapy on *Jadhayam* (Morning Stiffness on severity score)

Effect of therapy on *Jadhayam* was 5.495% improvement after one month period, further increased to 45.05% after two months of therapy and 36.26% at follow up after third month in Group 1. Whereas in Group 2 the improvement was 13.43% after one month of treatment, it further improves to 52.61% after second month of therapy and 51.86% at follow up after third month. [Table number - 43]

In intergroup comparison, the data showed that the difference in efficacy on *Jadhayam* in Group 1 and Group 2 insignificant ($p=0.396$). In terms of percentage improvement in both Groups, Group 2 showed better recovery i.e. 52.61% as compare to Group 1 which showed only 45.05%. [Table number - 44].

6. Effect of therapy on *Jadhayam* (Morning Stiffness on duration)

In the symptom *Jadhayam* in terms of Morning Stiffness on duration, improvement was 10.43% after one month period, which further increased to 30.43% after two month of therapy and 31.30% at follow up after third month in Group 1. In Group 2, 14.05% improvement was

observed after one month of treatment, it further improves to 38.84% after second month of therapy and 34.71% at follow up after third month. [Table number - 45]

In intergroup comparison, the data showed that the difference in efficacy on *Jadhayam* in Group 1 and Group 2 was insignificant (p=0.052) statistically. The percentage improvement at the end of trial period, Group 2 showed better recovery i.e. 34.71% as compare to Group 1 which showed 31.30% improvement . [Table number - 46].

7. **Effect of therapy on *Äöopa* (Crepitations)** [Table number - 47]

In Group 1, the improvement on was *Äöopa* was 0.97% after one month period, which further increased to 1.94% after two months of therapy and remain 1.94% at follow up after third month in Group 1. In Group 2, 1.75% improvement was observed after one month of treatment, it further improves to 2.63% after second month of therapy and remain stable at 2.63% at follow up after third month.

In intergroup comparison, the data showed that the difference in efficacy on *Äöopa* in Group 1 and Group 2 was insignificant (p=1) statistically. [Table number - 48]

B. Objective Criteria

8. Effect of therapy on Range of motion [Table number - 49]

Effect of therapy on Range of motion showed 2.19% improvement after one month period, further increased to 2.86% after two months of therapy and 2.90% at follow up after third month in Group 1. Whereas in Group 2 the improvement was 2.31% after one month of treatment, it

further improves to 3.27% after second month of therapy and 3.40% at follow up after third month.

In intergroup comparison, the data showed that the difference in efficacy on Range of motion in Group 1 and Group 2 was not significant (p=0.536). In terms of percentage improvement in both Groups, Group 2 showed better recovery i.e. 3.40 as compare to Group 1 which showed only 2.90%. [Table number - 50]

9. Effect of therapy on Muscular strength [Table number - 51]

In Group 1, the improvement on Muscular strength was 13.82% after one month period, which further increased to 28.45% after two month of therapy and 24.39% at follow up after third month in Group 1. In Group 2, 22.22% improvement was observed after one month of treatment, it further improves to 47.61% after second month and 38.09% at follow up after third month.

In intergroup comparison, the data showed that the difference in efficacy on Muscular strength in Group 1 and Group 2 was significant (p<0.0001) statistically. Percentage improvement at the end of trial period was 38.09% in Group 2 whereas it was 24.39% in Group 1. Group 2 showed better results. [Table number - 52]

10. Effect of therapy on Pressing power [Table number - 53]

Effect of therapy on Pressing power was 18.25% improvement after one month period, further increased to 30.16% after two months of therapy and 23.02% at follow up after third month in Group 1. Whereas in Group 2 the improvement was 20.74% after one month of treatment, it further improves to 37.04% after second month of therapy and 28.89% at follow up after third month.

In intergroup comparison, the data showed that the difference in efficacy on Pressing power in Group 1 and Group 2 was significant (p=0.025) statistically. Group 2 showed better recovery i.e. 28.89% as compare to Group 1

which showed only 23.02% improvement in the patients of *Sandhigataväta*. [Table number - 54]

11. Effect of therapy on Grip power [Table number - 55]

In this criteria of assessment, in Grip power the improvement was 9.70% after one month period, which further increased to 22.39% after two month of therapy and 17.91% at follow up after third month in Group 1. In Group 2, 13.01% improvement was observed after one month of treatment, it further improves to 26.03% after second month of therapy and 23.29% at follow up after third month.

