

A Review On The Role Of Raktamokshana In Autoimmune Diseases

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ABSTRACT

An autoimmune disease is an abnormal condition in which the body reacts against constituents of its own tissues. The result may be a simple hypersensitivity reaction and/or autoimmune disease when the body begins to attack its own healthy tissues. About 5 % to 7 % of adults suffer from autoimmune diseases, and two-thirds of these are females. This failure to differentiate between self and non-self may result from extraneous environmental factors, such as viral infections and exposure to mutagenic agents, which can disrupt immune regulation and lead to gene aberrations. In Ayurveda, autoimmune diseases can be understood through the context of Dosha imbalances (Vata, Pitta, Kapha), depletion of Ojas, accumulation of Ama and Rakta Dushti. Raktamokshana is one of the principal Shodhana therapies in Ayurveda and is a unique procedure among the Shashtra karma indicated in different diseases where gross vitiation of Rakta is present and is a therapeutic procedure for removing vitiated blood through methods such as shrunga, alabu, jalouka, and siravyadha. Raktamokshana is a promising therapy for managing autoimmune disorders, helping balance Doshas, purify Dushita Rakta, support immune modulation, and reduce inflammation.

Keywords: Autoimmune disease, Ama, Raktadushti, Raktamoshana..

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INTRODUCTION

The immune system ⁽¹⁾ deals with a wide variety of organisms that are encountered in the environment by preventing the establishment of infection and eliminating infections that are established. The immune system has evolved to selectively destroy only foreign molecules and cells with little collateral damage to the host's own normal cells. The system is unique in its ability to retain a memory of each attack, allowing it to respond more efficiently to subsequent attacks by the same invader. Hence, individuals rarely suffer more than once from the same infectious disease. The immune response consists of two broad overlapping sets of events, the early or first-line of defence that occurs within minutes to hours of encounter with foreign antigen, the innate or non-specific immunity and a delayed response, which occurs within days, called adaptive or specific immunity. The recognition of events constitutes the afferent arm, and the effector arm functions either through cells (cell-mediated immunity) or antibodies (humoral immunity). Immune response is mediated by the

T-cells, causing the B-cells to produce antibodies. These cells work in collaboration, helping each other in a coordinated way. There is tight control over these T- and B-cells reacting against self-antigens in cells or tissues called the 'self-tolerance'. Autoimmune diseases are classified as organ-specific and systemic non-organ-specific, and can be divided into systemic, localised, and haemolytic disorders, depending on the tissue/cells affected. Prominent examples include celiac disease, diabetes mellitus type 1 (IDDM), sarcoidosis, Rheumatoid arthritis, Systemic lupus erythematosus (SLE), Scleroderma, primary Sjogren's syndrome, polymyositis, Goodpasture's syndrome, Multiple sclerosis, Graves' disease, Hashimoto thyroiditis, Myasthenia gravis and many others. Different autoimmune diseases may have similar early symptoms. These can include fatigue, dizziness or lightheadedness, low-grade fever, muscle aches, swelling, trouble concentrating, numbness and tingling in your hands and feet, hair loss, and skin rash. Individual autoimmune diseases can also have their own unique symptoms depending on the body systems

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affected. Treatment of autoimmune diseases can focus on suppressing the induction of autoimmunity, restoring normal regulatory mechanisms, or inhibiting the effector mechanisms. To decrease the number or function of autoreactive cells, immunosuppressive or ablative therapies are most commonly used.

RAKTAMOKSHANA

Rakta mean blood, *mokshana* means releasing/to let out, the word meaning of *Raktamokshana* is bloodletting.

रक्तस्य मोक्षणम् शोणितस्त्रावः । (शब्दकल्पदुम)

रक्तस्य मोक्षणम् रक्त मोक्षणम् (sha.ka)

Letting out impure blood from the body is known as *Raktamokshana*.

Acharaya Sushruta and *Vagbhata* ⁽²⁾ considered *Raktamokshana* as one among the *panchshodhana* and therapeutic procedure of removal of vitiated blood through various methods like *shrunga*, *alabu*, *jalouka* and *siravyadha*.

Classification includes⁽³⁾

1. *Shashtrakruta* – includes *prachchna*, *siravyadha*.
2. *Ashashtrakruta* - includes *shrunga*, *alabu*, *ghati*, *jalouka*.

