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Clinical Management of Krostukasheersha W.S.R to Synovitis of Knee: A Single Case Study

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ABSTRACT:
Krostukasheersha is a disease condition described in Ayurveda, primarily affecting the *Janu Sandhi* (knee joint). The term is derived from "*Krostuka*" (jackal) and "*Sheersha*" (head), referring to the jackal-head-like swelling seen around the knee in this condition. This closely resembles **Synovitis of the Knee** in the contemporary system of medicine. The prevalence of Synovitis of Knee in India is around 28.7%, increasing notably with age and highest among those above 60 years. Females are more commonly affected than males, with obesity (BMI > 25 kg/m²) serving as a major modifiable risk factor. Higher rates are observed in large cities (33.1%) and villages (31.1%) compared to smaller towns (17%). *Krostukasheersha* is a condition, which is characterized by an imbalance in the *Vata dosha* (*Vyana Vata*) and *Kapha dosha* (*Sleshaka sleshma*), leading to knee joint disorders such as pain, swelling, stiffness and reduced mobility.
This article is focused on a detailed case study, which demonstrates the successful Ayurvedic management of Biopsy-proven, Non-specific Synovitis of the knee, correlated with *Krostukasheersha*; in a 28-year-old male with a four-year history of chronic symptoms and only partial relief following synovectomy. A comprehensive, integrative treatment protocol consisting of *Shamana Aushadhis, Matra Vasti, Yoga Vasti, Janu Vasti* and *Patrapottali Sweda* administered over a period of 50 days led to significant reduction in pain, swelling and stiffness, along with marked improvement in gait and overall functional capacity.

KEYWORDS: Krostukasheersha, Vata-Kaphaja Vyadhi, Janu Sandhi, Matra Vasti, Janu Vasti, Synovitis of Knee.

INTRODUCTION:

The *Janu Sandhi* (Knee joint), a complex hinge structure bearing substantial body weight, stands highly susceptible to degenerative and inflammatory disorders. Osteo Arthritis prevails as the predominant degenerative condition; while Synovitis, a monoarticular arthropathy most commonly affecting the knee—involves synovial membrane inflammation, yielding joint effusion, pain, swelling, stiffness and functional

limitation. This pathology manifests either in isolation or secondary to trauma, infections, autoimmune diseases or degenerative arthropathies.

Ayurvedic literature describes ***Krostukasheersha***, localized to *Janu Sandhi***,** presenting with *Shula* (pain), *Shotha* (swelling) and *Gamana Asaktata* (difficulty in walking)—symptoms closely paralleling the symptomatology of knee synovitis. Contemporary pathophysiology reveals synoviocyte proliferation, leukocytic infiltration, and cytokine-mediated inflammation (e.g., IL-1β, TNF-α, IL-6), which, if untreated, foster persistent effusion, pannus formation, and progressive joint destruction.

The Subjective Parameters taken into consideration for the assessment of the results in the present case study are *Janusandhi Shula, Janusandhi Shotha, Janusandhigraha, Sparshasahyata, Janu Tapa,* Gait and VAS Score. The Objective Parameters considered during the study are the Measurements of the Swelling of both the knee joints and ruling out the involvement of Osteo Arthritis through the Radiological findings based on the Kellgren and Lawrence Scale.

CASE STUDY:

Materials & Methods:

Place of Study: Out-Patient Department of Kaya Chikitsa, Dr BRKR Govt. Ayurvedic Medical College & Hospital, Erragadda, Hyderabad. Telangana, India.

Chief Complaints:

28 years aged male patient, MNK visited Dr BRKR Govt. Ayurvedic Medical College & Hospital, Erragadda, Hyderabad and came to Kaya Chikitsa OPD for consultation with OPD No. 34560. Patient complained of severe pain and swelling in the left knee joint since last 04 years, with difficulty in walking and stiffness after periods of rest.

STUDY TYPE: Interventional Open labelled Study

HISTORY OF PRESENT ILLNESS:

A *Youvana Avasta Rogi* from a *Sadharana Desha* having *Madhyama Kostha*, *Vata Pittaja* dominant *Shareera Prakruti* and *Satwa Tamo* dominant *Manasika Prakruti* with *Madhyama Deha Pramana* presented to Dr BRKR Govt. Ayurvedic Medical College & Hospital, Erragadda, Hyderabad, with *Vama Janu Sandhi Shula*, *Shotha* and *Sandhigraha* for the past 04 years i.e., from 2020. *Rogi* complained of sudden onset of *Vama Janu Sandhi Shula* and *Sandhigraha,* which lasted for 01 month initially and gradually noticed the onset of swelling in the *Vama Janu Sandhi* with *Sparshasahyata* and *Sthanika Santapa* (local rise of temperature)/*Janu tapa* at the affected site. He was unable to walk or stand for long time *(Gamana asaktata)*. He also developed *Suptata* (numbness) in the *Vama Pada* due to continuous pain in the *Vama Janu Sandhi.* The patient also presented with varying Serum Uric acids levels initially 8.4mg/dL later peaked to 9.3mg/dL and then declined to 7.0mg/dL after therapeutic intervention. Initially, he was managed conservatively at NIMS/Hyderabad. Due to no improvement in his condition, again he was evaluated further clinico-radiologically and managed by Synovectomy, with only mild relief. Later, he consulted the *Vaidya* at Dr BRKR Govt. Ayurvedic Medical College & Hospital, Erragadda, Hyderabad for Ayurvedic management.

