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Management of *Janusandhigata Vata* w.s.r. to Osteoarthritis of knee joint with modified method of *Agnikarma* by the use of electrocautery- A Case Report

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ABSTRACT:

Sandhigata Vata (Osteoarthritis) is the most common condition of articular disorder, especially in the elderly. It is mainly seen in the weight bearing joints i.e., the knee joint. Common clinical features of *Janusandhigata Vata* (Osteoarthritis of the knee joint) are pain, swelling, stiffness, painful and restricted movements in affected knee joints. It is mainly caused by degenerative changes of the knee joints. In the present case, the study patient had pain and stiffness in the left knee joint as well as difficulty in walking since last one year. Based on clinical examination and X-ray of knee joint, the diagnosis of osteoarthritis of the knee joint was confirmed. *Agnikarma* is one among the all classical treatment modalities mentioned for *Sandhigata Vata,* which is widely used to manage the severe painful conditions. In the present case study, *Agnikarma* was performed in a modified way by the use of electrocautery at the affected knee joint once a week for four weeks. After one month of treatment, the patient got complete relief from pain and stiffness at the affected knee joint. Thus, the modified method of *Agnikarma* by electrocautery is cost effective, less time consuming and easy to administer at the out-patient department level.

KEY WORDS: *Agnikarma*, Electrocautery, *Janusandhigata Vata,* Osteoarthritis.

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INTRODUCTION:

Acharya Charaka has considered *Sandhigata Vata* under *Vatavyadhi* as *Gatatva* (localized) *Vata.* [1] When vitiated *Vatadosha* lodges in *Janusandhi* (*Marmasthana*) manifests *Janusandhigata Vata.* [2] When it combines with vitiated *Kaphadosha* there will be *Stambha* and *Gaurava*. On the other hand, osteoarthritis is defined as a degenerative, non-inflammatory joint disease characterized

by the destruction of articular cartilage and the formation of a new bone at the joint surface and margins. [3] Because of its similarities it can be very much correlated to *Sandhigata Vata.* In O.A. knee joint clinical syndrome of degenerative arthritis is caused by abnormal wearing of the cartilages along with decrease synovial fluid. Thus, patient experiences pain upon weight bearing joints during walking and standing. Which lead to disturbance in gait, instability during walking and hampered one's quality of life. Potent analgesics and anti-inflammatory drugs are available in the market, which carries their own side effects. On the other hand, risk of failure of total knee arthroplasty which requiring revision surgery 10 years post operatively is 5%. [4] Prevalence rate of osteoarthritis in India is about 22% to 39%. O.A. was estimated to be the 10th leading cause of nonfatal burden.[5] Prevalence of O.A. of knee with clinical criteria is about 19.6%, when in radiological criteria it is about 25.5% and when both criteria are in consideration it is about 17.6%.[6]

In *Shalyatantra* various treatment modalities have been described, among them *Agnikarma* is said to be superior because the patient treated with *Agnikarma,* have less chance of recurrence. [7] *Acharya* Sushruta has explained that *Agnikarma* can be done in the condition of severe pain occurs in *Twaka, Mamsa, Sira, Snayu, Sandhi* and *Asthi.*[8] Which is found effective in painful condition like osteoarthritis by many research works. In *Bhaishajya Ratnavali*, one another kind of *Agnikarma* mentioned in the *Vatakantaka* (one of *Vatavyadhi*) *Chikitsa* with the use of needles. [9] It can be correlated with *Viddha Agnikarma* which is practiced nowadays in modified way with the use of electrocautery. [10, 11] *Viddha Agnikarma* is the combined procedure of *Vyadhanakarma* and *Agnikarma*.

PATIENT INFORMATION:

A 60-years-old male patient came to OPD of *Asthi Sandhi* with the complaints like pain and stiffness in left knee joint with difficulty in walking due to pain since last 1 year. The patient revealed a history of worsening of pain in the affected area after longtime standing since last 1 year.

Past history: No any relevant past history found.

Associated history: Hypertension since last 2 months.

Drug history: Telmisartan 40 mg once daily in morning before breakfast with plain water as con current medicine.