Types	Indication ⁽⁴⁾
<i>Jaloukavacharana</i>	<i>Pitta dushti</i> , <i>avagada grathita rakta</i> , <i>sukumara atura</i> , <i>daha</i> and <i>toda</i>
<i>Shrunga</i>	<i>Vatadushti</i> , <i>avagadaraktama</i> , <i>twakdushti</i> and <i>sukumara rugna</i> , <i>kandu</i> , <i>suptata</i>
<i>Alabhu</i>	<i>Kapha dushti</i> , <i>vagadatarakta</i> , <i>twaksthitarakta</i> , <i>kandu</i> and <i>suptata</i>
<i>Siravyadha</i>	<i>Tridosha raktadushti</i> , <i>sarvanga gata dushti</i>
<i>Prachhana</i>	<i>Uttana</i> and <i>pandita rakta</i>

According to *Acharya Charaka*⁽⁵⁾, the diseases that are not cured even when appropriate treatment using *sheeta*, *ushna*, *snigdha*, *ruksha*, then *Rakthamokshana* should be adopted. *Yogarakanakara* mentioned that if the disease is not cured by *vamanadi karma*, then *raktamokshana* should be adopted. Those who undergo *Raktamokshana* at the proper time interval will not be afflicted with *Twak Dosh*, *Granthi*, *Shopha* and other *Raktaja Vikaras*.

AYURVEDIC APPROACH TO AUTOIMMUNE DISORDERS

समदोषः समाग्निश्च समधातु मलक्रियाः।

प्रसन्नत्वेन्द्रियमनाः स्वस्थः इत्यभिधीयते ॥ (Su su 15)

The person who is in a state of equilibrium of the *Doshas*, *Agni*, *Dhatu*, *Mala Kriya* and having *Prasanna Aatma*, *Indriya* and *Mana* is considered a healthy person. Impaired *Doshas*, *Agni*, *Dhatu* and *Mala Kriya* caused diseases.

In *Ayurveda*, autoimmune diseases can be understood through the context of *Dosha* imbalances (*Vata*, *Pitta*, *Kapha*), depletion of *Ojas*, accumulation of *Ama* and *Rakta Dushti*. Autoimmune disorder caused by impaired *Agni*, which may produce endotoxins called ‘*Ama*’. When there is dysfunction of *Agni*, digestion is hampered, resulting in the formation of *Ama*, which then affects the *Bhutagni* and *Dhatwagni* (The functions of *Dhatwagni* refer to tissue metabolism). *Ama* formed at the levels of *Jatharagni* and *Dhatwagni* initiates many pathological events inside the body. General characteristics of *Ama* are *Srotorodha*, *Balabhransha*, *Gaurava*, *Anilmudhata*, *Alasya*, *Apakti*, *Nisthiva*, *Malasanga*, *Aruchi*, and *Klama*.

There is no direct mention of autoimmune disease in *Ayurvedic* classics; autoimmune conditions closely resembling include:

Rheumatoid arthritis, ankylosing spondylitis, psoriasis, alopecia areata, type 1 diabetes mellitus	Amavata, vatarakta, Eka kushta, indralupta, madhumeha
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SCOPE OF RAKTHAMOKSHANA

Raktamokshana holds a significant scope in the management of autoimmune diseases. In modern pathology, autoimmune disorders occur when the immune system mistakenly identifies the body’s own cells as foreign, leading to the production of autoantibodies and the release of inflammatory cytokines. This results in persistent inflammation, organ damage, and systemic manifestations such as joint pain, skin lesions, and multi-organ involvement. Autoimmune disorders, though not clearly described in classical texts, can be understood as conditions arising from *Dushti* of *Rakta* along with involvement of *Pitta* and *Vata*, leading to *Dhatwagni Vaishamya* and *Ojas Kshaya*. The *samprapti* involving *agnimandya*, resulting in the accumulation of *ama*, which combines with vitiated *doshas*, which propagates through the *Rasa* and *Rakta dhatus*, due to the presence of *dhatu vaigunya*, this complex localises at specific anatomical sites, initiating an aberrant self-reactive process wherein the body’s defence mechanisms target its own tissues, leading to *srotorodha*, persistent inflammatory responses, and ultimately the clinical manifestation of autoimmune diseases. Classical signs of *Raktadushti* such as *Kandu*, *Daha*, *Raga*, *Sopha*, and *Paka*, closely mimic inflammatory and autoimmune manifestations. *Raktamokshana* directly addresses this pathology by removing vitiated *raktha* from the circulation, which is considered the carrier of toxins, immune complexes, and inflammatory mediators. As stated by *Acharya Sushruta*, “*Raktamokshanam eva atra pradhanam*,” emphasising role of *raktamokshana* in disorders due to *raktadushti*. By removing impure blood, it alleviates *Pitta* and *Rakta Dushti*, restores normal flow in *Srotas*, and reduces *Margavarodha*. This leads to rapid relief in symptoms like pain, burning sensation, discolouration, and swelling and *Raktamokshana* improves local tissue metabolism and enhances oxygenation, facilitating healing and preventing further autoimmune aggression.

