



## Case Report

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# Ayurvedic approach to Osgood Schlatter disease: A case report

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## ABSTRACT

Osgood Schlatter disease (OSD) is an inflammatory injury of the growth plate on the tibia just below the level of the knee at the tibial tubercle. The tibial tubercle is the bony attachment of the quadriceps (front thigh muscle). Contraction of the quadriceps results primarily in straightening of the leg at the level of the knee. A growth plate is an area of developing tissue near the ends of long bones or areas of muscle attachment. The growth plate in children allows the bones to expand in length thus allowing a child to reach his/her full height by the age of 16-19 years. Compared to the surrounding bones and muscles, the growth plate serves as a weak point. Thus, repetitive pulling on a growth plate, especially from a larger powerful muscle like the quadriceps, can result in injury to the growth plate and subsequent pain. Pain is usually worse during or just after activity, and tends to improve with rest. It is commonly seen in growing, active adolescents between the ages of 11 and 15 years. In this article, a case of 14 years old boy diagnosed as Osgood Schlatter treated with Panchakarma and oral medicines. Encouraging results were observed in the form of reduction in pain and range of movements.

**Keywords:** Osgood Schlattersyndrome, Panchakarma, pain, range of movements.

## INTRODUCTION

The condition is named after Robert Bayley Osgood (1873–1956), an American orthopedic surgeon and Carl B. Schlatler, (1864–1934), a Swiss surgeon who described the condition independently in 1903 Osgood–Schlatler disease (OSD), also known as apophysitis of the tibial tubercle is far less frightful than its name <sup>[1]</sup>. Though it's one of the most common causes of knee pain in adolescents, it's really not a disease, but an overuse injury, but usually resolves itself within 12 to 24 months. It is more common in boys; the gender gap is narrowing as more girls become involved with sports. Age ranges differ by sex because girls experience puberty earlier than boys. Osgood-Schlatter disease is an inflammation of the bone, cartilage, and/or tendon at the top of the shinbone (tibia), where the tendon from the kneecap (patella) attaches. Most often only one knee is affected <sup>[2]</sup>. This is usually at the ligament-bone junction of the patellar ligament and the tibial tuberosity <sup>[4]</sup>. Tibial tuberosity is a slight elevation of bone on the anterior and proximal portion of the tibia. The patellar tendon attaches the anterior quadriceps muscles to the tibia via the knee cap <sup>[5]</sup>. Intense knee pain is usually the presenting symptom that occurs during activities such as running, jumping, squatting, and especially ascending or descending stairs and during kneeling. The pain is worse with acute knee impact. The pain can be reproduced by extending the knee against resistance, stressing the quadriceps, or striking the knee. In the acute phase, the pain is severe and continuous in nature.

## CASE REPORT

A 14 year old boy was brought to SDM Ayurveda Hospital, Udupi, Karnataka with complaints of Pain below both the knee joints to ankle region since last 1 year, more pain in right knee region and while getting up it gets aggravated.

## Brief history

Patient had 2 episode of febrile convulsion at the age of 3 years for which anti-epileptic medicines were administered till 5 years of age. All the developmental mile stones attained appropriate for the age, administered with immunization scheduled as per the age. Child was gradually noticed by the

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teachers in class for improper walking style, at the same time parents also observed the child for his difficulty in walking. For this, they brought the child to hospital, for the management.

On Examination

**Central nervous System:** Higher mental functions, cranial nerves are normal. Muscle power is 5/5 in all four limbs, muscle tone is normotonic.

**Locomotor system:** Deformities in knee joints [knock knee], Slight swelling present, no colour change in any joints, No marked muscle wasting, tenderness in knee joints, No rise of temperature in joints, Crepitus present while walking.

**Investigation** X-ray done (Figure 1 and 2)



Figure 1



Figure 2

#### DIAGNOSTIC CRITERIA

The diagnosis was made on history, physical findings and X ray findings.

As per Ayurvedic parlance, the condition can be better understood as, Asthigata Vata Vikara [6]. For the same, mainly Vatahara line of treatment was taken into consideration.