In intergroup comparison, the data showed that the difference in efficacy on Grip power in Group 1 and Group 2 was not significant (p=0.103) statistically. In terms of percentage improvement at the end of trial period, Group 2 showed better recovery i.e. 23.29% as compare to Group 1 which showed 17.91% improvement. [Table number - 56]

12. Effect of therapy on Hb Gm% [Table number - 57]

Effect of treatment on Hb Gm% showed 0.62% improvement after one month period, after two month of therapy it was increased to 0.71% and 0.74% at follow up after third month in Group 1. Whereas in Group 2 the improvement was 1.27% after one month of treatment, it further improves to 1.34% after second month of therapy and 1.16% at follow up after third month.

In intergroup comparison, the data showed that the difference in efficacy on Hb gm% in Group 1 and Group 2 was not significant (P=0.176). However, in terms of percentage improvement in both Groups, Group 2 showed better recovery i.e. 1.16 as compare to Group 1 which showed only 0.74%. [Table number - 58]

13. Effect of therapy on Total Leukocyte count (TLC) [Table number - 59]

Mean difference observed in Total Leukocyte count was 4.26% after one month of therapy, it was increased to 3.19% after two month of therapy and 2.12% at follow up after third month in Group 1. The improvement in Group 2 was 6.52% after one month of treatment, it rose up to 7.61% after second month of therapy and 5.43% at follow up after third month.

In intergroup comparison, the data showed that the difference in efficacy on TLC in Group 1 and Group 2 was insignificant (p=0.332). Group 2 showed 5.43% improvement as compare to Group 1 which showed 2.12% improvement. [Table number - 60]

14. Effect of therapy on ESR [Table number - 61]

Improvement recorded in Group 1 for ESR was 2.67% after one month period, it further increased to 7.54% after two months of therapy and 6.56% at follow up after third month in Group 1. Whereas in Group 2 the improvement was 11.67% after one month of treatment, it further improves to 13.93% after second month of therapy and 13.81% at follow up after third month.

In intergroup comparison, the data showed that the difference in efficacy on ESR in Group 1 and Group 2 was significant (p=0.008) statistically. Group 2 showed better recovery i.e. 13.81% as compare to Group 1 which showed only 6.56% improvement in the patients of *Sandhigataväta*. [Table number - 62]

15. Effect of therapy on CRP [Table number - 64]

In Group 1, the improvement in CRP was 2.48% after one month period, which further increased to 3.97% after two months of therapy and 4.167% at follow up after third month in Group 1. In Group 2, 4.31% improvement was observed after one month of treatment, it further improves to 5.65% after second month of therapy and 5.84% at follow up after third month.

In intergroup comparison, it is observed that the difference in efficacy on CRP in Group 1 and Group 2 was insignificant (p=0.359) statistically. Percentage improvement at the end of trial period was 5.84% in Group 2 whereas it was 4.167% in Group 1. Group 2 showed better results. [Table number - 65]

16.Effect of therapy on WOMAC SCORE [Table number - 65]

Improvement in *WOMAC Score* was 6.39% after one month of therapy, increased to 25.57% after two months of therapy and 23.39% at follow up after third month in Group 1. The improvement in Group 2 was 16.01% after one month of treatment, it was 27.99% after second month of therapy and 25.48% at follow up after third month.