ROLE OF RAKTAMOKSHANA IN FOLLOWING AUTOIMMUNE DISEASE

Vatarakta/Inflammatory arthritis

Vatarakta is considered a *Raktapradoshaja Vyadhi* that occurs when vitiated Rakta causes *vata margavarodha*. In such cases, *Raktamokshana* is considered an important therapy to relieve obstruction and provide rapid pain relief. Among its methods, *Jaloukavacharana* has *Madhura* and *Sheeta guna*, which help reduce *Daha* and selectively remove vitiated Rakta, thereby relieving *shula* and *toda*. *Shruna* with its *Uṣṇa*, *Madhura*, and *Snigdha* guna. The negative pressure created by suction through the *shruna* helps extract toxins. Thereby helps improve symptoms like *supti*, *toda*, and *chimichimayana*. *Siravyadha* removes the obstruction of *Vata* by Rakta and restoring *Anuloma Gati*, resulting in immediate relief from localized and regional inflammatory pain. Overall, adopting *Raktamokshana* in acute cases of *Vatarakta* helps eliminate *Duṣṭa Rakta*, clear obstruction, and provide instant relief from pain and inflammation

Eka Kushta/ Psoriasis

Ekakushta is a type of *Kshudra Kushta* caused by the involvement of *Vata* and *Kapha doshas* along with *Rakta Dhātu*. *Raktamokshana* is recommended once every six months in the management of *Kushta*. *Raktamokshana* relieves the *sanga* of *srotas*, which is the *dushti prakara* in *Kushta*. In *Kushta*, *khavigunya* occurs in *twak*, *lasika*, *mamsa*, and *rakta*. By performing *raktamokshana*, the *dushita rakta* is eliminated, which helps in reducing inflammation, improving blood circulation.

Indralupta /Alopecia areata

Indralupta can be correlated with Alopecia Areata, a condition that occurs when the immune system attacks hair follicles, leading to hair loss. *Indralupta* caused by involvement of *tridosha* along with *rakta*. *Pracchana Karma* can be considered a form of *Raktamokshana*, as it removes vitiated Rakta and Pitta. Additionally, the *Avarana* of *Kapha*. By eliminating obstructed Rakta along with *Kapha*, *Pracchana Karma* promotes new hair growth and helps combat the disease process.

Amavata / Rheumatoid arthritis

Amavata occurs due to the accumulation of *Ama* (metabolic toxins) and the vitiation of *Vata dosha*, leading to joint pain, swelling, stiffness, and restricted movement. *Raktamokshana* helps break this pathology by removing impure blood, reducing inflammation, pain, and stiffness, and restoring normal circulation and tissue metabolism. Among the various methods, *Jalaukavacharana* are considered most effective is preferred in patients with *shula* and *pitta*-dominant conditions, as it provides mild and controlled bloodletting along with the leech's salivary anticoagulant and anti-inflammatory enzymes. Therapeutically, *Raktamokshana* reduces local congestion, cleanses the microchannels, alleviates *Sandhishoola*, and

improves mobility. It also prevents further progression of the disease by eliminating pathological toxins at the site.

DISCUSSION

Autoimmune disorders arise when the body's immune system mistakenly attacks its own tissues, leading to chronic inflammation and tissue damage. Modern medicine manages these conditions primarily through immunosuppressants and steroids. *Ayurveda* offers a unique perspective, considering Autoimmune disorder caused by impaired *Agni*, which may produce endotoxins called '*Ama*'. According to *Ayurveda* cause of autoimmune disease is due to the mechanism of aberrant '*Agni*', which produces *Ama* and weak *Ojas*. Also, in autoimmune disease, different *Dhatwagnis* are involved. One of the most effective *Ayurvedic* treatments for detoxification and immune modulation is *Rakthamokshana* (bloodletting therapy).

Mode of action of Raktamokshana

Jalaukacharana

Leech saliva contains a variety of bioactive peptides and proteins like antithrombin (hirudin, bufrudin), antiplatelet (calin, saratin), factor Xa inhibitors (lefaxin), antibacterial (theromacin, theromyzin) and others. In vascular disorders, leech saliva temporarily improves blood flow and ameliorates connective tissue hyperalgesia due to thrombolytic and antiplatelet effects. Hirudin can reduce synovial inflammation in arthritis by inhibiting DING protein, a derivative of synovial stimulatory protein acting as an autoantigen in Amavata/rheumatoid arthritis. An anaesthetic substance causes pain insensitivity (analgesic) when sucking. The active leech substances totally block the enzymic processes activated and often exceed those found within inflammation and trauma. The salivary glands of leeches also produce a cornucopia of other pharmacologically active substances, including an antihistaminic, proteases and possibly an anaesthetic and an antibiotic.

