



Reviewing “Kukkutanda Pinda Swedan” as a Conceptual Approach for Janusandhigata Vata (Osteoarthritis)

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Abstract: Kukkutanda swedan is a type of pinda swedan, this type of swedan comes under shankara sweda mentioned by Acharya Charaka. It is shingdha in nature and is used mainly in condition of muscles wasting, atrophy (shosha), shula (pain), sthambha (stiffness), and different type of vata vyadhi. Osteoarthritis of knee is one of the major musculoskeleton abnormality found now a days. In Ayurveda osteoarthritis is correlated with sandhigata vata which is chronic, degenerative disorder characterized by gradual loss of articular cartilage. Shula Pradhan vedana is the cardinal features of this disease associated with vata purna druti sparsha, lack of movements of joints or painful movement of the joints. It is type of Vatavyadhi, which mainly occurs due to *Dhatu shaithailya* and *Dhatukhaya*. Kukkutanda swedan is explained in Bhavprakash madhyam khanda vatavyadhi chikitsa, it has mainly triple action of Snehana, Swedana and Brimhana. The Snigdha Pinda swedana is usually done in different type vatavydhi like Ardita, Janusandhigata vata, Hanugrah, atrophy, avabahuka, Greevasthanama, muscular disorders around the vertebral region and traumatic disorders. The present study aims to review the procedure of kukkutanda swedan through of various Ayurvedic and modern literatures, published research papers and text books.

Keywords: Kukkutanda, Swedana, Snehana, osteoarthritis, sandhigata vata, snigdha Swedana, panchakarma.

INTRODUCTION:

Swedana is an important elementary measure before the panchakarma procedure. It is a procedure which is most commonly used as poorva – Karma (pre-operative) before any Shodhana therapy and after Snehana. It is also an independent therapeutic procedure for managing various disease, particularly those involving the vata and kapha doshas. Swedana relieves from stiffness, heaviness, and coldness in the body and after swedana, the body starts sweating and gives the feeling of lightness in the body. In *vridhnavastha*, all dhatus undergo *Kshaya*, thus leading to *Vataprakopa* and making individual prone to many disease. Sandhigata vata (osteoarthritis) is the most common articular disorder begins asymptotically in the 2nd and 3rd decades and is extreme common by age 60 – 70 .Almost all persons by age 40 have some pathologic change in weight bearing joint . Sandhigata vata is described as one of the main *vata vyadhis* in Ayurveda and such type of disorder mainly developed because of *Dhatukhaya*, *Avarana* and *Abhigata* (khata). Kukkutanda Sweda is one of the unique Swedana modalities, comes under Shankara swedan and is mentioned in Bhavaprakash [1]. It owes its effect due to its Stambhaghna, Gouravaghna, Ushna, VednaShamaka, Brimhana, Balya, and Tridoshaghna properties exhibited by the ingredients present in it [2]. The benefits of Kukkutanda can be understood further as Acharya Charaka has explained it as Sadyo-Bala Kara, useful in Ksheena-Dhatu and Kshata [3]. Thus collectively, the word Kukkutanda Sweda means the act of producing sweat by the application of boluses prepared from hen's egg.

AIMS AND OBJECTIVES:

1. To study the literature review of Kukkutanda swedana.
2. To understand the ayurvedic concepts of kukkutanda swedana in the management janusandhigatavata (osteoarthritis).

MATERIALS AND METHODS:

The study of different Ayurvedic and modern literature has been done to fulfill the objective of the study. References regarding Kukkutanda Sweda are collected from various textbooks of Ayurveda classics, previous work done and detailed description regarding the types of Sweda and its probable mode of action has been explained in the present study.

HISTORICAL REVIEW:

