

# **MajjavahaSrotodushti Caused by Viruddha Ahara: A Narrative Review with contemporary approach.**

## **Abstract**

**Background:**Viruddha Ahara, the Ayurvedic concept of dietary incompatibility, is recognised in the Bruhatrayee as an important yet to be searched out as a cause of chronic and acute disease. Among the thirteen Srotas described by Acharya Charaka, Majjavaha Srotas, responsible for the formation, nourishment, and transport of Majja Dhatu (marrow and neural tissue), is specifically described as being vitiated by habitual consumption of incompatible food. Contemporary evidence linking diet, gut dysbiosis, neuroinflammation, and the gut–brain axis provides an opportunity to reinterpret this classical concept in the context of neurological disorders.**Objective:**To narratively review the bruhatrayee on Viruddha Ahara-induced Majjavaha Srotodushti, reconstruct its pathogenesis (Samprapti), and explore its relevance in light of contemporary neuroimmunological and gut–brain axis research.**Methods:**A review of classical Ayurvedic texts, including Charaka Samhita, Sushruta Samhita, Ashtanga Hridaya, and Ashtanga Sangraha, was done. Relevant descriptions of Viruddha Ahara, MajjavahaSrotas, Majja Dhatu, Agni, Ama, and disease pathogenesis were synthesised and interpreted alongside contemporary biomedical literature on neuroimmunology, lipid metabolism, oxidative stress, advanced glycation end-product (AGE–RAGE) signalling, and the gut–brain axis published in English language available in English language. The contemporary data was reviewed from open access journals available from search engines like google scholar and databases like Pubmed Central and Researchgate available till February 2026. **Results:**The reviewed literature suggests a sequential pathogenesis whereby habitual intake of Viruddha Ahara leads to Dosha vitiation without proper elimination, Agni impairment, Ama formation, and dysfunction of Pittadhara-Majjadhara Kala, ultimately resulting in Majja Dhatu vitiation and Majjavaha Srotodushti. This process manifests as MajjaKshaya, Majja Vriddhi, MajjaPradoshajaVikara leadingtridoshaj disorders predominantly, Vata disorders. Contemporary evidence supports plausible correlations through gut–brain axis dysregulation, lipid peroxidation, AGE–RAGE-mediated inflammation, and neuroimmune mechanisms, with Guillain–Barré syndrome representing a potential clinical correlate.**Conclusion:**MajjavahaSrotodushti provides a physiologically coherent framework for understanding diet-related neurological disorders by integrating classical Ayurvedic principles with modern neuro-nutritional science. The available evidence highlights the need for structured experimental and clinical studies to validate these conceptual associations while reinforcing the preventive significance of Ahara Vidhi in maintaining neurological health.

## **Keywords:**

**Viruddha Ahara; MajjavahaSrotas; Majja Dhatu; Srotodushti; Ama; Agni Dushti; Vata Vyadhi; Guillain–Barré syndrome; Gut–brain axis; Ayurveda.**

## 1. Introduction

Ahara (food) occupies a foundational place in Ayurvedic physiology. Charak Samhita states that wholesome food is that which maintains equilibrium among the Dhatus and corrects deviation from the natural state, whereas food that disturbs this equilibrium is termed unwholesome.<sup>(1)</sup> Food is eulogised as the very prana of living beings and the substratum of Varna, Bala, Buddhi and Ayu.<sup>(2)</sup> Conversely, Charaka states plainly that the origin of both life and disease lies in Ahara, and that the wholesomeness or unwholesomeness of food is what separates health from disease. Sushrut similarly grounds Bala, Varna and Ojas in Ahara.<sup>(3)</sup> Within this framework, Viruddha Ahara (incompatible or antagonistic food) is singled out as an especially insidious cause of disease because it vitiates the Doshas from their natural seats without expelling them from the body,<sup>(3)</sup> so that the vitiated Doshas continue to corrupt successive Dhatus. Its effects range from minor digestive disturbance to grave, even fatal, systemic disease, and it is explicitly named among the causative factors of MajjavahaSrotodushti<sup>(4)</sup> (vitiation of the channel that carries Majja Dhatu) the tissue translated as bone marrow and, importantly, with mastishka<sup>(5)</sup> or the neural substance.