HISTORY OF PAST ILLNESS:

MEDICAL HISTORY:

- No past H/o. DM/HTN/BA/Trauma/Fracture.
- Known C/o. Avascular Necrosis – Rt. Hip joint.
  [The patient had a past history of Avascular necrosis of the right hip, which was treated with stem cell therapy in 2018. At present, he demonstrates an isolated, active mono-articular involvement limited to the left knee, manifesting as Synovitis. There is no clinical or radiological evidence of ongoing Hip arthritis or involvement of any other joints, supporting the conclusion that the current pathology represents a true mono-arthritis confined to the knee rather than a manifestation of a polyarticular or systemic arthropathy.]
- Took Empirical ATT for 04 months.
- Newly diagnosed with Hypothyroidism, evaluated on 11/09/2024 (TSH-10.46 mg/dL) and under Ayurvedic medication.

SURGICAL HISTORY:

- Underwent **Stem Cell therapy** for **AVN (Rt) Hip joint** in 2018.
- Underwent **Partial Synovectomy** for Left Knee joint in July 2023 at NIMS/Hyderabad.

FAMILY HISTORY: No relevant family history.

PERSONAL HISTORY:

Table No. 1.1 showing the personal history of the patient

Name: MNK	**Marital Status:** Married
Age/Gender: 28 years/Male	**Occupation**: Delivery boy in Flipkart
Diet: Mixed	**Bowels**: Constipated
Micturition: Burning Micturition	**Addictions**: Known Smoker (2-3 cigars/day) & Alcoholic (daily at nights)

VIHARA

Table No. 1.2 showing the personal history – Vihara aspect

Nature of Work	***Vyayama***	***Abhighata***	***Nidra***
Heavy work (Travelling)	Nil	Nil	Disturbed due to pain

A) AGNI : *Mandagni* (Poor appetite)
B) KOSTHA : *Madhyama*
C) *MANASIKA HETU* : *Chinta* (stressed due to work pressure)

ASHTA STHANA PARIKSHA:

Table No. 2 showing the Ashta Sthana Pariksha

Nadi	*Vata Pittaja*	***Shabda***	*Prakrutha*
Mutra	*Mutradaha (Burning micturition)*	***Sparsha***	*Mrudu, Ushna* (Due to local rise of temperature at the affected site)
Mala	*Vibanda*	***Drik***	*Prakrutha*
Jihwa	*Prakrutha/Nirama*	***Akriti***	*Madhyama*

DASHA VIDHA PARIKSHA:

Table No. 3 showing the Dasha Vidha Pariksha

Prakruthi	*Vata Pittaja*	***Satmya***	*Avara*
Vikrithi	*Dosha – Vata, Pitta* *Dushya – Rakta*	***Satwa***	*Avara*
Sara	*Mamsa Sara*	***Ahara Shakti***	*Avara*
Samhanana	*Madhyama*	***Vyayama Shakti***	*Avara*
Pramana	Ht.: 158 cm Wt.: 65 kg	***Vayah***	*Youvana (28 yr)*

(Source of Prakruthi re-confirmed by Desh Ka Prakruti Parikshan tool)

SAMANYA PARIKSHA (GENERAL EXAMINATION):

Table No. 4 showing the Samanya Pariksha of the patient

Consciousness: Conscious	**Height:** 158 cm	**BP**: 120/80 mm of Hg
Pulse Rate: 72/min, Regular	**Weight:** 65 kg	**Heart Sounds:** S1, S2 + heard
Respiratory Rate: 17/min	**BMI:** 26 kg/m^2	**Tongue:** Normal
Temperature: No systemic fever, localized warmth at the affected joint	**Built:** Moderate	**Nourishment:** Moderately nourished

SYSTEMIC EXAMINATION:

1. **CENTRAL NERVOUS SYSTEM**: Patient is Conscious, Coherent and Well-Oriented.
2. **CARDIO-VASCULAR SYSTEM:** S1, S2 heard. No murmurs or abnormal sounds heard.
3. **RESPIRATORY SYSTEM:** Shape and Size of the chest is normal. BAE +.
4. **GASTRO-INTESTIONAL SYSTEM**: Abdomen is soft. No tenderness/pain.
5. **GENITO-URINARY SYSTEM**: NAD
6. **LOCOMOTOR SYSTEM**: Pain +++, Swelling ++, Limping gait ++, Dragging gait to some extent due to pain while walking

PATHOLOGICAL FINDINGS:

Table No. 5 showing the Pathological findings

Sl. No.	Investigation	10/08/2024	11/09/2024	28/09/2024
1.	Hb%	12.8 g/dL	13.0 g/dL	13.4 g/dL
2.	**ESR**	**40 mm/hr**	**29 mm/hr**	**12 mm/hr**
3.	HbA1c	5.4%	-	5.1%

4.	Serum Calcium	8.2 mg/dL	8.6 mg/dL	9.0 mg/dL
5.	**Serum Uric Acid**	**8.4 mg/dL**	**9.3 mg/dL***	**7.0 mg/dL**
6.	**C-Reactive Protein**	**16 mg/L**	**8 mg/L**	**6 mg/L****
7.	Blood Urea	20 mg/dL	19 mg/dL	24 mg/dL
8.	Serum Creatinine	1.0 mg/dL	1.0 mg/dL	1.0 mg/dL
9.	T3 – 1.76 ng/mL	T4 – 10.1 µg/dL	**ASO – 387.98IU/mL**	
10.	**TSH – 10.464 µIU/mL (11/09/2024)**	LFT – WNL	Vit. B12 – 168pg/mL	Vit. D3 – 14.72ng/mL

(Source: Telangana Diagnostics at Dr. BRKRGAMC&H)

- Elevated Serum Uric Acid worsens knee synovitis by intensifying inflammation, synovial hypertrophy and joint effusion, leading to greater pain and disease severity. High serum Uric Acid levels correlate with stronger inflammatory cytokine activity (IL-18, IL-1β).
- A drop in CRP levels from 16 mg/L to 8 mg/L and then to 6 mg/L shows a clear decline in systemic inflammation, indicating that the synovitis is responding well to treatment. This steady improvement reflects reduced synovial inflammation and joint activity, a positive sign often seen during effective management of Synovitis.