Charaka Samhita	धार्तराष्ट्रचकोराणां दक्षाणां शिखिनामपि ॥ श्वटकानां च यानि स्युरण्डानि च हितानि च । क्षीणरेतःसु कासेषु हृद्रोगेषु चतेषु च । मधुराण्यविदाहीनि सद्योवलकराणि च ॥ (Ch.su 27/85,86) Properties of eggs of birds like swan etc. Eggs of birds the Dhartarashta (variety of swan), chakor, hen, peacock, etc. are beneficial for dhatu khaya, daurbalya, kasa, hridroga, urokhata. Madhura in rasa, balya, sheeta. Acharya Charaka has mentioned about swedan under the chapter Sutra sthana 22 and 14 and the chapter chikitsha sthana 2, pratham pada shloka no 45, 49.
Sushruta samhita	Acharya Sushruta has mentioned about "kukkuta" under the chapter Sutra sthana 46 but aanda word has not mentioned. स्निग्धोष्णोऽनिलहा वृष्यः स्वेदस्वरबलावहः । वृंहणः कुक्कुटो बन्यस्तद्वद् ग्राम्यो गुरुस्तु सः । वातरोगक्षयवमीविषमज्वरनाशनः ॥ (Su.su 46/66)
Bhavprakash	नातिस्निग्धानि वृष्याणि स्वादुपाकरसानि च । वातघ्नान्यतिशुकाणि गुरुण्यण्डानि पक्षिणाम् ॥ (Bh.Ni mamsa varga/72) and Bhavprakash has mentioned under the chapter vata vyadhi chikitsha 24 , madhyam khanda , shloka 78.
Astanga hridaya	Acharya Baghvat has mentioned under the chapter sutra sthan 6, sloka 44, 45.
Astanga sangraha	Acharya Vriddha baghvat has mentioned under the chapter sutra sthan 7 ,sloka 60.

Synonyms of kukkuta: Murga, Tamrachud, tamchur, Arunshik , Arunchud .

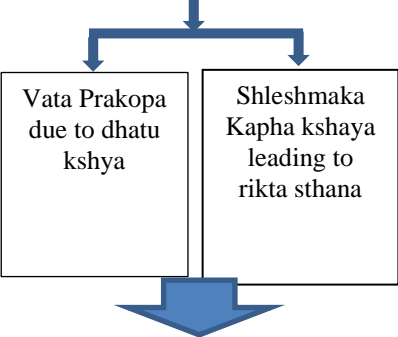
DISEASE REVIEW:

In Ayurvedic classics, Sandhigatavata (osteoarthritis) is described concisely under nanatmaja Vatavyadhi. Further, continuously indulging in Vata aggravating factors lead to Sthana-Samshraya of Prakupita Vata in Kha-Vaigunya Yukta Sandhi. Shleshaka Kapha in these joints also depletes resulting in the Kshaya of Asthi Dhatu and other components. This localized Vayu, due to its Ruksha, Laghu, Kharadi Guna result in Sandhigatavata and if not treated, leads to Vaikalyata of Sandhi.

SAMPRAPTI:

The generalized samprapti of sandhigatavata can be divided under three headings for proper understanding:

- ✦ Dhatukshayajanya
- ✦ Avaranajanya
- ✦ Abhighatajanya

Dhatukshayajanya	Avaranajanya	Abhigatajanya
<p>Jara avastha(aging)</p>  <p>Prakopita Vata get Sthana Samshraya in Rikta sthana (snehaadigunakshaya) i.e Janu sandhi.</p>	<p>Atishoulaya Purush</p> <p>Increase Medo dhatu + decrease rasa ,rakta, asthi majjadi dhatu</p> <p>increase medo dhatu leads to agni mandya & ama formation</p> <p>Samarasadi dhatu leads to Sroto avarodha</p> <p>Vata prakopa</p> <p>Prakopita Vata get Sthana Samshraya in Rikta sthana (snehaadigunakshaya) i.e Janu sandhi.</p>	<p>Abhigata</p> <p>Sthanik Vata prakopa & rakta Dushti</p> <p>Due to ruksha guna of vata & ushna guna of dushta rakta there will be shoshan of shleshma kapha.</p> <p>Deterioration of Shleshmadhara kala which keep the joints lubricated</p> <p>Janusandhigata Vata</p>

POORVA RUPA:

अव्यक्तं लक्षणं तेषां पूर्वरूपमिति स्मृतम् ।

(Ch. Chi. 28/19)

Avyakta Lakshanas of Vatavyadhi are taken as its Purvarupa by Acharya Charaka. Purvarupa of Vatavyadhi can be taken as Purvarupa of Sandhigatavata.

अव्यक्तं न अति अभिव्यक्तम् ।

(Ma. Ni. 1/6 – Vij.)

Sandhi Shula or Shotha prior to the manifestation of the disease can be considered as purvarup which is in mild or occasional form."

ROOPA:

Roopa of Janu sandhigatavata according to various Ayurvedic texts are tabulated below.