Recent advances in neuroscience and immunology have renewed interest in understanding how dietary factors, gut dysfunction and immune responses contribute to neurological disorders.<sup>[6]</sup> This provides a relevant context for exploring the Ayurvedic concept of Viruddha Ahara as a potential initiator of MajjavahaSrotodushti. Guillain–Barré syndrome (GBS) is a striking example: an acute, immune-mediated polyradiculoneuropathy frequently preceded by gastrointestinal or respiratory infection,<sup>[7]</sup> mostly with *Campylobacter jejuni* acquired through contaminated or improperly prepared food. <sup>[8]</sup> The clinical overlap between GBS and the classical descriptions of Majjagata Vata and Majja Dhatu Dushti is notable and forms an important illustrative correlate used throughout this review, without being its exclusive focus. The study was planned to narratively review the Bruhatrayee on Viruddha Ahara-induced Majjavaha Srotodushti, reconstruct its pathogenesis (Samprapti), and explore its relevance in light of contemporary neuroimmunological and gut–brain axis research. The present review synthesizes classical Ayurvedic literature to construct an integrated Samprapti of MajjavahaSrotodushti caused by Viruddha Ahara and systematically correlates each pathological step with contemporary biomedical evidence, thereby providing a translational framework for future research in neuro-nutritional disorders.

## Research Question

How does viruddhaahara cause majjavahasrotodushti?

## 1.1 Methodology

1. Charak Samhita, Sushrut Samhita, Ashtanghridya and Ashtangsangraha were reviewed for the concepts – viruddhaahara, majjavahasrotodushti, majja dhatu, aama and agnidushti. Total 73 references from Sushrut Samhita with Dalhan commentary, 142 references from Charak Samhita with Chakrapani commentary and 82 and 53 references from Ashtanga Hridaya and Ashtanga Sangraha respectively with their respective commentaries of Viruddha were considered.

2. The contemporary biomedical literature on neuroimmunology, lipid metabolism, oxidative stress, advanced glycation end-product (AGE–RAGE) signalling, and the gut–brain axis was reviewed from open access journals available from search engines like google scholar and databases like Pubmed Central and Researchgate. The published articles found were observational and narrative reviews

## 2. Concept of Viruddha Ahara

### 2.1 Etymology

*Ahara* is derived from *aa* (towards) + *hri* (to carry/convey), denoting that which is taken in or from which *Rasa* (nutrient essence) is drawn. *Viruddha* is derived from *vi* + *rudh*, meaning that which is characterised by opposition, obstruction or contradiction (*virodha*). In dietetics, therefore, Viruddha Ahara denotes food or a food-practice that stands in opposition to the body's physiological requirements.<sup>[9]</sup>

### 2.2 Definition

Charak defines Viruddha as any substance that is antagonistic to the Deha-Dhatus, this antagonism arising through opposed properties (guna), improper combination (samyoga), incorrect processing (samskara), or considerations of place, time, dose and inherent nature (desha, kala, matra, swabhava).<sup>[10]</sup> Elsewhere Charak states more concisely that any food or drug which excites and dislodges the Doshas from their natural seat, yet fails to expel them from the body, is harmful. Sushrut concurs, defining Viruddha Ahara as food that vitiates the Doshas without eliminating them, or whose properties are opposite to those of the Dhatus, thereby generating disease. Vagbhata in Ashtanga Sangraha is concordant with these definitions.<sup>[12]</sup> The unifying thread across the Acharyas is that the danger of Viruddha Ahara lies not merely in dosha excitation which unwholesome food may also cause transiently but in the failure of the vitiated Doshas to be eliminated, so that they persist and progressively corrupt tissue.

## 2.3 Mode of Action

SushrutSutrasthan articulates a clear pathological sequence:

incompatible diet vitiates Doshas from their natural sites



these Doshas are not expelled



they vitiate the RasadiDhatus



vitiated Dhatus fail to nourish successive tissues



the combination of deranged Doshas and Dhatus manifests as disease

## 2.4 Types of Viruddha Ahara

The classical Samhitas differ in their classification of Viruddha, reflecting analytic emphases. Charak lists multiple types including desha, kala, agni, matra, satmya, dosha, samskara, veerya, krama, koshttha, avastha, parihara, paaka, upachara, samyoga, hrit, sampat, vidhi; Sushruta emphasises Rasa-Veerya-Vipaka based categories; Vagbhata provides related classifications. Of these, the categories with the closest bearing on MajjavahaSrotodushti are samyogaviruddha (incompatible combination — e.g., sour fruit with milk, fish with milk), samskara viruddha (faulty processing — e.g., repeated reheating of oils, improperly cooked meat), matraviruddha (incompatible proportion — e.g., honey and ghee in equal quantity), kala/deshaviruddha (seasonal/regional mismatch) and sampatviruddha (stale/putrefied ingredients), since these are the forms of incompatibility most readily linked, in both classical description and modern biochemistry, to obstruction (sanga) and channel-blocking (abhishyanda) properties. Ashtanga Sangraha additionally notes that regular exercise, habitual unctuous food, robust Agni, youth, physical strength and small quantity of the incompatible item can lessen the harm of occasional dietary incompatibility.