RADIOLOGICAL FINDINGS:

HRUS – Left Knee

- Skin and sub-cutaneous tissue is normal.
- Mild joint effusion noted on medial aspect, extending to suprapatellar recess.
- Diffuse synovial thickening noted with maximum thickness of 1.5 cm with no significantly increased vascularity.
- Visualised tendons and muscles are normal.
- Popliteal vessels are normal

X-RAY Findings

Table No. 6 showing the Radiological findings

Findings	**Left Knee & Right Knee**	
Antero-Posterior View	Mild sclerotic changes in the knee joints, more in the left joint compared to the right knee joint. Early Osteo Arthritic changes noted in the left knee joint. Mild decrease in the joint space.	
Lateral View	Mild joint space reduction in the medial compartment of both the knees. Sclerotic changes seen at the Patello-femoral joint of both the knee joints.	

Inference	Hence, the involvement of Osteo Arthritis – Knee is ruled out, despite early changes of OA in both the knee joints.

CULTURE RESULTS OF SYNOVIAL FLUID:

Table No. 7 showing the results of various Culture tests of the Synovial Fluid

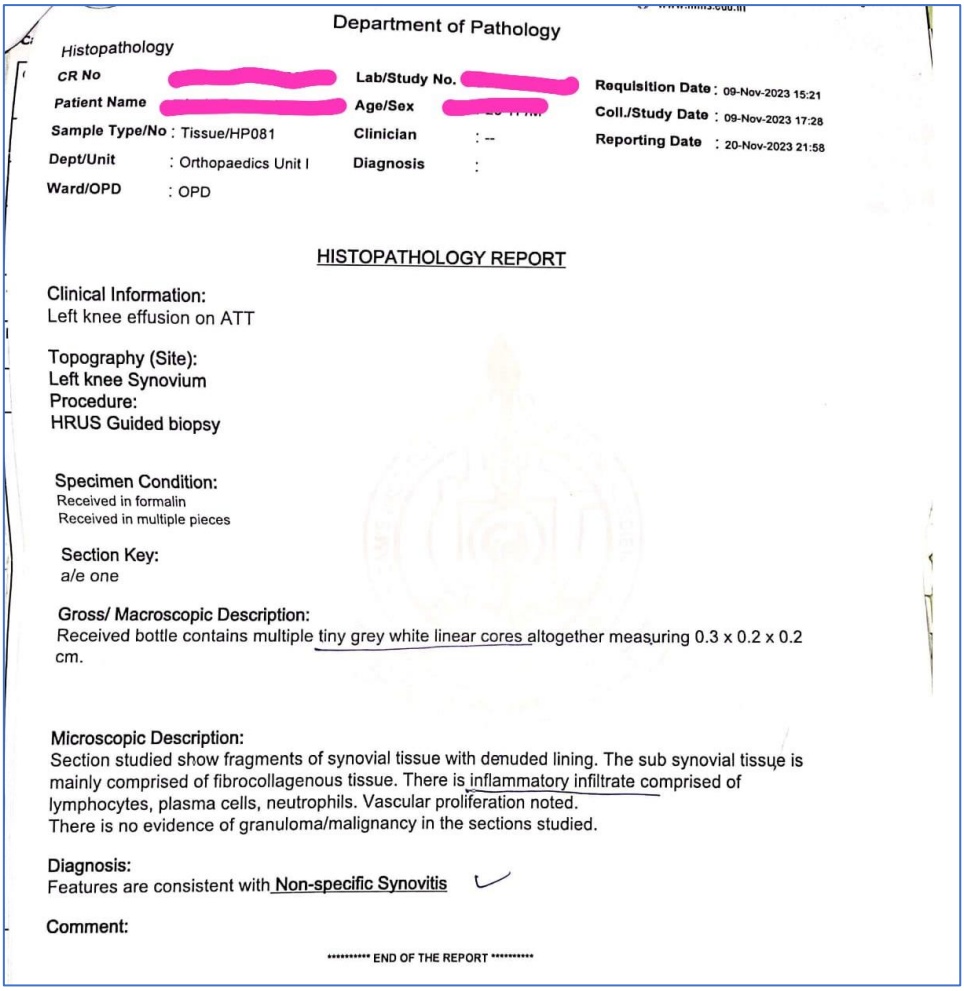
Sl. No.	TYPE OF CULTURE TEST	RESULT	DETAILED INTERPRETATION
1.	Fungal KOH Preparation of Synovial fluid	Showed **NO** Fungal elements	Potassium hydroxide (KOH) preparation dissolves keratin and cellular debris, allowing clear visualization of fungal hyphae or yeast forms under microscopy. The absence of fungal elements definitively excludes active fungal arthritis, which is rare but critical to rule out in chronic monoarticular Synovitis with effusion.
2.	Fungal Fluorescence Staining (Calcofluor white mount)	Calcofluor white mount shows **NO** Fungal elements	Negative fluorescence confirms no fungal pathogens, providing higher diagnostic confidence than KOH alone for immunocompromised or atypical presentations.
3.	Fungal culture of Synovial Fluid	Culture shows **NO** growth of any fungus after incubation for 14 days	Prolonged 14-day fungal culture on Sabouraud's media is the gold standard for fungal isolation, capturing slow-growing species like Candida, Aspergillus or atypical fungi. Complete absence of growth after extended incubation categorically eliminates fungal septic arthritis as the aetiology of this chronic Knee Synovitis.
4.	Aerobic culture of Synovial Fluid	Culture shows **NO** growth aerobically after incubation for about 36-48 hours	No growth after 36-48 hours excludes conventional aerobic bacterial infection, consistent with the chronic, non-purulent nature of the presentation.
5.	Biopsy Specimen Staining (Gram smear)	**NO** Polymorphs / Lymphocytes / Organisms were seen in the Gram smear	Absence of polymorphonuclear leukocytes (PMNs), lymphocytes and organisms indicates low-grade, non-infectious inflammation rather than acute septic or reactive arthritis, supporting a diagnosis of non-specific synovitis confirmed histopathologically.
6.	TB Fluorescence Staining of Synovial Fluid (Auramine-Rhodamine Fluorescent Stain)	Smear was **NEGATIVE**[#] for AFB	Negative staining excludes tubercular arthritis (TB synovitis), which classically presents with chronic monoarthritis and sterile pyogenic

