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INNOVATIVE AYURVEDA PROTOCOL 'CVRT' FACILITATES PAIN RELIEF, ENHANCED JOINT FUNCTION, AND SURGERY AVOIDANCE IN KNEE OSTEOARTHRITIS: A CASE SERIES

Dr. Darshan Desai*

Ayurveda Practitioner and Chief Medical Officer, Pravaayu Ayurveda Clinic, 101A-101, 1st Floor, Suchita Enclave, Maharashtra Nagar, Borivali (West), Mumbai, India – 400092.

***Corresponding Author: Dr. Darshan Desai**

Ayurveda Practitioner and Chief Medical Officer, Pravaayu Ayurveda Clinic, 101A-101, 1st Floor, Suchita Enclave, Maharashtra Nagar, Borivali (West), Mumbai, India - 400092.

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ABSTRACT

Knee osteoarthritis (OA) is a major cause of chronic pain, disability, and reduced quality of life, particularly among the elderly people. While pharmacological therapies and total knee replacement (TKR) surgery remain standard options, associated adverse effects cause concerns. Our objective was to evaluate the effect of the CVRT (Cell Vitality Restoration Treatment), an innovative Ayurveda-based protocol, on pain relief, functional outcomes, and avoidance of previously advised TKR surgery in patients with knee OA. This case series included four patients (two males and two females) diagnosed with knee OA based on clinical and radiological assessment, all of whom had been previously advised TKR surgery. Patients opted for conservative management at an Ayurvedic clinic and were treated using a structured, phased CVRT protocol, individualized according to Ayurvedic principles of *Sandhigata Vata*. Pain intensity and functional limitation were assessed using pain scores at baseline and during follow-up. All patients demonstrated substantial reduction in pain scores over treatment durations ranging from three weeks to eight months. Pain scores decreased substantially from baseline values accompanied by marked improvement in joint mobility and ability to perform daily activities. No adverse effects were reported. Importantly, the clinical improvement achieved was sufficient to avoid the need for previously recommended TKR surgery in them. The CVRT protocol demonstrated promising potential in reducing pain, enhancing functional outcomes, and enabling avoidance of TKR in patients with knee OA. Thus, CVRT may serve as a safe and effective non-surgical option for selected patients, warranting further evaluation through larger controlled studies.

KEYWORDS: *Sandhigata Vata;* Non-surgical Management*;* Joint Pain; CVRT; Surgery Deferral.

INTRODUCTION

Knee osteoarthritis (OA) is one of the leading causes of chronic pain and disability in Indian population. Highly prevalent among elderly Indians, reported estimates range widely—from 28% to 64%—depending on factors such as age, gender, etc. variables.[1] Prevalence is consistently higher in women, with some urban studies reporting rates up to 55% in women over 40.[2,3] India's high knee osteoarthritis prevalence is driven by an aging population, gender disparities, lifestyle and occupational risks, comorbidities, and limited early healthcare access. Addressing modifiable risk factors and improving awareness and early intervention are crucial to reducing the burden.[4]

Core treatment strategies for knee OA begin with non-pharmacological interventions, which form the first line of management across all major guidelines.[5] Pharmacological treatments include topical Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) as the preferred initial option, followed by cautious use of oral NSAIDs. While NSAIDs are widely relied upon for managing symptoms, both in clinical practice and through self-medication, they are not without drawbacks.[6,7] Their use is linked to numerous side

effects, especially with prolonged intake, leading to major heart and kidney disorders.[8] Intra-articular therapies—such as corticosteroids have a limited usage for acute flares. Surgical options, particularly total knee replacement (TKR), are reserved for severe, refractory cases where conservative treatments fail to provide adequate symptom control. Although highly effective in many cases, around 10-30% patients report dissatisfaction or persistent pain.[9]

Despite the widespread use of pain medications and surgical interventions, a substantial proportion of patients seek integrative and traditional therapies, such as Ayurveda, for sustained symptom relief and improved functional outcomes. This increasing interest shows the need to study structured Ayurvedic treatment protocols and record their clinical results.

In view of this, a case series eliciting the substantial effect of CVRT (Cell Vitality Restoration Treatment) on four patients of knee OA is reported. By combining diverse therapeutic modalities and uniquely formulated medicines, the CVRT protocol delivers a modern interpretation of Ayurvedic treatment. The most crucial patient related outcome measure (PROM) of knee OA is pain in the knee joint. The CVRT can be effectively used in various joint pain conditions, including pain in the neck region.[10] Here, its promising results in reducing the knee joint pain and enhancing the functioning capacity of patients are elaborated.

In this study, the four patients selected were two males and two females who presented with the given signs and symptoms. They were diagnosed as cases of knee OA by evaluating clinical signs and symptoms and radiological assessment. All these patients had knee joint pain, reduced knee mobility and were advised TKR. However, they chose to approach 'Pravaayu Ayurveda Clinic' for conservative Ayurvedic management. According to Ayurveda, the OA is analogous to '*Sandhigata Vata'*, a disease characterizing vitiation of *Vata Dosha*. Based on the Dosha and Dushya involved, the CVRT protocol was used with required customization. The patients were assessed based on their pain score and functionality assessment at each follow up visit.