In intergroup comparison, the data showed that the difference in efficacy on *WOMAC SCORE* in Group 1 and Group 2 was not significant (p=0.143). Group 2 showed 25.48% improvement as compare to Group 1 which showed 23.39% improvement. [Table number - 66]

17.**Effect of therapy on Functional index (Lequesne Algofunctional Index'**) [Table number – 67,68,69]

Mean difference in Group 1 was 0.238 with 31.87% improvement, the results were highly significant. In Group 2 Mean difference was 0.371 with 52.89% improvement, the results were highly significant. However, the results were highly significant in both the groups. Intergroup comparison of both groups shows highly significant result. The %age improvement was also higher in Group 2, showing that therapy used in Group 2 is more efficient in relieving the symptoms in the patients of *Sandhigataväta.*

Overall effect of therapy

Total results were assessed on the basis of %age improvement in the clinical features, laboratory investigations. It was observed that patients of Group 2 showed better results as compared to Group 1. Out of total, 8% patients showed complete remission, 18% patients showed marked improvement, 40% showed Moderate improvement and 34% showed mild improvement in Group 2 as compared to Group 1 in which 4% patients showed complete remission, 10% patients showed marked improvement, 34% showed Moderate improvement, 48% showed mild improvement and 4% patients showed no improvement at the end of clinical trial, showing better efficacy of drugs used in Group 2.

Discussion on follow up Examination

In the present study, patients were followed up to three months at one month interval. In the first follow up visit there was stability in features i.e. no further increase in the symptoms recorded. On second follow up, significant improvement was recorded in both groups. However, on third visit which was one after month of caseation of therapy, there was some reoccurrence of symptoms. So, use of medicines for longer period and prevention of the causative factors is essentially required.

Probable Mode of action of Drugs

Çallaké[121]

Çallaké possesses *Tikta Madhura* and *Kañäya Rasa*; *Guëa* of *Çallaké* is *Rukña*, *Laghu* and *Tékñaëa*; *Viapäka* is *Kaöu*; whereas *Vérya* is *Uñëa*. The *Doñakarma* is *Kaphapittaçämaka*. According to classics, *Çallaké* has potent *Vätakaphahara* properties. The key constituents of *Çallaké* are volatile oil (4-8%), acid resin (56-65%) and gum (20-36%). The triterpenoids are the active constituents and are collectively called boswellic acids. The gum resin of B.

serrata usually contains 43% boswellic acids, which contain a combination of six major constituents, mainly 3 acetyl, 11 keto, boswellic acids (AKBA), which help to preserve the structural integrity of joint cartilage and maintain a healthy immune mediator cascade at a cellular level, which is active against pain and inflammation by inhibiting leukotriene synthesis. Specifically, it inhibits the activity of the enzyme 5 lipoxygenase through a non-redox reaction in OA.

In the present study, improvement was seen in the chief complaints, *Sandhiçüla*, *Sandhiçotha*, *Äkuïcana Prasäriëayo Vedanä*, *Stambha*, due to *Çothahara* and *Vedanästhäpana* properties of *Çallaké*. The main site of *Sandhigataväta* is *Sandhi* which is the site of *Çleñakakapha*. Due to its *Tiktarasa*, *Kaöu Vipäka* and *Uñëa Vérya*, *Çallaké* pacifies vitiated *Kapha* and *Väta Doña*, resulting in reduction of *Çotha, Çüla* and other related symptoms. The pacified *Väta* in the *Sandhi* helps to rearrange *Çleñakakapha* and thereby improves the symptoms of *Sandhigataväta*. *Çallaké* possesses analgesic and anti-arthritic properties, which are responsible for its analgesic and anti-inflammatory activities. It also acts as COX-2 inhibitor and reduces the pain and inflammation without affecting the gastric mucosa. It soothes the joints and also helps treat levels of synovial fluid, making the entire structure lubricated and easy to rotate or to move.

The symptoms of *Medovaha Srotas Duñöi* improved due to its *Rukña*, *Laghu Guna* and *Uñëa Vérya*; it also reduces *Medas*. The symptoms of *Asthivaha* and *Majjävaha Srotasa Duñöi* improved due to *Tikta Rasa* and *Kaöu Vipäka*, as they counteract the pathogenic process of *Sandhigataväta*. The main site of *Sandhigataväta* is *Sandhis* which are the site of *Çleñakakapha*. By pacifying *Kaphadoña*, *Tikta Rasa* leads to proper nutrition of the other *Dhätu*.