			cultures - a crucial differential in endemic regions.

Although the Auramine-Rhodamine fluorescence stain for acid-fast bacilli (AFB) in the patient's synovial fluid was **negative**, a 4-month course of **Empirical anti-tubercular therapy (ATT)** was justified due to the well-known diagnostic limitations of tuberculous arthritis. This condition is characteristically **paucibacillary**, meaning bacterial numbers in the joint fluid are often too low for reliable detection—smear positivity rates range only from 10–30% even in confirmed cases. So, Empirical ATT was given to avoid irreversible cartilage and bone damage caused by diagnostic delays.

HISTOPATHOLOGY REPORT: [20/11/2023]
LEFT KNEE SYNOVIUM by HRUS GUIDED BIOPSY:
Microscopic Description:
Section studied show fragments of synovial tissue with demuded lining. The sub-synovial tissue is mainly composed of fibro-collagenous tissue. There is **inflammatory infiltrate** comprised of lymphocytes, plasma cells and neutrophils. Vascular proliferation is noted. There is no evidence of granuloma/malignancy in the sections studied.

Diagnosis: Features are consistent with **"Non-Specific Synovitis".**



Department of Pathology

Histopathology

CR No [redacted] Lab/Study No. [redacted] Requisition Date : 09-Nov-2023 15:21
Patient Name [redacted] Age/Sex [redacted] Coll./Study Date : 09-Nov-2023 17:28
Sample Type/No : Tissue/HP081 Clinician : -- Reporting Date : 20-Nov-2023 21:58
Dept/Unit : Orthopaedics Unit I Diagnosis :
Ward/OPD : OPD

HISTOPATHOLOGY REPORT

Clinical Information:
Left knee effusion on ATT

Topography (Site):
Left knee Synovium
Procedure:
HRUS Guided biopsy

Specimen Condition:
Received in formalin
Received in multiple pieces

Section Key:
a/e one

Gross/ Macroscopic Description:
Received bottle contains multiple tiny grey white linear cores altogether measuring 0.3 x 0.2 x 0.2 cm.

Microscopic Description:
Section studied show fragments of synovial tissue with denuded lining. The sub synovial tissue is mainly comprised of fibrocollagenous tissue. There is inflammatory infiltrate comprised of lymphocytes, plasma cells, neutrophils. Vascular proliferation noted.
There is no evidence of granuloma/malignancy in the sections studied.

Diagnosis:
Features are consistent with Non-specific Synovitis

Comment:

********** END OF THE REPORT **********

ON EXAMINATION FINDINGS:

A) *Darshana* (Inspection):

Table No. 8.1 showing the On-examination findings on Inspection

	Left Knee Findings
Swelling	Diffuse swelling present around the left knee joint.
Deformity	Absent
Gait	Limping gait and Dragging gait
Muscle Spasm	Absent
Muscle Wasting	Absent
Discolouration	Absent
Appearance	Well healed vertical surgical scar present over the antero-lateral aspect of the left knee of 10 X 0.5 cm size extending from supra-patellar region to tibial tuberosity. (Fig. A)

Fig. A : Showing the Surgical Scar

B) *Sparshana* (Palpation):

Table No. 8.2 showing the On-examination findings on Palpation

	Left Knee
Local Temperature	Local rise of temperature at the affected site#*
Tenderness	Pain on deep touch +
Crepitus	Absent
Effusion	Present

#* A local rise in temperature over the affected knee indicates **active, localized inflammation**, a hallmark of **Sthanika Santapa** described in *Krostukasheersha* and correlating with **synovial hyperemia and vascular congestion** in Knee Synovitis. This warmth, along with **tenderness and joint effusion**, reflects ongoing inflammatory activity within the synovium.