PATIENTS INFORMATION

This case series included patients who visited the 'Pravaayu Ayurveda Clinic, Borivali, Mumbai, India'. All patients presented with a primary complaint of pain affecting either one or both knee joints. All these cases were evaluated initially by detailed history taking and physical examination. Their demographic data was collected included age, gender, and personal and medical history with duration since the onset of the condition. Pre- and post-treatment assessments were conducted using a pain score to quantify pain intensity and the extent of joint-related difficulty in performing daily activities.

CASE PRESENTATION

Case 1

A 75-year-old female patient, HP, presented in June 2024 with a one-year history of right knee pain. She reported difficulty while getting up from a seated position and experienced pain and discomfort after walking for more than half an hour. The patient had already undergone TKR surgery for left knee joint around 1.5 years ago. An X-ray done in March, 2024 indicated grade II OA of right knee joint. She had controlled hyperthyroidism and hypertension with stable medication.

Clinical examination

With BMI 27.54, the patient was falling into 'obese' category. Moreover, her difficulty in walking and rising from sitting position was notable. Her pain score was 6. Physical examination revealed pain and tenderness, crepitation (++), and restricted flexion (++) of the right knee joint.

Case 2

UK, a 70 years old female, presented in September, 2024 with bilateral knee pain for the past six months, with symptoms more pronounced on the right side than the left. She also reported radiating pain from the right hip to the right knee, accompanied by morning stiffness. The patient experienced difficulty while walking. A prior short course of Ayurvedic therapy had been undertaken in May, 2024. Radiographic evaluation of both knees performed during the same period revealed features suggestive of grade II OA. Patient had undergone hysterectomy a few years back and was chronically affected by constipation, flatulence and hyperacidity.

Clinical examination

On physical examination, the pain score was 10. The patient had mild pain while climbing even 20-30 steps and was experiencing difficulty in tasks like lifting weights. Although pain and tenderness were present in bilateral knee joints, pain in right knee was pronounced.

Case 3

In February, 2025, RM, a 59 years old male, approached the clinic for bilateral knee pain for last two years. He also reported prolonged flatulence and recurrent skin rashes on and off for approximately ten years. There was no other significant medical or surgical history.

Clinical examination

The patient was having utmost difficulty in simple acts such as ascending and descending stairs and even standing for a long time. The range of movements was moderately restricted with much pain on movement. Based on the clinical findings, the diagnosis of knee OA was made.

Case 4

PG, a 47 years old female, reported in December, 2024 with aggravated pain in right knee joint since last ten days. Patient had a history of fall four years back.

However, she was suffering from bilateral knee joint pain and lower back pain since last two years. Radiological investigations have already confirmed bilateral knee joint OA. She even underwent two sessions of intra-articular injection therapy a few months back with little improvement in pain and joint stiffness.

Clinical examination

The initial pain score was as high as 55, indicating major issue. There was pain (+), swelling (+), crepitation (+), restricted flexion of the left knee (60°), and pain on extension. Postural abnormalities were mild, and the range of motion was moderately restricted.

Treatment

After observing the signs and symptoms suggestive of great vitiation of Vata Dosha and knee joint OA, treatment protocol was designed on the basis of CVRT. Although these patients were given medicines specific to their condition, the major core of CVRT treatment protocol was similar in all four of them. The major medications are enlisted in Table 1.

Table 1: Common treatment protocol components.

Sr. No.	Name of Medicine	No. of tablets administered
1	Tab. Tenroot	30 / 60 / 120 tabs
2	Tab. Smar LM	60 tabs
3	Tab. Roxburghi	60 / 120 tabs
4	Tab. Embelia	60 / 120 tabs
5	Tab. Withania	60 / 120 tabs
6	Tab. Tinospora	60 / 120 tabs
7	Tab. Kast	15 / 30 tabs
8	Tab. N Shel	60 / 120 tabs
9	Tab. Astecantha	30 tabs
10	Tab. Operculina	60 / 120 tabs
11	Tab. Picrorhiza	120 tabs

A stepwise, longitudinal treatment approach rather than episodic prescribing was followed. The change in number of tablets was to adjust according to maintenance and intensive phases that required escalation of therapy.

Apart from these common protocol components, some specific medications such as, Tab. Quandragulis, Tab. Concha, Tab. Comiflora, Tab. Bambusa, Tab. Bellirica, Tab. Sida, Tab. Moringa SIL were administered for managing acute symptom flare or seasonal adjustment. Notably, external therapy of *Patrapottali* was required in only one patient (PG).

OBSERVATIONS AND RESULTS

All cases were managed through multiple sessions of CVRT depending upon severity of disease and patient response towards treatment.

Table 2: Changes in pain score.