Çallaké is mediated through the vascular phenomenon; it improves blood supply to joints and restores integrity of vessels obliterated by spasm of internal damage. Decrease in biochemical parameters, mainly, CRP, serum triglycerides and erythrocyte sedimentation rate (ESR), is due to anti-inflammatory activity.

Äbhädi Cürëa

The constituents of *Äbhädi Cürëa* has *Vätaçämaka* properties thus alleviates *Väta* and pacify it:

- *Äbhä* being *Kaphaghna*, *Grähé* and *Kañäya Rasa Pradhäna* alleviates vitiated *Kapha* and open the channels blocked by *Kapha* this helps in free movement of *Väta* and relives pain.
- *Çuëöhé* is also called *Mahauñadha*. It is *Kaöu*, *Laghu* and *Snigdha*, *Uñëa Vérya* and *Madhura Vipäké*. By these properites it is *Vätakaphaçämaka*. It is anti-inflammatory, *Ämavätahara*, *Vätavyadhihara*, and improves digestive fire to help in digestion of *Äma*. It is anti-inflammatory, relieves pain, *Vätaçämaka*, *Vätänulomana* and analgesic in its properties.
- *Vidhärä* is *Tikta*, *Kaöu* and *Kañäya* in *Rasa*. Its *Guëa* are *Laghu*, *Snigdha*. It is *Uñëa Vérya* and *Madhura Vipäké*,with these properties it pacify *Väta* and relieves pain in the body specifically in joints in *Sandhigataväta*.
- *Açvgandhä* is known Analgesic, and *Kaphavätaçämaka*. It is *Tikta*, *Kaöu* and *Madhura Rasa Pradhäna*, *Uñëa Vérya*, and pacifiy *Väta*. Due to its anti-inflamatory, analgesic properites it very effective in *Vätavyadhi* especially in joint disorders like *Sandhigataväta*.
- *Tikta*, *Kañäya Rasa Pradhäna Guòucé* has *Guru* and *Snigdh Guna* and due to its *Uñëa Vérya* and *Madhura Vipäka* it is *Tridoñaçämaka*. It has *Vedanästhäpaka Päcana* and *Dépana* properties. It is very useful in Painful conditions.

- *Häpuñä* is *Kaphavätaçämaka*. It is anti-inflammatory and analgesic. *Uñëa Vérya,* it helps in digestion of *Äma*, open the channels blocked due to *Säma Kapha* and pacify *Väta*. With the proper circulation of *Väta* the pain is relived.
- *Räsnä* has *Vätakaphaçämaka* property. It is very useful in *Vätavyadhi*, painful and inflammatory conditions, it has analgesic properties. Being *Uñëa Vérya* and *Guru* in *Guëa* it alleviats *Väta* and useful to improve pain in the patients of *Sandhigataväta*.
- *Guòucé* is *Çéta Vérya*, *Madhura Vipäké*, with *Madhura* and *Tikta* rasa *Pradhäna*. It is *Vätapittaçämaka*. By its properties it is very useful in painful conditions because of *Väta*.
- *Yaväni* is carminative, stimulant, cures indigestion, improves digestive fire and helps in digestion of *Äma*. It is *Uñëa Vérya*. It is *Kaphavätaçämaka*. It is used in resolving pain due to vitiation of *Väta*. These properties of *Yaväni* make it the part of *Äbhädi Cürëa* to relieve *Sandhigataväta*.
- Fennel i.e. *Saumpha* being *Madhura*, *Tikta*, *Kañäya* in *Rasa*, and *Çéta Vérya.* It improves the digestion and don't allow fresh formation of *Äma* in body. It also has analgesic property.
- Because of its property to improve digestive fire, *Uñëa Vérya* it alleviates *Väta* and *Kapha*. It has anti-inflammatory and anti-arthritic property. It is also a good nervine tonic.

After discussion on the properties of the ingredients of *Äbhädi Cürëa* it can be interpreted that *Äbhädi Cürëa* is very useful in alleviating the signs and symptoms of *Sandhigataväta*. *Çallaké* is known for its anti-arthritic properties. Both these drugs when used in combination, show very good results in the patients of *Sandhigataväta.* To stop the reoccurrence of symptoms therapy should be continued for longer periods under close supervision.