



(CASE REPORT)



Ayurvedic management of venous vascular malformation: A case report

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International Journal of Science and Research Archive, 2024, 11(02), 075–080

Publication history: Received on 21 January 2024; revised on 27 February 2024; accepted on 29 February 2024

Article DOI: <https://doi.org/10.30574/ijrsra.2024.11.2.0352>

Abstract

The venous vascular malformation is a congenital venous anomaly in which clusters of veins are filled with blood but are not used by the body. This condition can be compared with Shiragranthi Vikar described in the context of Srotadusti in Ayurvedic classics. The manifestation of Shiragranthi occurs due to the vitiation of Mamsa (muscle), Asrik (blood), Meda (fat), and Shira (blood vessels) by Vatadi Dosha. As a result, circular edematous swelling appears on the affected part.

In the present case study, a 2.5 years old, female child approached to Kaumarabhritya OPD presented with thigh swelling and pain, bulky mass with tenderness in the lateral aspect of the left knee. The child was unable to walk properly for six months. 3T CE MRI of left thigh and knee joint revealed venous vascular malformation. The child was taking regular allopathy treatment. After approaching our hospital, she was advised for Ayurvedic treatment with the regular follow up visit in every 15 days to determine the clinical progress. The child was administered with Kumarkalyan Rasa, Aravinda Sava, Kalyanaka Ghrita, Varunadi Kashaya, and Abhyanga with Balaswagandha taila for a period of 2 months and follow up of study conducted for another one month. After treatment, the study confessed that there was remission from pain, tenderness, swelling, and bluishness in the affected part. The child walks without any difficulty. The study highlights the clinical efficacy of Ayurvedic drugs in venous vascular malformation with significant improvement of all clinical features.

Keywords: Abhyanga; Shiragranthi; Srotadusti; Vatadi dosha

1. Introduction

Venous vascular malformation (VVM) is the most common type of congenital vascular malformation (CVM). They are present at birth and are often symptomatic, causing morbidity and pain^[1]. Hemangiomas are the most common tumors in infancy with an incidence of 2–3%,^[2] and represent the majority of proliferating vascular tumors. According to the ISSVA classification system, hemangiomas are vascular tumors divided into infantile and congenital types. It is the most common type of congenital vascular malformation (CVM) with an incidence of 1 to 2 in 10,000 births. The type of flow can be used to group vascular malformations into low-flow and high-flow malformations according to their vascular hemodynamics^[3]. The venous vascular malformation is a congenital venous anomaly where clusters of veins are filled with blood but are not used by the body. As a result, circular edematous swelling appears on the affected part with a prevalence of 1%^[4]. They can cause significant morbidity, pain and discomfort to patients as they can lead to serious local and systemic complications. Although present from the time of birth, they are not always clinically evident until later in life and tend to grow in concert with the child and without spontaneous regression^[5]. VMs are composed of ecstatic venous channels found usually in the head, neck, limbs, and trunk and are thought to be sporadic in most cases, though familial inheritance patterns exist.

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The disease can be correlated with "Siragranthi" in Ayurvedic texts. The aggravated Vata, Pitta along with Kapha vitiates Mamsa Dhatu (muscle tissue), Rakta (blood) & Meda (fat tissue) resulting in manifestation of Sankoch (squeeze), Sampeedana (painful), and Vishoshana (dryness) of Siras and producing Granthi (nodule) [6]. In Ashtanga Hridaya, Vagbhatacharya has mentioned that one who suddenly immerse or wash the lower limb in cold water after walking a long distance, or one who does excessive exercise is likely to be affected by Sirajagranthi [7].

Acharya Sushruta has defined two types of Siragranthi i.e. one which is painful and movable and another which is painless, immovable, and greatly enlarged and can occur in Mamsa dhatu vikar (vitiating of muscle tissue). The features of Siragranthi such as Sampeedan (painful), Nisphuram (edematous), and Nirujam (diseased) can be correlated to dull aching pain in vascular malformations. The clinical Signs such as Sankocha (squeeze), Vritta (circular), Unnata (elevated), Shopha (swelling) can be correlated to dilated, elongated, and tortuous veins [8].