Case	Initial Pain Score	Final Pain Score	Duration of Treatment
Case 1 (HP)	6	2	3 weeks
Case 2 (UK)	10	1	8 months
Case 3 (RM)	42	5	3 months
Case 4 (PG)	55	15	3 months

The figure 1 illustrates a percentage improvement chart for these cases-

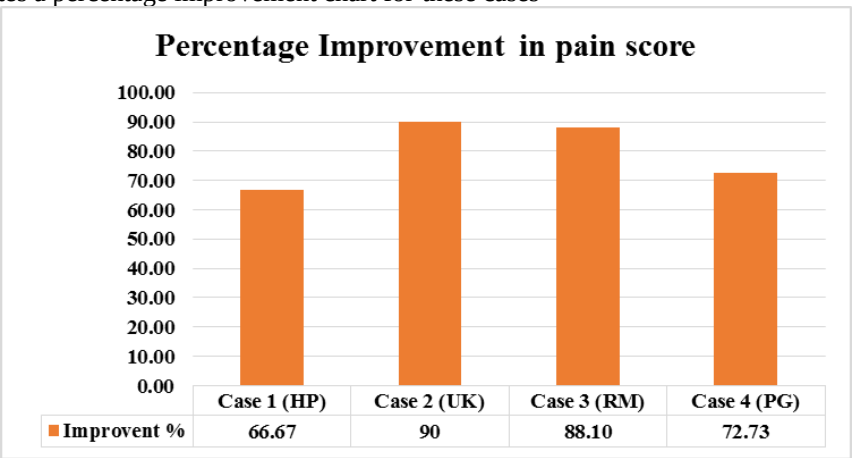

Figure 1: Percentage Improvement in pain score.

Apart from favorable improvement in pain and functioning of knee joint, the patients also reported improved digestion, reduced flatulence and feeling of lightness in body, without any untoward effects.

DISCUSSION

Within a relatively short duration, all patients experienced marked improvement in knee joint pain following treatment with the CVRT protocol regimen. This improvement was reflected in reduced pain scores along with enhanced functional performance of knee joint activities. The lack of any reported adverse events, together with consistent patient adherence to the treatment protocol, further highlighted the safety and therapeutic efficacy of this distinctive approach of CVRT.

The knee OA profoundly affects daily activities, mobility, and overall quality of life. Chronic pain, stiffness, and reduced range of motion limit essential functions such as walking, climbing stairs, self-care, and household tasks. Up to 80% of patients experience significant movement restrictions and nearly one-fourth are even unable to perform daily activities independently.[11] Quality of life is markedly diminished across physical, mental, and environmental domains, influenced by pain severity, disease duration, and advancing age. The psychosocial burden is equally substantial, as many patients face social withdrawal, reduced participation in recreational activities, and a higher prevalence of affective disorders.[12] Beyond individual suffering, knee OA imposes a considerable socioeconomic burden through increased absenteeism, reduced productivity, early retirement, and elevated healthcare utilization.[13] The associated direct and indirect costs are high, that further exacerbate disease prevalence, symptom severity, and economic impact.

In this situation, a novel treatment protocol—CVRT—was effectively implemented. The concept of cell vitality restoration in musculoskeletal pain is truly remarkable. It offers a holistic and forward-looking approach that addresses not only symptom relief but also the underlying processes of healing and regeneration. It also emphasizes improving metabolic activity, facilitating toxin elimination, and cleansing body channels to safeguard vital organs. These processes support the development of renewed blood supply, formation of natural collateral pathways, and enhancement of microcirculation to the affected joint—in this case, the knee joint. Consequently, CVRT seeks to achieve long-lasting pain relief, improved joint strength, and prevention of disease progression. The specially formulated proprietary medicines are intended to alleviate symptoms, enhance joint mobility, mitigate inflammation, and promote overall musculoskeletal well-being.

The prescriptions for all the four cases show a consistent core Ayurvedic protocol with phased additions, dose escalation, and time-specific medicines. Thus, CVRT indicates a structured, long-term, condition-oriented treatment plan rather than isolated medicines at irregular intervals. The observed improvements in pain and function were sufficient to defer previously recommended knee joint replacement in all cases. These findings indicate the potential of the CVRT protocol to delay or avoid surgical intervention, particularly in patients seeking conservative or integrative management.

CONCLUSION

This case series demonstrates the promising therapeutic potential of the CVRT (Cell Vitality Restoration Treatment) protocol in the management of knee OA. All four patients showed substantial and sustained reduction in knee joint pain, accompanied by considerable improvement in functional capacity and daily activities. The favorable outcomes were achieved without any adverse events, underscoring the safety and tolerability of the protocol. Beyond symptomatic relief, patients also reported improvement in associated systemic complaints, reflecting the holistic action of CVRT. The structured, phased, and individualized nature of the treatment highlights its suitability for long-term disease management rather than episodic symptom control. Overall, CVRT appears to be a safe, effective, and integrative approach for knee OA, with potential to slow disease progression and enhance quality of life. Larger, controlled clinical studies are warranted to further validate these findings and establish broader clinical applicability.

PATIENT PERSPECTIVE

“Before starting the CVRT treatment, knee pain made even simple activities like walking, climbing stairs, and getting up from a chair very difficult for me. Slowly, my pain reduced, and my knee movements became much easier. I could carry out my daily work with more comfort and confidence, without relying on painkillers. I also felt lighter and noticed improvement in my digestion. Most importantly, the relief was steady and, and I did not experience any side effects during the treatment and my knee surgery was avoided.”

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