

CASE STUDY

Clinical Evaluation and Ayurvedic Management of Knock Knee (Genu Valgum): A Case Study

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ABSTRACT

Knock knees, clinically known as genu valgum, is a prevalent musculoskeletal condition commonly observed in children, characterized by the inward angulation of the knees when the child is in a standing position. This condition can often lead to discomfort and functional limitations, such as knee pain, difficulty walking, and an altered gait. While knock knees¹ are typically observed in younger children and may resolve naturally as they grow, persistent cases can cause pain, instability, and difficulty with activities like walking or running. This case study focuses on an 11-year-old female patient who presented with bilateral knee pain, a noticeable inward angulation of the knees, and difficulty walking. After initial consultation with an orthopedician, the physician's recommendation for surgery, the patient's parents opted to pursue Ayurvedic treatment as an alternative to surgery. This case study highlights the potential benefits of Ayurvedic treatment as an alternative management strategy for knock knees in children, particularly in cases where surgery may not be the preferred option. The outcomes demonstrate that a holistic, individualized treatment approach can offer significant relief and functional improvement in children suffering from this condition. The implications for future management suggest that Ayurvedic methods could serve as a complementary or alternative option to traditional orthopedic interventions, especially for families seeking non-invasive treatment options. This article discusses the Ayurvedic management of knock knees in this patient, highlighting the treatment approach, outcomes, and implications for future management.

Keywords: Knock knee, Panchakarma , genu valgum, Ayurveda, Basti.

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INTRODUCTION

Knock knees is a common condition in children, characterized by an abnormal alignment of the knees, resulting in a noticeable gap between the ankles when standing with the knees together, an inward deviation of the knees, resulting in an abnormal gait and potential discomfort. This condition can lead to discomfort, pain, and decreased mobility, affecting daily activities and overall quality of life. Knock knee (genu valgum) is a condition commonly observed in growing children, which, in most cases, corrects naturally over time. However, when the deformity persists or progresses beyond the expected age range, it can lead to functional limitations, joint pain, and long-term musculoskeletal complications. Conventionally, severe cases are managed surgically, as was initially suggested for this patient. However, the parents opted for Ayurvedic intervention instead of surgery, seeking a non-invasive and holistic approach to their child's condition [1-3].

CASE PRESENTATION

An 11-year-old female patient was brought to the clinic by her parents with complaints of bilateral knee pain, difficulty in walking, and noticeable knock knees (Genu Valgum). The parents reported that the child had been experiencing these symptoms for a significant period, which had gradually worsened over time, affecting her daily activities and overall mobility. Prior to seeking Ayurvedic consultation, the patient had

already visited an orthopedician, who conducted a thorough evaluation and confirmed the diagnosis of knock knees. The doctor initially prescribed oral medications to manage pain and discomfort. However, as the condition persisted, surgical intervention was suggested as a possible long-term solution to correct the misalignment and prevent further complications. Despite the recommendation, the patient's parents were hesitant to opt for surgery due to concerns about potential risks, recovery time, and long-term effects. Instead, they decided to explore alternative treatment options, particularly those that focused on a more holistic and non-invasive approach. With this in mind, they sought Ayurvedic treatment, hoping for a natural and effective method to manage their child's condition and improve her quality of life without resorting to surgery.

Patient Information:

An 11-year-old female patient was brought to the clinic by her parents with complaints of bilateral knee pain, difficulty in walking, knee instability, knee bends inwards and touch or knock against one another.

Clinical Findings:

Clinical findings exhibited Inward angulation of the knees, bilateral presentation, abnormal posture, inward gait, difficulty in walking, frequent tripping.

Diagnostic assessment:

AP view of Images of Xray of both the knee joint (dated 06.03.2024) revealed, The knees appear to be angulated inward, with a reduced medial joint space and an increased lateral joint space and there is a visible gap between the ankles (intermalleolar distance), which is a hallmark of knock knees.

PHYSICAL EXAMINATION

- Gait – Unable to walk
- Blood pressure - 110/80mmHg.
- Pulse rate - 71/min.
- Respiratory rate - 20/min.
- Temperature - 98.60 F
- Oedema – no
- Pallor – No
- Icterus – No
- Clubbing – No

ASHTASTHANA PARIKSHA

- Nadi (Pulse) - Vatapradhana pitta
- Mala (Stool) – (1 time/2days)
- Mutra (Urine) –4-5 times/day
- Jivha (Tongue) - Lipta
- Shabda (voice) – clear voice
- Sparsha (Tactilation) - Samashitoshna
- Druk (Eyes) - Prakruta
- Akriti – heena

SYSTEMIC EXAMINATION

- RESPIRATORY SYSTEM - on auscultation, normal sounds heard and no abnormality detected
- CARDIOVASCULAR SYSTEM - S1 S2 heard and no abnormality detected.
- GASTROINTESTINAL SYSTEM - Soft, non-tender, no organomegaly detected

Therapeutic intervention

The treatment plan five days of Panchakarma and received Shamana chikista for holistic healing. It starts with Abhyangam [3] using Chandanbala and Coconut oil, followed by Nadi Swedana [3]. Along with this, Basti therapy is administered on alternately, where Niruha Basti is given with Dashmool Kwatha for vata shaman, and Matra Basti is performed using Sheerbala Taila [5] to nourish and strengthen the body. Additionally, Patra Pottali Swedana [9] is incorporated for five days to relieve muscle stiffness, enhance flexibility.