In Venous Vascular Malformations, spontaneous thrombosis within the static venous lake is observed in around 40% of patients [9]. VVM can be challenging to diagnose and are often confused with hemangiomas in terminology as well as with imaging. An accurate clinical history and cross-sectional imaging are critical for diagnosis and for devising management [10].

Indications for the treatment of venous malformations [11] are: -

- Bleeding underneath the skin to intramuscular or retroperitoneal hematoma, hematuria, rectal bleeding, hematemesis, haemoptysis, or intracerebral or intraspinal bleeding.
- Lesions are in close proximity to important structures or obstruct inflow and outflow of important structures.
- Lesions cause excessively adverse hemodynamic effects.
- Disabling pain.
- Functional impairment.
- Recurrent thrombosis.

1.1. Patient information

A 2.5 years old, female child attended at Balaroga OPD presenting complaint of painful swelling above the knee joint, bulky mass with tenderness in the lateral aspect of the left knee. She was unable to walk on the floor due to pain and swelling in the inner lateral part above knee joint for the last six months. She was under the treatment of analgesics and antibiotics from Pediatrician but parent could not able to observe any markable improvement for which they have attended Sri Sri Ayurveda Hospital, Sri Sri University, Balroga OPD. The efficacy of analgesic and anti-inflammatory medicines they had given was worked only during treatment phase and disease reappeared automatically just after completion of medicines.

2. Clinical finding

The clinical examination reveals swelling above the knee joint in the lateral part with acute pain. A bulky mass was palpable with tenderness. The condition remains as it is without involvement of any other organs. There was no cough, fever and other disorders in association of this disease. 3T CE MRI of left thigh and knee joint report reveals dilated venous vascular mesh identified in distal part of left vastus lateralis muscle and short head of biceps femoris muscle. No evidence of bony erosion or intra-articular extension. The features are compatible with venous vascular malformation.

2.1.1. Timeline

The study was conducted for three months from which two months were medication period and one month was follow up of study.

2.1.2. Diagnostic assessment

The case was diagnosed through clinical features and by 3T CE MRI of left thigh and knee joint.

2.2. Therapeutic intervention

Although, according to Acharya Sushruta, Raktamokshana is the best treatment procedure for this kind of disorders [12], This procedure relieves Shopha (swelling) and Shoola (pain) by relieving the local congestion of veins. But, in this case oral medications and Abhyanga were advised. Abhyanga with Balaswagandha taila for 15 minutes for a period of 2

months was advised. The oral medications like Kumarkalyan Rasa, Kalyanaka Ghrita, Varunadi Kashaya, Aravinda Sava were prescribed which is given in table number 1.

2.3. Follow up and Outcome

The child was treated for two months with regular observations in every 15 days interval. After completion of two month of treatment follow up of the case was done for another one month to determine the clinical findings or recurrence of the signs and symptoms. But the child was found playable and no significant recurrence of symptoms observed during the follow up period. The CBC report reveals normal and the TWBC which was elevated in the starting of treatment up to 14,400/cu.mm was reduced to normal limit i.e. 9,800/cu.mm at the end of treatment. The study ends with encouraging results.

3. Discussion

Venous vascular malformations (VVMs) are a type of vascular anomaly or abnormality that involves the veins. They are considered a congenital anomaly, present at birth, that can occur in any part of the body. The present case is a case of simple venous vascular malformations where Ayurvedic medicinal treatment along with abhyanga was advised. During Ayurvedic medication this disease was correlated with Siragranthi Vikara described in Ayurvedic classics where accumulation of Rakta (blood) and vitiated Vata dosha in the Sira(veins), leading to symptoms like venous congestion (Siraakunchan) and vein tortuosity (Vakrikarana), causing local congestion. Ayurvedic treatment emphasizes managing Vata dosha in the body. Additional treatment options mentioned in these texts include Snehana (Oleation Therapy) and Swedana (sudation), both of which enhances circulation in the affected area^[13,14], further aiding in the management of VVMs.

Table 1 The Oral medications of the patient

Drug	Dosage	Duration	Relation to food	Advice
Kumarkalyan Rasa	31mg	¼ tab twice daily (morning and night)	Before food	With honey
Kalyanaka Ghrita	2ml	Twice daily	After food	With Luke warm water
Varunadi Kashaya	5ml	Twice daily	After food	With cold water.
Aravinda Sava	2.5ml	Twice daily	After food	With cold water.