C) *Prashna* (Enquiry):

Table No. 8.3 showing the On-examination findings on Enquiry

Intensity of Pain	Severe, Distressing and discomfort type of pain (VAS – 6)
Side involved	Left Knee joint – Pain with stiffness
Site of pain	Lateral and Anterior aspect of left knee joint

D) Movements:

Table No. 8.4 showing the details of Movements of Left Knee joint

Left Knee joint movement	
Range of Movements	10º to 100º
	FFD with Flexion at 100º and Extension at 0º
Patellar Tap	Positive
Bulge Test	Positive
SLR Test	Negative in both the lower limbs
Knee Jerk	Diminished reflex (Lt > Rt)
Ankle Jerk	Normal on both the sides`

DIAGNOSTIC CRITERIA:

SUBJECTIVE PARAMETERS:

- *Janu Sandhi Shula*
- *Janu Sandhi Shotha*
- *Janu Tapa*
- *Janu Sandhigraha*
- *Sparshasahyata*
- VAS Score
- Gait

Table No. 9 showing the Gradings of the Subjective Parameters

Sl. No.	Subjective Parameters	Grade-0 Absent/Normal	Grade-1 Mild	Grade-2 Moderate	Grade-3 Severe
1.	*Janu Sandhi Shula*	Absent	+	++	+++
2.	*Janu Sandhi Shotha*	Absent	+	++	+++
3.	*Janu Tapa*	Absent	+	++	+++
4.	*Janu Sandhigraha*	Absent	+	++	+++
5.	*Sparshasahyata*	Absent	+	++	+++
6.	VAS Score	0	1-3	4-6	7-10
7.	Gait	Normal gait	Mild abnormality	Moderate abnormality	Limping gait

(Source: Gradings as per WHO Scoring for Ayurvedic Symptoms)

OBJECTIVE PARAMETERS:

Measurements of the Swelling of both the knee joints

TREATMENT PLAN:

Prognosis:

The 4-year chronicity (*Jeerna Avastha*) of *Krostukasheersha*, manifesting as *Vama Janu Sandhi Shula* (pain), *Shotha* (swelling), and *Sandhigraha* (stiffness)—contributes its *Sadhya Asadhyata* (prognosis) to be *Krchhra Sadhya.* This classification arises due to several compounding factors: the patient's *Youvana*

Avastha, characterized by vitiated *doshas*, *Vata-Pitta Vruddhi*, *Rakta Dushti* and the involvement of the *Madhyama Rogamarga*, which affects deeper musculoskeletal structures. While *Krostukasheersha* in its early stages is often *Sadhya*, chronicity and prior interventions reduced the prognosis to a more guarded outcome.

Anatomically, *Janu Sandhi* is considered a ***Vaikalyakara Marma***, meaning any prolonged disease or injury here can result in ***Vaikalya*** (permanent deformity or disability) or even ***Sandhi Bhramsa*** (joint instability/dislocation). This elevates the prognostic importance of timely, comprehensive management to prevent irreversible locomotor impairment. In this case, *Sneha*-based *chikitsa* approach, emphasizing *swedana*, nourishing and anti-inflammatory modalities, was crucial for countering *Vata* aggravation and restoring joint integrity.

After 50 days of treatment, including *Janu Vasti*, *Yoga Vasti* and *Swedana*, the patient exhibited complete relief from *Suptata, Sandhigraha* and *Sthanika Santapa*, along with significant reduction in *Janu Sandhi Shula* and *Shotha*. This outcome indicates a marked regression of inflammatory activity and improved joint functionality, demonstrating how Ayurvedic intervention can convert a *Krichhra Sadhya* condition into a functionally favourable recovery and restorative healing.

Patient was treated following the below treatment protocol –

A. *SHAMANA AUSHADHIS*:

First visit: [for 1 month]

1. Tab. Kaishora guggulu 500mg BD with water after food
2. Tab. Aswagandha 500mg BD with milk after food
3. Tab. Laghu Suta Sekhara Ras 250mg TID with water after food
4. Kokilakshadi Kashayam 20ml with equal quantity of water twice a day before food
5. Chandanasav 20ml with equal quantity of water twice a day after food

Next Visit [2nd month]: (In addition to the above medicines)

6. Cap. Neuron 1BD with water after food
7. Tab. Swarna guggulu 1BD with water after food
8. Tab. Anuloma-DS – one at night time after food
9. Tab. TFN-34 one BD with water after food
10. Nirgundi Taila – for external application

B. *BAHIR PARIMARJANA CHIKITSA*:

1. *Abhyanga* with *Chandanabala Lakshadi Tailam* for 05 days.
2. *Janu Vasti* with *Chandanabala Lakshadi Tailam* and *Pinda Tailam* in the ratio of 1:1 for 07 days each in 2 cycles.
3. *Patrapottali Sweda* with Leaves of *Eranda, Nirgundi, Arka, Datura, Shigru, etc.,* for 09 days.

C. *SODHANA CHIKITSA*:

1. *Matra Vasti* with *Balaguluchyadi Tailam* (60ml) for 07 days.
2. *Yoga Vasti* for 08 days.
   Anuvasana Vasti with *Balaswagandha Tailam* and *Mahatiktaka ghrita* in 1:1 ratio and *Niruha Vasti* with *Dasamula Kwatha + Rasna, Guduchi* and *Manjistha Kalkas*.

***PATHYA*:** *Ushna Jala Sevana, Godugdha, Madhura Amla Lavana Ahara Sevana*, *Godhuma, Masha, Rakta Shali, Draksha, Badara, Madhuka, Shrita sheetajala,* carbohydrates and omega-3 unsaturated

polysaccharides, fibre rich diet, fruits and vegetables, *Veshtana, Trasana, Mardana, Snana, Samashana, Atmabhiveekshana bhojana, Kala bhojana,* proper footwear.