Table: Showing Roopa of Janu sandhigatavata according to various

Symptoms	C.S	Su.S	A.Hr	A.S	M.Ni	B.P	Y.R
Sandhi Shoola	+	+	+	+	+	+	+
Sandhi Shootha	+	+	+	-	+	+	+
Vatapurna driti sparsa	+	-	+	+	-	-	-
Prasarana Akunchanyo vedana	+	-	+	+	-	-	-
Hanti Sandhigata	-	+	-	-	+	+	+
Atopa	-	-	-	-	+	-	-

DEFINATION OF KUKKUTANDA SWEDANA:

Kukkutanda Sweda falls under the category of Pinda Sweda. Pinda refers to bolus (a round mass) or lump. In pinda sweda the paste made from drug such as Kakolyadi, Eladi or Sursadi group along with substances like Til, Atasi, Krishara, Payasa, Utkarika, Vesavara or the drug of Salavana wrapped in a piece of thin cloth. This is called Pinda Sweda, where Sweda is done by Pottali [4]. In Kukkutanda Sweda specifically, the contents of Kukkutanda (hen's egg) are heated with Saindhava and Ghrita. This heated mixture is applied to the affected area, followed by Mardana (massage) to alleviate the condition.

PROCEDURE OF KUKKUTANDA SWEDA:

It is divided into three parts:

1. POORVA-KARMA (Pre-Operative Procedure)

- Collection of essential material for Kukkutanda Sweda.
- Preparation of the Pottali.
- Preparation of the patient.

Table: Property of drug which mainly mentioned in “Bhavprakash. [5]

Sr.No	Drug	Ras	Guna	Virya	Vipaka	Karma
1	Kukkutanda (egg)	Madhur	Laghu, Snigdha	Ushna	Madhur	Avidahi, vrushya Shukravardhak
2	Go Ghrita	Madhur	Sheeta	Sheeta	Madhur	Vatapittahar, Dhee Smriti, Agneya, shukral
3	Saindhava Lavana	Madhur	Ladhu, snigdha	Anushnasheeta	-	Tridhoshghan, Agnideepaka, Ruchya, Balya

Collection of Essential Material for Pottali,

Ingredient required are:

- Eggs: 4 - 5 in no.,
- Saindhava Lavana: 5 gm,
- Rason (Lasuna): 8 in no.,
- Nimbu: 1 in no.,
- Cotton cloth (45 cm×45 cm): 4,
- Vessels (iron) for heating: 2,
- Suitable oil for massage,
- Oil for frying,
- Oil for reheating the Pottali,
- Soft towel,

PREPARATION OF THE POTTALI:

The contents of whole eggs (excluding the shell) are emptied into a bowl. Ghrita (clarified butter) and Saindhava Lavana (rock salt) are then added. This mixture is thoroughly stirred until it achieves a semisolid consistency. It is then divided into four equal parts, and Pottalis (herbal pouches) are made from each portion. Each Pottali is dipped in a suitable oil and used to massage the affected area. These Pottalis are intended for single-use only and should be discarded after use.

There is another method of preparation of the Pottali, in which oil is taken based on the Doshic predominance in the individual and condition (like Nimba Taila, Dashmoola Taila, Dhanvantara Taila). The oil is taken in a vessel and heated and sliced lemon, Ajwain(carom seeds), Methi (fenugreek seeds), Lashun, Haridra and Kolakulathadi Churna are added to it. Once the ingredients are fried, add 4–5 eggs without shell and stirred well till it attained semisolid consistency and were cooked properly. The soft lumps were then placed over cotton cloth and tied into Pottali.

PREPARATION OF THE PATIENT:

To ensure the selection of an appropriate variety of Sweda (sweating therapy), careful consideration should be given to factors such as Desha (location), Ritu (season), Rogabala (strength of the disease), Rogibala (strength of the patient), and Vaya (age).

Before the Swedana procedure, it is essential to perform Abhyanga (oil massage). The patient should be seated with their legs extended over the table. Abhyanga should be conducted using the prescribed medicated oil, applied all over the body or to specific areas, for approximately 10 minutes.

2. PRADHAN KARMA:

The prepared Pottali should be heated with suitable oil in a hot iron pan up to 42–46°C. It should be applied after checking the temperature over dorsal aspect of the palm with mild pressure by the attendant. Care should be taken to maintain the temperature throughout the procedure by reheating the Pottali.