Shamana Chikitsa includes a well-structured and promote healing. Yeranda Rasnadi Kwatha is administered in a dose of 20 ml twice daily for vata shaman. Capsule Sheerabala [4] is prescribed thrice daily for its nourishing and strengthening properties. Asthiposhaka Vati and Shatavari Vati [14] are both given thrice daily. Ashwagandha Vati [13], known for its adaptogenic and rejuvenating effects, is taken twice daily. Additionally, Trayodashang Guggulu, which helps in musculoskeletal, is recommended twice daily. Lastly, Syrup Amyron is given 20 ml twice daily.

Table 1: AYURVEDIC MANAGEMENT- SHODHANA CHIKITSA:

| Treatment Plan | Days |
|--|-------------|
| Including sthanik Abhyangam with Chandanbala and Coconut oil and followed by Nadi Swedana. | 5 days |
| Matra basti and Niruha basti alternately, Sashena Niruha basti with dhashmool kwatha and Matra basti with Sheerbala tail [5] | 5 days |
| Patra pottlali swdana [9] | 5 days |

Table 2: Shamana Chikitsa

| Medicine | Frequency | Time period |
|----------------------|------------------|--------------------|
| Erandarasnadi kwatha | 20 ml | Twice daily |
| Cap.Sheerabala | 1cap | Thrice daily |
| Asthiposhaka vati | 1 tab | Thrice daily |
| Shatavari vati | 1 tab | Thrice daily |
| Ashwagandha vati | 1 tab | Twice daily |
| Trayodashang Guggulu | 1 tab | Twice daily |
| Syp. Amyron | 20 ml | Twice daily |

Follow up and Outcome:

The patient showed an impressive and rapid recovery within a short period. Within just three days, there was a noticeable improvement as the patient began to walk with increased stability and confidence. By seven days, their walking ability had significantly improved, allowing them to move independently without difficulty. Over the next few days, the patient continued to progress, and by 12 to 14 days, they were able to climb stairs with ease, demonstrating enhanced strength and mobility.

Alongside improved movement, there was a significant reduction in pain and discomfort, allowing the patient to engage in daily activities with greater ease. The Ayurvedic treatment not only promoted joint flexibility and muscle strength but also provided effective pain relief, ensuring a smoother recovery process. By the end of one month, the issue of knocking knees was completely resolved, with the legs aligning properly. Over the next few weeks, continued therapy helped in the gradual restoration of normal knee structure, leading to complete recovery within two months, enabling the patient to regain full functionality and live pain-free.

DISCUSSION

Upon examination and radiographic assessment, the pre-treatment X-ray (AP view of both knee joints, dated 06.03.2024) revealed significant inward angulation of the knees, with reduced medial joint space and increased lateral joint space, along with a visible gap between the ankles (intermalleolar distance)—a hallmark of knock knee deformity. These findings indicated structural misalignment and joint instability, which could have led to progressive strain on the knee joints if left untreated [6].

A customized Ayurvedic treatment protocol was initiated, focusing on strengthening muscles, ligaments, and bones, correcting postural alignment, and reducing pain and inflammation.

The treatment plan included Abhyanga (therapeutic oil massage) with Chandanbala and Coconut oil as it help to increase muscular strength as on the roots of Manasavahastrotas i.e. Twak and Raktavahini, Sthanik Abhyanga works and may nourish the superficial and deep muscle and makes the joints stable, Nadi Swedana [3] (steam therapy) the two main function of Swedan are Kapha-Vata nirodhana (removing excess of Vata and Kapha dosha) and Sthambhana (removing stiffness) , Matra Basti with Sheerbala Taila [5], and Niruha Basti with Dashmool Kwatha as it help in reducing vata dosha and reducing symptoms like stiffness and help in bone regeneration activity and Patra Pottali Swedana [9] effectively address musculoskeletal and joints disorder [6].

Along with Shamana Chikitsa (internal medications) such as Eranda Rasnadi Kwatha as it acts as excellent analgesic and anti-inflammatory and reduce compression of nerve, Sheerabala capsules [4, 10-12], Asthiposhaka Vati use in regeneration activity of bone, Shatavari Vati [14] and Ashwagandha Vati [13] improves muscle strength and muscle function, Trayodashang Guggulu reduce musculoskeletal pain and stiffness and Syrup Amyron reduces tiredness fatigue and provides essential nutrients.

The patient's progress was remarkable, showing significant improvement within just three days, as she began walking with more stability and confidence. By seven days, she was able to walk independently without discomfort. Within 12 to 14 days, she successfully started climbing stairs, indicating improved

strength and mobility. Along with this, her pain and discomfort reduced significantly, allowing her to resume daily activities without restrictions.

By the end of one month, the knocking of knees was completely resolved, with proper alignment of the legs. Follow-up X-ray findings showed substantial improvement, with correction of the knee angulation, restored joint space, and significant reduction in the intermalleolar distance, confirming the structural recovery. By two months, the patient achieved complete restoration of normal knee structure and function, preventing the need for surgical intervention [8].

This case highlights the efficacy of Ayurvedic management in correcting skeletal misalignment and musculoskeletal disorders without surgery. The integrated approach helped not only in structural correction but also in strengthening the bones, muscles, and ligaments, ensuring long-term stability and function. Such results emphasize the importance of early intervention with Ayurvedic therapies, offering a safe, natural, and effective alternative to invasive procedures for pediatric musculoskeletal conditions like knock knee.



Figure 1: A-D: Efficacy of Ayurvedic management

CONCLUSION

This case study highlights the potential of Ayurvedic management in addressing knock knees in a 10-year-old female patient. The treatment approach, combining Panchakarma procedures, internal life. This

case study suggests that Ayurvedic management may be a viable alternative or complementary approach to conventional treatment options for knock knees.

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