APATHYA: *Yava, Sheeta Jala, Nava Madya, Sushka Mamsa Sevana, Chanaka, Gadarbha Dugdha, Naveena Madya, Shushka Mamsa, Jambu, Chinta, Diva Swapna, Ratri Jagarana, Anashana, Chankramana* (walking), *Yana Gamana* (movement), *Vega Sandharana*.

TREATMENT PERIOD:

Date of Treatment commencement : 09/08/2024
Date of Treatment conclusion : 28/09/2024
Total Treatment Period : 50 days

TREATMENT PROTOCOL:

PANCHAKARMA CHIKITSA

PLAN OF INTERVENTION:

Table No. 10 showing the Treatment Protocol

Sl. No.	Treatment Schedule	Name of the Procedure	No. of Days
1.	09/08/2024	Consultation	
2.	Day 1 – 5 (10/8/2024 to 14/08/2024)	*Abhyanga* with *Chandanabala Lakshadi Tailam*	05 days
3.	Day 6 – 12 (15/08/2024 to 21/08/2024)	*Matra Vasti* with *Balaguluchyadi Tailam* (60ml)	07 days
4.	Day 13 – 19 (22/08/2024 to 28/08/2024)	*Janu Vasti* with *Chandanabala Lakshadi Tailam* + *Pinda Tailam* (1:1)	07 days
5.	Rest for 1 week	29/08/2024 to 04/09/2024	07 days
6.	Day 27 – 35 (05/09/2024 to 13/09/2024)	*Patrapottali Sweda*	09 days
7.	Day 36 – 43 (14/09/2024 to 21/09/2024)	*Yoga Vasti*. *Anuvasana Vasti* with *Balaswagandha Tailam* and *Mahatiktaka ghrita* in 1:1 ratio and	08 days

		Niruha Vasti with *Dasamula Kwatha* + *Rasna, Guduchi* and *Manjistha Kalkas*.	
8.	Day 44 – 50 (22/09/2024 to 28/09/2024)	*Janu Vasti* with *Chandanabala Lakshadi Tailam* + *Pinda Tailam* (1:1)	07 days
TOTAL TREATMENT PLAN FOR			**50 days**

OBSERVATIONS & RESULTS:

Table No. 11.1 showing the Subjective Parameters' gradings – before and after treatment

Sl. No.	Parameters	Before Treatment (10/08/2024)	During Treatment (02/09/2024)	After Treatment (28/09/2024)
1.	*Janu Sandhi Shula*	Grade-3	Grade-2	Grade-1
2.	*Janu Sandhi Shotha*	Grade-3	Grade-2	Grade-1
3.	*Janu Tapa*	Grade-2	Grade-1	Grade-0
4.	*Janu Sandhigraha*	Grade-3	Grade-1	Grade-0
5.	*Sparshasahyata*	Grade-2	Grade-1	Grade-0
6.	VAS Score	6	3	2
7.	Gait	Grade-3	Grade-2	Grade-1

The Classical gradings for the symptoms of *Janusandhi Shula, Janusandhi Shotha, Sthanika Janu Tapa, Janusandhigraha and Sparshasahyata* for the assessment of the results, before and after the treatment, were taken as per the WHO Scoring for Ayurvedic symptoms and there is marked relief in the symptoms.

Table No. 11.2 showing the Objective Parameters viz., Measurements – before and after treatment

Objective Parameter			Left Knee		
			Above the joint	Around the patella	Below the knee joint
Before Treatment	Day-1	Measurements of the Knee joint Swelling (in cms)	51cm	46cm	38cm
During Treatment	Day-25		46cm	41cm	38cm
After Treatment	Day-50		41cm	41cm	38cm
Difference in the measurements			**10cm**	**05cm**	**Nil**

Interpretation of Objective Parameter Results:

A 10 cm reduction above the knee joint interprets:

- Circumference measured above the patella quantifies intra-articular effusion and synovitis; increases correlation with suprapatellar pouch distension and synovial fluid volume.
- A 10 cm reduction at this level indicates:
- Marked reduction in synovial effusion (less fluid in suprapatellar pouch).
- Decrease in synovial membrane congestion and periarticular soft-tissue oedema.

- Together, this justifies describing a **strong** anti-inflammatory *(Shothahara)* effect in the suprapatellar and peri-articular tissues, which is the classical site of Kroshtukasheersha.

Interpretation of 5 cm reduction around patella

- Swelling "around the patella" represents a combination of intra-articular effusion bulging around the patellar margins and extra-articular tissue oedema.
- A 5 cm reduction here implies:
  - Improved drainage of synovial fluid from the joint cavity *(kaphaja-medo-sañchaya* and *jala-sanchaya* being cleared).
  - Reduction in capsular tension and local inflammatory hyperaemia, which correlates with relief in pain and facilitation of knee movements.
- This supports that the chosen regimen is effectively pacifying *Vata* associated with *rakta* and *kapha* in the *sandhi*, resolving *shotha* and *srotorodha* at the *sandhi* level.