THERAPEUTIC INTERVENTION:

Intervention: *Agnikarma* by electrocautery. Total 4 sittings at 7 days interval- 0, 7th, 14th and 21st day. The treatment protocol was explained in brief to the patient and informed written consent was taken from the patient. Tetanus toxoid 0.5 ml intra muscular was given. The patient plate was kept under the lower back of the patient after giving a supine position. Most tender points were marked on affected knee joint. Part preparation by the cleansing of the left knee joint with povidone iodine solution done in the flexed position of the knee joint. 18G disposable needles were pierced about 0.5 cm deep on the skin of the left knee joint at marked tender points. By using electrocautery with monopolar prob at the power setting of 0.5 coagulation was administered to each needle shaft for a second as per shown in the clinical images. Second time administration was done at interval of 5 to 10 seconds. All needles were removed and the local part was cleaned with surgical spirit.

The patient was advised to take rest for an hour and avoid water contact with the local area for at least 24 hrs.

Assessment criteria:

In subjective criteria pain (VAS scale according to available previous study), crepitus and stiffness were considered and as objective criteria swelling and range of movement were included in reference to knee joints as per mentioned in the table no. 3 to 7 accordingly. [9] Clinical findings are mentioned in table-1.

Table-1: Local examination of left knee joint:

Discoloration	Not found
Deformity	Not present
Scar mark	Not present
Swelling	Absent
Temperature	Normal
Tenderness	Present
Crepitus	Present-Palpable
Range of movement	Restricted and painful

Table- 2: Time line as per CARE guidelines [12]

2021 year

Blood Investigation

INVESTIGATION*	**B.T.**				
Hb%	13.7 Gms%				
TLC	6560/cu mm				
DLC (N, L, E, M, B)	50.7	31.4	11.3	5.8	0.8
Total RBC	4.85 mill/cu mm				
Platelets	320000/cu mm				
ESR	20 mm/hr				
B.T.	1 min 45 sec				
C.T.	3 min 55 sec				
RBS	80 mg/dl				
R.A. factor (Quantitative)	7.9 IU/ml				
HIV	Negative				
HBsAg	Negative				
VDRL	Negative				
HCV	Negative				

X ray of B/L knee joint →	Definite narrowing of joint space and definite osteophytes development KL radiological grading- Grade 2[13]

*(Hb- Hemoglobin, TLC- Total leucocyte count, DLC- Differential leucocyte count, RBC- Red blood cell, ESR- Erythrocyte sedimentation rate, B.T.- Bleeding time, C.T.- Clotting time, RBS- Random Blood Sugar, R.A.- Rheumatoid arthritis)

Observations and Result:

Subjective Parameters:

Table- 3 Pain

BT	AT			
	1st sitting	2nd sitting	3rd sitting	4th sitting
7	5	4	2	0

Table no. 4 Crepitation

	BT	AT
Palpable	Present	Present
Audible	Absent	Absent

Table no. 5 Stiffness

BT	AT
Mild	Absent

Objective Parameters:

Table no. 6 Swelling

BT	AT
Absent	Absent

Table no. 7 Range of movement

Goniometric Reading	BT	AT
Flexion	110^0	130^0
Extension	-05^0	-10^0

Clinical Images:

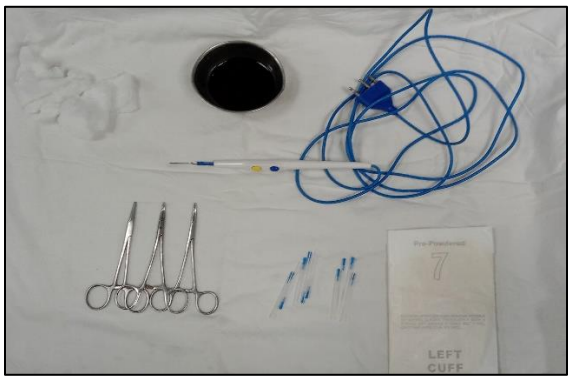

Figure- 1. Collection of material

Figure-2. Palpation of tender points

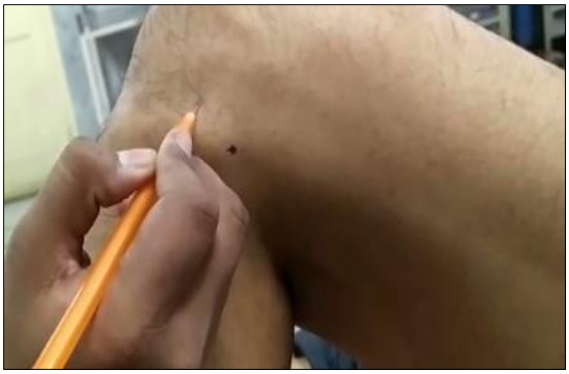

Figure- 3: Marking of tender points

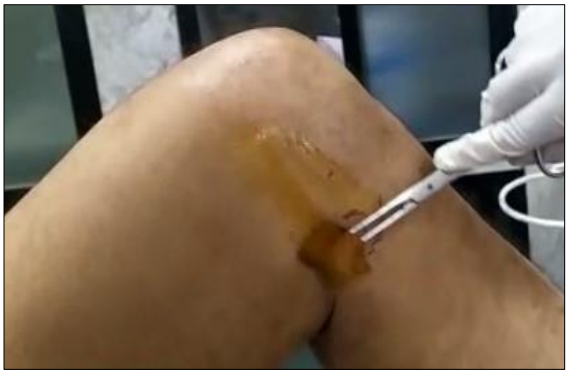

Figure- 4: Painting with Povidone iodine

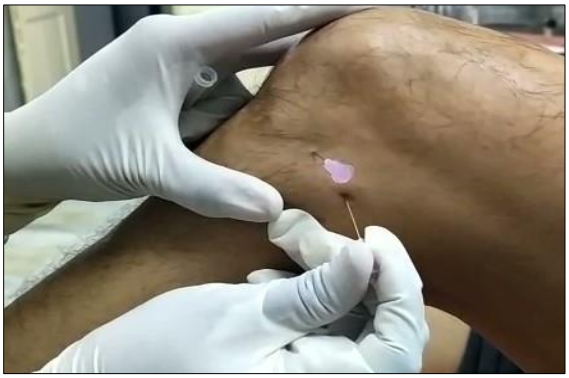

Figure- 5: Piercing of needles

Figure-6: *Agnikarma* by electrocautery

Follow up:

During the follow up period of two months patient was assessed for any recurrence of symptoms. Patient had marked improvement in all the complaints especially in pain at affected area along with walking difficulty. No any adverse reaction was found during treatment period and in follow up time.

DISCUSSION:

Acharya Dalhana has described that *Agnikarma* is the best treatment for *Vatakaphaja Vyadhi*. [14] Vitiated *Vata* and *Kaphadosha* can lead to the manifestation of *Janusandhigata Vata*. Thus, *Agnikarma* is used to treat *Janusandhigata Vata* as it has qualities like *Ushna* (hot), *Tikshna* (sharp), *Ruksha* (dry), *Laghu* (light) to counter the *Shita* (cool), *Chala* (mobile), *Manda* (mild), *Guru* (heavy) *Guna* of vitiated *Vata* and *Kaphadosha* accordingly. According to *Bhavaprakasha Samhita Agnikarma* (*Dahakriya*) is specifically mentioned in the treatment of S*andhigata Vata.* [15]

Agnikarma by use of electrocautery is combine procedure as *Viddha Agnikarma.* Thus, it carries all benefits of *Agnikarma* i.e., pain management, relives stiffness etc. in addition to this it is done in such modified way where there is more accuracy and precise effect, have good temperature control and less chance of accidental injury like burn in compare to routinely practiced S*halaka Agnikarma.* As there is poor control of temperature because there are more chances of temperature loss in between the heating area and administration site of *Shalaka* which is again affected by weather condition. It is also observed that there is no formation of scar and as such burning sensation at the site of *Agnikarma* in procedure of *Agnikarma* done by electrocautery in compare to *Shalaka Agnikarma*. Hence, *Agnikarma* by electrocautery is found to be cost effective, less time consuming and easy to administer procedure at OPD level. Accidental burn due to improper placement of patient place and chances of electrical shock may be there if proper care is not taken.

CONCLUSION:

The result obtained in this single case report advocate that *Agnikarma* with electrocautery having satisfactory result in the sign and symptoms of *Janusandhigata Vata*.

PATIENT CONSENT:

Informed written consent was taken from patient for procedure and publication of images without disclosing his identity.

LIMITATION OF STUDY:

This procedure can be more beneficial if it is administered along with the use of internal medicine.

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