



# A Comprehensive Review of Avedhya Sira and Modern Correlations

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**Abstract :** Avedhya Sira refers to the specific veins and arteries that should not be punctured during venesection (Raktamokshana) as per the Ayurvedic texts. Acharya Sushruta has identified 98 such vessels to avoid during therapeutic bloodletting to prevent severe complications. This paper delves into the concept of Avedhya Sira, its significance in Ayurveda, and its modern medical correlations. Understanding these anatomical and physiological principles from both ancient and contemporary perspectives can enhance current medical practices, particularly in surgical procedures and the management of vascular health.

**IndexTerms - Avedhya Sira, venesection, Sushruta, Ayurveda, vascular anatomy, Raktamokshana, modern medical correlation, venous system, arterial system, bloodletting.**

## 1. INTRODUCTION

In Ayurveda, the concept of Sira (vessels) encompasses the intricate network of veins and arteries carrying blood and other vital substances throughout the body. Sira Vedhana, or venesection, is considered "half of the treatment" in many disorders, as stated by Sushruta. However, there are specific vessels, termed Avedhya Sira, which are contraindicated for puncture due to the risk of severe complications such as excessive blood loss, paralysis, or necrosis. This concept is integral to Ayurvedic surgery, particularly in the works of Sushruta, who is often regarded as the father of surgery. This paper aims to explore the Ayurvedic perspective of Avedhya Sira and establish correlations with modern medical understanding.

### Etymology and Definition

The term "Avedhya Sira" is derived from Sanskrit, where "Avedhya" means "not to be punctured" and "Sira" refers to "vessels." These vessels are primarily veins and arteries that should not be subjected to venesection.

### Concept of Avedhya Sira in Ayurveda

## 2. CLASSIFICATION AND DISTRIBUTION

Acharya Sushruta has categorized 98 Avedhya Sira into three main regions of the body:

- Shakha Pradesha (Extremities): 16 Avedhya Sira
- Koshtha Pradesha (Trunk): 32 Avedhya Sira
- Jaturdhw Pradesha (Head and Neck): 50 Avedhya Sira

### Upper Extremities

In the upper extremities, the cephalic vein, known as Jaldhara, is an Avedhya Sira due to its significant role in venous drainage. Puncturing this vein can lead to severe blood loss, akin to the complications observed with the saphenous vein in the lower extremities.

## Lower Extremities

The veins associated with the gonads and gluteal region, identified as Vitap and Katiktaran, are considered Avedhya. Venesection in these regions can result in necrosis of the gonads and gluteal muscles.

## Head and Neck

The subscapular vessels, referred to as Rhinitis, are Avedhya due to the risk of nerve injury, which can cause paralysis and significant blood loss.

### 3. Applied Aspect of Sira

In Ayurvedic anatomy, Sira can be compared to various blood vessels. Pittavaha Sira resemble veins, Kaphavaha Sira are analogous to lymphatic channels, and Raktavaha Sira correspond to capillaries. These vessels carry fluids, nutrients, and doshas (biological humors) throughout the body, making their anatomical knowledge crucial for effective venesection and disease management.

### Modern Medical Correlation

#### Venous and Arterial Systems

Modern anatomy and physiology offer detailed insights into the venous and arterial systems, providing a basis for understanding the ancient concept of Avedhya Sira. The cephalic and saphenous veins, for instance, play critical roles in venous return and are thus protected from unnecessary puncture in both ancient and modern practices.

#### Risk of Complications

The risks associated with puncturing major veins and arteries align with the contraindications noted by Sushruta. These include:

- Excessive Blood Loss: Major veins like the cephalic and saphenous are critical for blood return. Their puncture can lead to significant hemorrhage.
- Nerve Injury: Vessels near major nerves, such as the subscapular vessels, pose a risk of nerve damage, leading to paralysis.
- Necrosis: Venesection in regions with vital structures, such as the gonads and gluteal muscles, can result in tissue death due to compromised blood supply.

### 4. Selection Of Venesection Site

It can be done by following mentioned tips

- Diseases of Head and Eye – Veins situated on the forehead, outer angle of the eyes or the area around the nose should be cut
  - Diseases of The Ear – Veins near the ear.
  - Diseases of The Nose – Vein situated at the tip of the nose
  - Rhinitis – vein located in the nose and forehead, Jaw or palate.
  - Tumours of Parts Above the Shoulder – Vein situated in the tongue, lips, lower Jaw or palate.
  - In Tumours of Parts Above the Shoulder – Veins in neck region, ears, temples, jaw or the head.
  - All Diseases of The Head – Vein situated in between the eyebrows.
  - Vidhradhi (Abscess) And Pain in Flank Region– vein situated between the flanks, Axilla and breast
  - Every Third Day Fever (Tritiyaka Jvara) – vein in the centre of the shoulders.
  - Every Fourth Day Fever (Chaturthaka Jvara) – Below the shoulder.
  - Dysentery With Pain – Vein situated two Angula away from the pelvis.
  - Diseases of Penis or Semen – Vein situated in the penis.
  - Apachi Or Glandular Enlargement of Neck – Vein situated in the thigh.
  - Gridhasi or Sciatica– Vein situated four Angula below or above the knee joints.
  - Goiter – Vein situated two Angula below the indrabasti (a vital spot in the centre of calf muscles)
  - Gout, Padaharsha (Tingling Sensation In Feet), Vipadika (Fissures In Feet), Vatakantaka (sprain of the foot or Ankle), Chippa (A diseases of the nails of the toes) – Vein situated two Angula above the Kshipramarma (A vital Spot in between the big toe and the next toe to it)
  - Vishvachi (Pain in The Arms Just Like Sciatica but In Arms) – Venesection of sciatica should be done.
- If the veins are not visible, another vein which is devoid of vital spots and situated nearby, should be cut.