3. PASHCHATA KARMA:

- Person should take warm water bath.
- Food should be light, and it should be served hot and fresh.
- Abhishyandi Ahara like Dadhi (curd) should be avoided.

DURATION OF THE PROCEDURE

30–45 min for 7 to 21 days.

PRECAUTION:

The mixture should be cooked on slow medium flame to avoid getting burnt.

- Swedana should be performed in a non-airy room.
- The temperature of the Pottali should be checked before applying it over the patient.
- The Pottali should not be kept at the same place for long time as it may cause skin burn.
- The temperature should be maintained all through the procedure to avoid temperature variations and provide even sudation.
- After sudation procedure, advice the patient to cover the body properly.
- Exposure to wind, cold breeze and fan should be avoided for a period of 2–3 h.
- Minimum sudation should be given over occipital and cardiac region. [6]

COMPLICATIONS:

- Excessive hot Pottali may cause skin burn.
- Excessive sudation for a long time may cause vaso-dilation and raise blood pressure of the patient.
- Giddiness due to excessive sudation. Fever, headache and common cold after sudden exposure to cold temperature after sewdana.

CONTRAINDICATIONS [7]

- Madhumehi.
- Oja-Kshaya.
- Madhya-Vikara (also one who has consumed alcohol).
- Kamala (jaundice).
- Garbhini.
- Madhya-Vikara (also one who has consumed alcohol).
- Kamala (jaundice).
- All the contraindications for Swedana are to be avoided.

DISCUSSION:

Kukkutanda Sweda is a Pinda Sweda under Shankara Sweda mentioned by Acharya Charaka [8]. It is of Snigdha nature and is used mainly in conditions of muscle wasting, atrophy, Shula and Stambha type of VataVyadhi. It provides the effects of Snehana (Snigdhatata) and Swedana simultaneously.

PROBABLE MODE OF ACTION:

The mode of action of Kukkutanda Swedanacan be understood in three forms: SnehanaKarma, Swedana Karma and nourishing action. Another viewpoint for its action is based on the action of drugs used in it.

The Kukkutanda in itself has Brimhana and Snigdha Guna which further assists in the process of Snehana. These Guna are opposite to the vitiated Vata Dosha, and hence improve the strength of fibrous tissue and increase movement and flexibility of the joints by relieving the pain and stiffness caused mainly due to Vata Dosha. The Snehana action also strengthens the nerves through Balya Guna and relieves nerve compression by providing Snigdhatata (lubrication). During the process of performing the procedure, the contents of the Pottali are fried in Ghee or oil and Abhyanga with the Pottali increases the localized circulation. Abhyanga allows free movement of toxins through the skin, makes skin soft, reduces spasticity, rigidity of joints and muscles, gives a soothing effect and relieves from pain. Gradually over a period, muscle wasting may be prevented.

Janusandhigata vata is a degenerative disease where vatadosha prakopa is more dominant hence more snigdhatata of the joints is needed. Abhyanga having the properties like snigdha helps to pacifies vata dosha. The abhyanga performed before Swedana, creates the pressure gradient necessary for the absorption of the

sneha amsha and by stimulating the sensory nerve endings it relaxes the muscles & its related structures. Here the Hilton's Law can be applied in understanding the action of abhyanga, which says that the nerve which supplies a joint also supplies group of muscles acting over those joints, along with the skin covering that area. Usually in joint disorders there is a contraction of the nerve reflex to fix the joint in a comfortable position. This also causes a referred pain over the skin in that area covered. Therefore Abhyanga relaxes the muscle acting on the joint.

The contents of Kukkutandasweda are kukkutanda (egg), Grutha, Saindava and kukkutanda twak. All the contents of the yoga are having Vata-Kaphahara properties which are useful in Janusandhigata vata.