Siravyadha

Venesection increases the speed of the blood-current, thus amends stasis, absorbs exudates, and washes adherent corpuscles from the vessel wall, it decreases the amount of fibrin and albumin, lowers temperature and arrests cell proliferation, and stops effusion. After *Siravyadha*, the volume loss may affect this exchange mechanism and also decrease the pressure. The low oxygen level at tissues stimulates the development of RBCs by erythropoiesis, and the volume loss will be replaced by the plasma proteins. Therefore, by *Siravyadha Dushta Rakta Nirharana* will be done and replaced by Shuddha Rakta, which nourishes the affected site, thereby reducing the symptoms. *Siravedhana* acts predominantly on *Pitta*, *Rakta* and *Kaphaja vyadhi* or when *Pitta* and *Kapha* are in association with *Vata dosha*. In such conditions of *Vata prakopa*, which leads due to *Avarana* of *Kapha* and *Pitta*, *Siravedhana* can remove the *Avarana* of *Kapha* and *Pitta dosha* and patients get instant relief from the pain.

Alabu And Shringa

The *Alabu* and *Shringa* therapy of *Ayurveda* is akin to the wet cupping therapy (WCT). The WCT is considered a minor surgical where a pressure-dependent excretion of causative pathological substances (CPS) occurs. CPS include disease-causing substances and disease-related substances (that result during disease pathogenesis). Negative pressure applied to the skin surface causes local collection of filtered and interstitial fluids containing CPS at the skin up liftings inside cups. Scarifying skin up liftings followed by cupping causes a pressure gradient and a traction force across the skin and capillaries to excrete collected fluids with CPS and cause bleeding at puncture sites. This increases filtration at both capillary ends and causes clearance of blood and interstitial spaces from CPS. WCT benefits from enhancing natural excretory skin functions, improving lymphatic and capillary circulations and restoring homeostasis.

Blood detoxification theory ⁽⁶⁾: According to the blood detoxification theory, there is a decrease in the level of uric acid, HDL, LDL and the molecular structure and function of haemoglobin (Hb) and other haematological adjustments. For clearing the toxins, the negative pressure suction produced by *shrunga* or *alabu* benefits the extraction of the toxins generated by the purulent fluid, exudation, and germs, as well as the histolytic enzyme. It also promotes the growth of granulation and the recovery of wounds. The flow of blood tends to break up obstructions and creates a route for toxins to be drawn out of the body. The increase of blood metabolites gives the benefits as it promotes the release of toxins and wastes, improves the local nutritional state, boosts the metabolism and improves the health by eliminating the pathogenic factors.

Pracchana

Prachhanna Karma is a therapeutic technique in which fine, superficial incisions or punctures are made on the skin. This process allows the removal of vitiated *Rakta* along with vitiated *Doshas*, thereby restoring the natural balance of *Prakruta Dosh* and *Dhatu*. By creating these micro-openings, *Prachhanna* facilitates drug penetration beyond the stratum corneum, delivering medicinal substances directly into the vascular dermis. The controlled injury also activates the wound-healing cascade, leading to the release of growth factors such as PGF, TGF- α , TGF- β , and connective tissue growth factor. These factors stimulate angiogenesis and neovascularisation, which help clear toxic blood and encourage the regeneration of healthy tissue. The procedure further enhances perifollicular circulation. The small puncture wounds trigger an acute inflammatory response, which not only accelerates healing but also supports the resolution of skin disorders. Overall, *Prachhanna Karma* improves microcirculation, reduces itching, and lowers markers such as ESR and AEC by eliminating stagnant blood components, hemosiderin deposits, histamines, and inflammatory mediators.

Samanya Chikitsa Siddhanta of autoimmune disorder include *Nidana Parivarjana*, *Shodhana* therapies such as

Vamana, *Virechana*, *Basti* and *Raktamokshana*, along with *Shamana Chikitsa*. *Raktamokshana* is considered as *Vishesha chikitsa* in these conditions due to its direct action on vitiated *Rakta*. Its ability to provide quick relief and prevent recurrence. Different methods of *Raktamokshana* enhance its applicability, making it suitable for various *Roga Avastha*. The selection of the method depends on factors such as *Dosha* predominance, *roga bala*, *rogi bala*, and the site of disease. Periodical implementation of *raktamokshana* in *twak roga*, *shotha*, *granthi* and *shonita roga* will prevent the recurrence of the disease.⁽⁷⁾

CONCLUSION

Ayurveda perceives autoimmune diseases in a slightly different way. As per *Ayurveda*, the immune cells do not attack body cells accidentally, but to defend against harmful metabolites termed as *Ama*. *Raktamokshana* is a promising Ayurvedic therapy for managing autoimmune disorders through detoxification, immune modulation, and inflammation reduction. It helps balance *Doshas* and purify *Rakta*, addressing the root cause of autoimmune conditions. It eliminates vitiated *Rakta* and toxins and enhances microcirculation and oxygen supply. Modifies immune response without suppressing the natural defence system. .

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