#### Modern Guidelines

In modern medicine, venesection or phlebotomy sites are chosen based on accessibility, ease of vein location, and safety. Common sites include the median cubital vein in the arm for its superficial location and minimal risk of complications.

## 5. Venesection Procedures

### Ayurvedic Venesection Rituals and Procedure

- The patient should follow Snehana procedure first.
- All the necessary equipments for bloodletting should be kept ready.
- The person should be strong, should perform auspicious rites and have boiled rice with meat soup and ghee.
- For sudation/sweating the person should be exposed to sunlight or fire heat.
- He is asked to sit on a stool of his knee height
- A band of soft cloth is tied around his head at the lower border of the hair or his hairline.
- He should keep elbows on his knees.
- A pad of cloth is held in fists and patients' neck is massaged briskly with fists.
- Patient is asked to Grind the teeth, cough, and inflate the mouth to enlarge the cheeks.
- Trunk should be wound with a band of cloth, fixed with the knots at the back
- His neck should also be tied with a band of cloth and tightened
- By this mode we raise the deep-seated veins.
- Then the physician taps the raised vein with his middle finger tripped off by the thumb, noticing the elevation, once again he raises it by kneading it with the thumb, then holding the axe with his left hand, places its edge on the middle portion of the vein and applies the small cut with Axe without Shaking.
- Axe should be lifted up in the same way, tapping and kneading of the vein is done for making more blood to come out.

### Modern Procedures

Modern phlebotomy involves:

- Using sterile equipment.
- Applying a tourniquet to locate and elevate the vein.
- Inserting a needle at the correct angle.
- Collecting blood samples or allowing therapeutic bloodletting under controlled conditions.

## 6. Contraindications for Venesection

### Ayurvedic Contraindications

Sushruta lists several conditions where venesection is contraindicated, including:

- Who are less than 16 years old and more than 70 years of age
- who have had no bleeding previously due to any cause
- who have undergone excess of Snehakarma and sweating therapies (Swedanam)
- Chardi – Vomiting
- Pandu – Anemia
- Chardi – Vomiting
- Dropsy
- Those suffering from diseases of Vata origin,
- The pregnant woman, the woman in parturition,
- Those suffering from bleeding diseases, indigestion, Shwasa (dyspnoea)
- Kasa – cough, cold
- Atisara – Diarrhoea, dysentery
- Udara – Ascites, intestinal obstruction/enlargement of the abdomen
- Those who have been given fat, ghee or oil to drink, as a part of oleation therapy (Snehana karma)
- After panchkarma therapy.

### Modern Contraindications

In contemporary practice, contraindications include:

- Severe anemia or bleeding disorders.
- Patients on anticoagulant therapy.
- Infections at the venesection site.
- Extreme debility or cardiovascular instability.

### Characteristics of Vitiated Blood

#### Ayurvedic Perspective

Ayurveda classifies vitiated blood based on the dominant dosha:

- Vata Vitiated Blood: Blue or crimson, dry, non-slimy, and frothy.
- Pitta Vitiated Blood: Yellow or black, foul-smelling, and mixed with glistening particles.

- Kapha Vitiated Blood: Pale/yellowish, thick, slimy, and thread-like.

#### Modern Perspective

In modern medicine, blood disorders are identified through laboratory tests, revealing characteristics such as:

- Anemia: Reduced red blood cell count and hemoglobin levels.
- Infections: Elevated white blood cell count and presence of pathogens.
- Liver Diseases: Altered bilirubin levels, causing yellowish tint.

#### Management of Complications

##### Ayurvedic Management

To manage complications during venesection, Ayurveda recommends:

- Applying herbal pastes or powders to stop bleeding.
- Using cold infusions and oils for wound care.
- Cauterization with a red-hot rod if bleeding persists.

##### Modern Management

Modern techniques include:

- Applying direct pressure to the site.
- Using hemostatic agents.
- Administering blood transfusions if necessary.
- Employing surgical interventions for severe cases.

#### 7. Conclusion

The concept of Avedhya Sira in Ayurveda emphasizes the importance of avoiding specific veins and arteries during venesection to prevent serious complications. This ancient wisdom finds resonance in modern medical practices, where careful selection of venesection sites and management of blood vessels are crucial for patient safety. By integrating Ayurvedic principles with contemporary medical knowledge, healthcare practitioners can enhance the efficacy and safety of venesection procedures, ensuring better patient outcomes.

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