The egg with the shell, the shell membranes, the yolk & the egg white contains highly nutritive substances like, glucosamine, chondroitin sulphate, hyaluronic acid, ovotransferrin, desmosine and isodesmosine, Iysyl oxidase, lysozyme and the unique combination of 113 amino acids with many mineral supplements. Glucosamine is beneficial to sufferers of osteoarthritis pain. It is a major component of joint cartilage which helps in preventing degeneration of cartilage and also in joint space reduction. As we grow older, our body loses the capacity to make enough glucosamine, so the cartilage in our weight-bearing joints, then hardens and forms bone spurs, causing pain, deformed joints and limited joint movement. Chondroitin sulphate is claimed to maintain the structure, function of cartilage the topical application or injection chondroitin sulphates to protect joint cells, reduce aseptic inflammation. Hyaluronic acid is effective for pain relief, for the risk of adhesion and contractures of joints. The injection of same is useful for the treatment of osteoarthritis, and rheumatoid arthritis. [9]

The nourishing action of Kukkutanda can be known from the fact that the ingredients of Kukkutanda Sweda like Kukkutanda, Ghritahave Madhura Rasa which does Dhatu Poshana (Rasa, Mamsa, Meda, Asthi, Majjaand Shukra). The Ghrita due to its Rasayana properties nourishes the Dhatu. It also provides lipid media, which helps in bioavailability and enables the drugs reach to cellular level, thereby removing metabolic waste. Saindhava Lavana does Kapha-Vilayana and Chedhana. Due to its Sukshma-Guna it enables the medications to reach into deeper Srotas and also bring peace to the Tridosha.

The Kukkutanda Sweda therapy induces a local temperature increase primarily due to the Ushna (hot) and Teekshna (sharp) properties of the ingredients used. During Kukkutanda Sweda, the temperature in the targeted area can rise by 2–3°C, leading to the vasodilation of nearby blood vessels.[10] This dilation stimulates Bhrajak-Pitta in the skin, facilitating the absorption of nutrients from Kukkutanda, Methika, Ghrita, and other medicinal substances. This process aids in the elimination of metabolic waste through circulation and perspiration. Upon contact with the skin, the therapeutic substances undergo metabolism (Paka) influenced by Bhrajakagni and Rasa Dhatwagni. This leads to the nourishment (Rasa Tarpana) of the body's tissues (Rasadi Dhatu) via the action of Vyana Vayu.[11] The therapy effectively counteracts the Sheeta, Laghu, and Ruksha of Vata Dosha, thereby reducing pain (Shula), stiffness (Stambha), and inflammation in localized tissues. Furthermore, the autonomic nervous system, which plays a key role in sweat production, facilitates systemic relief through the combined actions of lubrication (Snehana) and sweating (Swedana), providing a soothing effect on the nerve endings.

Another point ,Egg yolks are rich in vitamins A, D, E, B1, B2, B5, B6, B9, and B12, whereas egg whites contain significant amounts of vitamins B2, B3, and B5, along with B1, B6, B8, B9, and B12. Eggs are also a key source of choline, essential for cellular maintenance and growth. The dermis has a dense network of blood vessels, allowing lipid-soluble substances, including vitamins A, D, E, and K, to penetrate the skin effectively [12]. Topical application of Kukkutanda Sweda, being lipid-soluble, easily reaches the dermis, exerting anti-inflammatory effects by inhibiting histamine production. This transdermal delivery allows continuous and controlled release of the drug, beneficial for drugs that are rapidly eliminated from the body. It also plays role in neurotransmission, brain development and bone integrity thereby preventing various Vata-vyadhi and muscles wasting conditions.

CONCLUSION:

Sandhigata Vata is a type of Vata vyadhi commonly associated with the vardhakya, kapha-avarana and dhatu kshaya is a prominent feature in its manifestation. The Doshas involved in this disease are mainly Vyanavayu and Sleshaka Kapha. Old age, female sex, obesity and repeated trauma are the main risk factors for Osteoarthritis of Knee joint. Occupational, improper postures, sitting on irregular surfaces are the precipitating factors in the pathogenesis of Janusandhigata vata. Swedana is an important therapeutic measure in Ayurveda

which has got worldwide popularity because of its simple administration and effectiveness in several disorders. Kukkutanda Sweda provides the dual benefits of Snehana, Swedana along with nourishing action for the bodily tissues. It is effective in many type Vata-Vyadhi involving Dhatu-Kshaya and Kapha-Avarana conditions (such as muscle wasting and atrophy). This Pinda Sweda is easy to perform and the drugs are also easily available. Kukkutanda is having vatahara & kaphahara properties. Degenerative joint changes being progressive and irreversible, treatment is aimed at the relief of the symptoms and to induce regeneration if possible.

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