No change below joint interpretation

- The lack of change in circumference below the joint suggests that there was no clinically significant dependent oedema or soft-tissue swelling in the infrapatellar/leg region at baseline, or

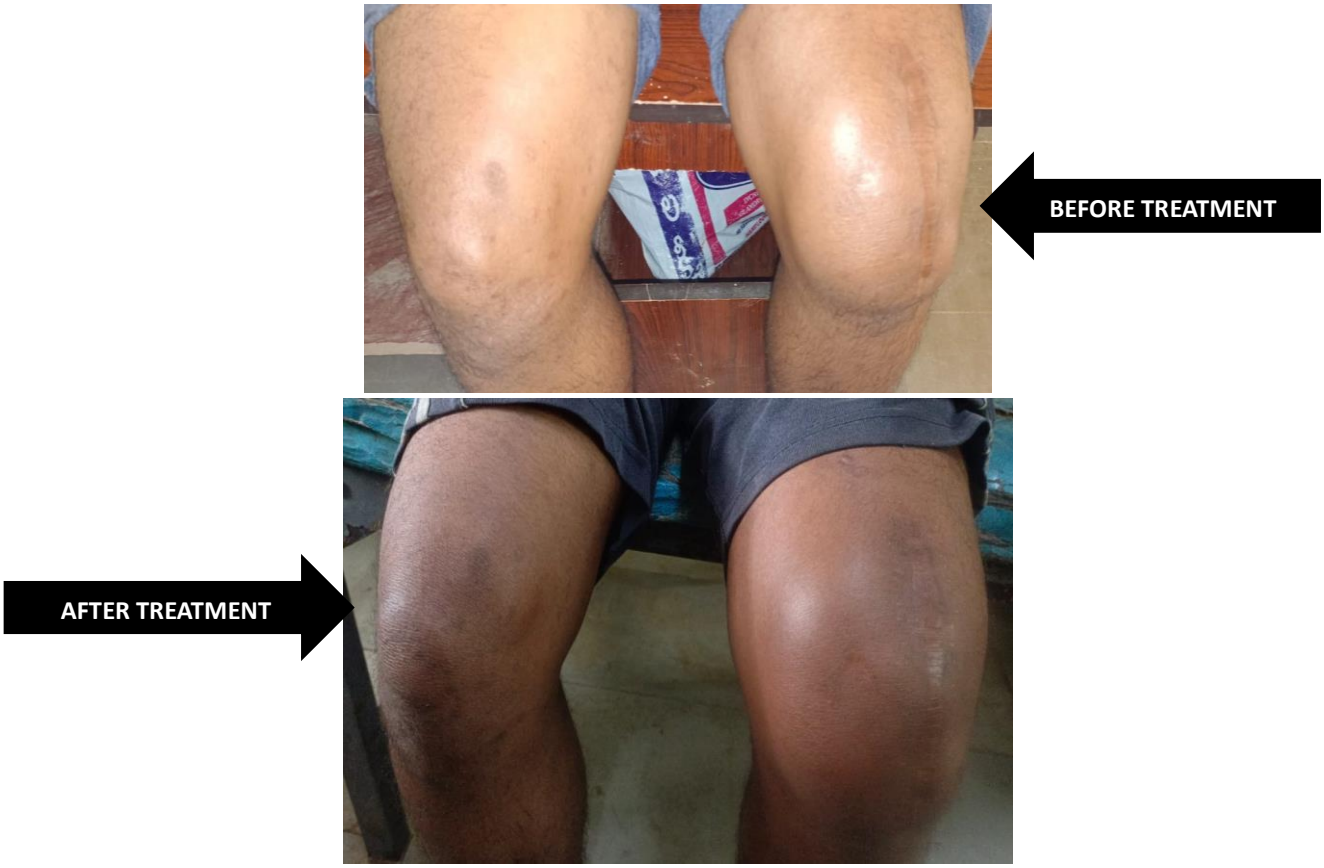
Overall clinical inference: The pattern (large reduction above, moderate around patella, none below) is internally consistent with chronic synovitis/effusion of the knee (Kroshtukasheersha) responding to a localized anti-inflammatory, *shothahara* and *srotoshodhaka* intervention.

OBSERVATIONS:

Table No. 12 showing the Observations during the Treatment

Sl. No.	TREATMENT	OBSERVATION
1.	*Abhyangam* with *Chandanabala Lakshadi tailam* for 05 days	1. Started feeling better from stiffness. 2. No change in the pain and swelling initially. 3. VAS Score: 6
2.	*Matra Vasti* with *Balaguluchyadi tailam* for 07 days	1. Slight reduction in the pain with 10% relief. 2. Feeling better with the numbness.
3.	*Janu Vasti* with *Chandanabala Lakshadi tailam* + *Pinda tailam* for 07 days	1. Pain reduced during rest and night time. 2. Mild swelling reduced and 25% of relief in pain. 3. Reduced warmth at the affected site.
4.	*Patrapottali Sweda* for 09 days	1. 50% relief in pain. 2. Marked reduction in swelling and complete absence of pain during sleep and in resting position. 3. Reduced heaviness of limbs and tenderness. 4. VAS Score: 3
5.	*Yoga Vasti* for 08 days. ***Anuvasana Vasti*** with *Balaswagandha tailam* + *Mahatiktaka ghrita* (1:1) and	1. 60% relief in pain. 2. No local rise in temperature. 3. Complete relief from numbness and stiffness.