#### Treatment given

- Sarvanga abhyangya with Mahanarayana Taila followed by Bashpa Sweda.
- Yoga Basti - Erandamooladi Niruha Basti 320 ml
- Anuvashana Basti with Dhanvantari Talia 40ml
- Janu Basti with Prasarini Taila followed by Patra Pinda Sweda
- Yogaraja guggulu – 1tab tid
- Visha Mushthi Vati – 1tab tid

- Amrutottara Kashaya – 5ml bid
- Physiotherapy was also advised.

#### Treatment advised on discharge

- Tab Lakshadi guggulu – 1 tab bid
- Tab Chandra Prabha Vati - 1tab bid
- Bala Ashwagandharistha - 10ml bid
- External application with Mahanarayana Taila

#### OBSERVATIONS AND RESULT

Improvements seen in the patient throughout the treatment and follow up period (Pain was measured with the help of VAS (Visual analog scale) score and range of Movement was measured with the help of goniometer (Table No 1).

Table 1: Assessment of pain and range of movements

S.n	Visiting date	Improvement recorded
1.	Before treatment	Pain- 06 Range of Movement-110 <sup>0</sup>
2.	After treatment	Pain-04 Range of Movement- 120 <sup>0</sup>
3.	Follow up	Pain-01 Range of Movement- > 130 <sup>0</sup>

#### DISCUSSION

Patient had chief complaints of pain in both the knee joints due to which he had difficulty in walking. The pain used to aggravate after walking, running or after performing any physical work whereas it was relieved by taking rest. By looking on to these symptoms, Sandhigata Vata and Amavata were the two conditions which were included for the differential diagnosis. In case of Amavata, Acharya Madhava Nidana explains that it starts from the joints of fingers of hand and then involves the larger joints like ankle, knee etc. In Amavata, pain gets aggravated after rest and is relieved by doing work. So, it was excluded. In case of Sandhigata Vata, Acharya has explained that the patient will have pain in joints while extension and flexion along with swelling which was seen in this patient. But, as there is only knee joint involved, it can be considered as Janu Sandhigata Vata. Acharya Vagbhata has explained that Asthi (bone) is the Aashrayi (residing place) for Vata. Asthi kshaya (degeneration of bone) leads to Vata vridhhi (increase in Vata). Here, in the X-ray it is clear to notice the fragmentation of the tibial tubercle with overlying soft tissue swelling. Hence, it supports the diagnosis. Therefore, the principle of line of treatment is Vatahara. Janusandhigata vata being a Vataja vyadhi with dhatuksahya as its resultant, Snehana would be an ideal line of treatment. Janubasti may acts as Snehana (oleation) and swedana (sudation), since in this disease vata is predominant with degeneration. Kshaya of Snehadi guna (oleative properties) is seen. Snehana helps in bringing back sthanika Kapha dosha to normalcy due to its similarities in its gunas (properties) [7]. Sarvanga Abhyanga (body massage) with Mahanarayana taila has good action on the neuromuscular disorder to help in pacification of Vata dosha [8]. Vayu resides in Sparshendriya (augmentery tissues), which is located in tvacha (skin). Abhyanga is quoted as Tvachya (beneficial to skin) and also improves the blood circulation over the area. So, Abhyanga might work directly on Vata to bring it back to normalcy [9]. Snehana (sudation) also have vatahara properties which is responsible for pain. Bashpa sweda helps in bringing the doshas from extremities to the koshta (centre of the body) by opening up the blocked channels and from there, the doshas can be taken out by Matra Basti (medicated oil enema). Lakshadi guggulu and Balashwagandharistha have the property of Asthi poshaka (bone strengthening), shoolahara and provides nourishment to the nerves and tissues by Vata hara and asthirujahara action.

## CONCLUSION

Osgood-Schlatter disease is an inflammatory injury of the growth plate on the tibia (shin bone) just below the level of the knee at the tibial tubercle. The treatment protocol adopted in this case shows a very effective approach in improving the quality of life of the child. Hence, the same treatment plan can be adopted for similar diagnosed cases.

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