The Ayurvedic drugs used in the management of VVMs are Kumarkalyan Rasa, Kalyanaka Ghrita, Varunadi Kashaya, Aravinda Sava.

Kumarkalyan Rasa: This drug is used with an expectation to reduce swelling and pain by improving circulation i.e., the flow of blood decreases accumulation of Vata dosha thereby pain^[15].

Kalyanaka Ghrita: Kalyanaka Ghrita is an Ayurvedic medicated ghee used for various purposes like management of skin disorders, allergic conditions etc. In the chapter of Phakka chikitsa in Kashyapa Samhita this Ghee is prescribed in the conditions like developmental anomalies and neurological disorders. Kalyanaka Ghrita may also be used as a general tonic for overall well-being^[16].

Varunadi Kashaya: Varunadi Kashaya is used for managing urinary infections and improving kidney function. It may help in reducing pain and inflammation associated complications in the local area^[17].

Aravinda Sava: It is often prescribed for bronchitis, cough, and cold. It can help relieve symptoms of indigestion, bloating, and abdominal discomfort. In the present study this drug is used with an objective to pacify malformation related complications and local pain.^[18]

3.1. Clinical utility of Abhyanga(massage)

Stress Reduction: i) Abhyanga can help in reduce stress and anxiety by promoting relaxation and calming the nervous system. ii) **Improved Circulation:** The massage strokes in Abhyanga stimulate blood circulation, which is beneficial for individuals with circulatory problems. Improved circulation can also help with conditions like varicose veins and cold extremities. iii) **Muscle and Joint Pain:** Abhyanga can provide relief from muscle and joint pain. The warm oil helps to

relax tense muscles, reduce inflammation, and improve flexibility iv) Pain Management: Abhyanga can be used as part of a pain management strategy for various conditions, including chronic pain, injuries, and post-surgery recovery ^[19].

4. Discussion on clinical findings

CBC report reveals elevated TWBC of 14,400/ cu.mm. to 9,800/cu.mm. at the starting and end of treatment, respectively. As per FLACC behavioral pain scale¹⁴ before starting of treatment the score was eight (8) and the end of treatment as well as follow up of study it was zero. The clinical finding after end of the study confessed that there was complete remission of pain, tenderness, swelling, and bluishness in the affected part. The child could able to walk without any direct or indirect problems.

4.1. CBC Report

The report shows white blood cell (WBC) counts at the starting and end of treatment was 14,400/cu.mm. and 9,800/cu.mm. respectively. The values suggest that there may have been an infection (bhutabhisanga) that causes inflammation, which was improved after treatment.

4.2. FLACC Behavioral Pain Scale ^[20]

The FLACC scale is used to assess pain in children who are unable to communicate their pain verbally. A score of 8 before treatment indicates significant pain, while a score of 0 at the end of treatment and follow-up suggests that the pain has resolved.

4.3. Clinical Findings

After the study, the patient was found to have complete remission of pain, tenderness, swelling, and bluish discoloration in the affected body part. This indicates that the treatment was successful in resolving the underlying issue.

4.4. Functional Improvement

The report states that the child could walk without any direct or indirect problems at the end of the study. This is a positive outcome, suggesting that not only the pain was resolved but also the child's ability to walk and the normal activities of daily leaving was improved.

5. Conclusion

Venous vascular malformations are congenital anomalies of the veins that can lead to a range of symptoms and complications. Early diagnosis and appropriate Ayurvedic management, which may include observation, medical therapy, or various interventional procedures, can help improve the quality of life for individuals with VVMs. In the present study there was swelling above the knee joint with pain, bulky palpable mass with tenderness in the lateral aspect of the left knee, in which child was unable to walk due to pain. After administration of Ayurvedic medicines along with abhyanga (therapeutic massage) for two months there was improvement of all clinical features. The study highlights the clinical efficacy of Ayurvedic treatment in management of venous vascular malformation which can be compared with Siragranthi vikar in Ayurvedic classics.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.



Statement of informed consent

It is ensured that the guardian of the patient has given consent for the publication of data. They understand that the identity of their child will be concealed.

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