	Niruha Vasti with *Dasamula kwatha + Rasna, Guduchi and Manjistha Kalkas*	4. Prominent reduction in the swelling at the joint with uniform measure – above, middle and below the knee joint.
6.	*Janu Vasti* with *Chandanabala Lakshadi tailam + Pinda tailam* for 07 days	1. 70% relief in pain. 2. Patient is able to walk with increased pace of speed than earlier. 3. No complaint of stiffness, numbness and local rise of temperature. 4. VAS Score: 2



DISCUSSION:

The patient was advised *Shamana Aushadhis* and *Panchakarma Chikitsa* including *Bahir Parimarjana Chikitsa* for a period of 50 days. The main ingredients of *Kaishora Guggulu* are *Triphala*, *Guggulu (Commiphora mukul), Guduchi (Tinospora cordifolia), Trikatu – Pippali (Piper longum), Shunti (Zingiber officinale) and Maricha (Piper nigrum)*, etc. The antioxidant and phenolic content of Ginger protect against the free radicals and exhibit anti-inflammatory and antioxidant properties. Ginger has a positive role in reducing joint swelling and pain. *Guduchi* contains Giloin and Beriberin compounds and acts as *Bhagnasandhana, Vrishya* and *Rasayana*. *Pippali* has the best *Rasayana* property, which maintains the synovial membrane and has the properties of antioxidant and anti-inflammatory actions.

Kokilakshadi Kashayam has the ingredients of *Guduchi and Kokilaksha.* It acts as anti-hyperuricemic, anti-arthritic, anti-inflammatory, analgesic, diuretic, immunomodulator and Antioxidant properties.

Chandasav has the ingredients such as *Chandana (Santalam indica), Neelotpala (Nymphaea stellata), Manjistha (Rubia cordifolia), Nyagrodha (Ficus bengalensis), Yasthimadhu (Glycyrrhiza glabra), Amratwak (Mangifera indica), Musta (Cyperus rotandus), Rasna (Pluchea lanceolata), Kanchanara (Bauhinia variegata),* etc. *Yasthimadhu* has major alkaloids such as Glycyrrhizin, licochalcone, glabridin which act as anti-inflammatory, anti-cancerous and antithrombotic. *Kanchanara* possess alkaloids, flavonoids such as flavanone, which acts as anti-tumourous and antioxidant.

Balaguluchyadi Tailam has ingredients like *Balamula, Jatamamsi, Tagara, Guduchi, Aswagandha, Rasna, Chandana and Tila taila. Balaswagandhadi Tailam* has the ingredients of *Balamula, Aragwadha, Chandanam, Durva*, etc.

Pinda Tailam has the ingredients of *Madhuchhista* (Bee Wax), *Manjistha (Rubia cordifolia), Sariva (Hemidesmus indicus), Sarjarasa* and *Tila Taila. Pinda Tailam* acts in *Pitta-dominant* inflammatory joint diseases where burning sensation, heat and redness are the prominent features. Its *Dahahara, Shothahara* properties relieves the burning sensation and reduces swelling. Its *Rakta-prasadana* property purifies and soothes the blood.

The *Kalka dravyas* used for *Niruha Vasti* are *Rasna, Guduchi* and *Manjistha. Rasna* specifically acts as *Vatahara, Shulahara, Amapachaka, Vedanasthapana* and *Shothahara. Guduchi* acts as *Rasayana, Jwarahara, Tridoshahara, Agnideepana, Ama-pachana, Daha Prashamana* and *Raktashodhaka. Manjistha* has the properties of *Raktashodhaka, Pittahara, Varnya, Kusthaghna, Jantughna* and *Stambhana.* As the goal is to reduce inflammation, pacify *Vata* and *Pitta,* remove toxins and strengthen the joint tissue *(Asthi dhatu)*, the above *Kalka dravyas* were selected to reduce joint swelling and pain. Excellent for autoimmune or reactive synovitis, addresses *Pitta* dominance in synovial inflammation and reduces redness, warmth and effusion.

CONCLUSION:

Krostukasheersha is *Madhyama Roga Margagata Vata Vyadhi*, in which the vitiated *Vata* along with *Pitta* gets lodged in *Jnnu Sandhis* (Knee joints). Hence to treat *Krostukasheersha*, drugs acting on both *Vata, Pitta* and *Asthi* have been selected. In this particular case, as patient is in *Youvana Avastha*, disease being *Vata Vyadhi* and existing as *Madhyama Rogamargagata Vyadhi*, contributes its *Sadhya Asadhyata* (prognosis) to be *Krichhra Sadhya* in *Jeerna Avastha* and *Sadhya* in *Naveena avastha*. By carefully combining *Janu Basti* with *Chandanabala Lakshadi Tailam* and *Pinda Tailam*, along with *Patra Pottali Sweda Karma subsequently*, the therapy simultaneously pacified aggravated *Vata* and *Pitta* doshas and nourished *Asthi dhatu*. *Patrapottali Sweda Karma* has brought relief by reducing the pain and swelling of the knee joint and there are remarkable changes in the measurements around the Knee joint – above, middle and below the joint. Over the course of 50 days, the patient experienced steady and significant relief: pain reduced by about 70%, swelling and the stiffness, local rise of temperature at the affected site and numbness were completely resolved, following *Yoga Vasti* and *Matra Vasti* as per the protocol.

Importantly, radiological and microbiological evaluations excluded active Osteo Arthritis, infection or systemic inflammatory arthropathy, strengthening the attribution of clinical improvement to the therapeutic intervention.

From an Ayurvedic perspective, the observed outcomes may be interpreted as effective pacification of vitiated *Vata* and *Kapha* doshas, resolution of *Shotha* and *Srotorodha*, and restoration of joint function in a condition traditionally considered *Krichhra Sadhya* due to chronicity and marma involvement.

Nevertheless, this case highlights the potential role of individualized, multimodal Panchakarma-based interventions as a significant approach in the management of chronic, non-infective mono-articular knee synovitis (*Krostukasheersha)*, clarifying the role of Ayurvedic interventions within integrative musculoskeletal care. Even in long-standing cases, these interventions may offer substantial benefit, making them a valuable part of the clinical toolkit for managing joint disorders.

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