The classical Samhitas differ considerably in their classification of Viruddha, reflecting different analytic emphases (Table 1).

Table 1. Types of Viruddha across the classical Samhitas

|                                               |                                                                             |                                               |                                                              |
|-----------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------|--------------------------------------------------------------|
| Charaka Samhita<br>— 18 types <sup>[13]</sup> | Sushruta Samhita — 5<br>(Rasa-Veerya-Vipaka<br>based) types <sup>[14]</sup> | Ashtanga Hridaya<br>— 7 types <sup>[15]</sup> | Ashtanga Sangraha<br>— 3 broad<br>categories <sup>[16]</sup> |
|-----------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------|--------------------------------------------------------------|

|                                                                                                                                             |                                                                                                                                |                                                                                                                                                     |                                                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Desha, Kala, Agni, Matra, Satmya, Dosha, Samskara, Veerya, Krama, Koshtha, Avastha, Parihara, Paaka, Upachara, Samyoga, Hrit, Sampat, Vidhi | Rasa Viruddha, Rasa-Veerya Viruddha, Rasa-VipakaViruddha, Sarvatah(complete) Viruddha, and gradation-based (Tar-tama) Viruddha | Samyoga, Samskara, Matra, Desha, Kala, Avastha, Swabhava (Samyoga further sub-classified into Guna Samanya, Guna Vaishamya, Guna Samanya-Vaishamya) | Dissimilarity of properties, similarity of properties (excess amplification), and combined similarity–dissimilarity |
|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|

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## 147 2.5 Systemic Effects of Viruddha Ahara

148 Viruddha Ahara is likened in the Ashtang Hridaya to an artificial poison (garavisha)<sup>[17]</sup>  
149 because, like a toxin, it vitiates the internal milieu without being eliminated. Its  
150 consequences range from localised digestive disturbance to grave systemic disease and, in  
151 extreme forms, death. Ashtanga Sangraha lists it among the causes of the  
152 AshtauMahagada (eight grave diseases): Vatavyadhi, Ashmari, Prameha, Kushtha, Udara,  
153 Bhagandara, Arsha and Grahani<sup>[18]</sup>. Charaka additionally attributes Shandhya (infertility),  
154 Andhya (blindness), Unmada (insanity), Pandu, Amavisha, Kushtha, Grahani, Jwara and  
155 Mrutyu, among others, to habitual Viruddha Ahara sevana.<sup>[19]</sup> Most pertinently for the  
156 present review, Viruddha Ahara is explicitly identified as a dushtikarana (causative factor  
157 of vitiation) of both MajjavahaSrotas and RaktavahaSrotas — establishing the direct  
158 textual bridge between incompatible diet and marrow/neural channel pathology that this  
159 review develops further.

## 160 3. Concept of Srotas and General Etiology of Srotodushti<sup>[20]</sup>

161 Charaka derives Srotas from the root *sru* (to flow/ooze), denoting the channels through  
162 which nutrient *Rasa* is transported to and from the Dhatus. Charaka states that as many  
163 kinds of corporeal structures exist in the body, so many kinds of Srotas exist, and that all  
164 Dhatus are formed and undergo decay only through the functioning of Srotas. Sushruta  
165 complements this with a structural definition: Srotas possess a *moolasthan* (root), a *kha*  
166 (lumen), and are anatomically distinct from sira and dhamani. Charaka enumerates  
167 thirteen principal Srotas, Sushruta eleven, and Ashtanga Hridaya thirteen  
168 AbhyantaraSrotas in addition to BahirmukhaSrotas. Charaka classifies the clinical  
169 presentation of Srotodushti into four patterns — atipravrutti (excessive  
170 flow/hypersecretion), sanga (obstruction/stagnation), siragranthi (nodule/cyst formation)  
171 and vimargagamana (abnormal or reversed flow). General etiology of Srotodushti is  
172 summarised concisely: dietary and behavioural factors that share qualities with the  
173 aggravated Doshas while being antagonistic to the Dhatus are the principal causes of  
174 channel dysfunction — a description that applies directly to Viruddha Ahara. Charaka

further tabulates specific causes for each Srotas; for MajjavahaSrotas these are utpeshana (crushing/grinding), atyabhishtandiahara (channel-obstructing food), abhighata (trauma), prapedana (compression), and repeated consumption of Viruddha Ahara.

#### 4. MajjavahaSrotas

##### 4.1 Definition and Classification

MajjavahaSrotas is one of the thirteen AbhyantaraSrotas of Charaka Samhita, defined functionally as the channel that carries and transports Majja Dhatu as it matures. In contemporary nomenclature it is recognised as the physiological channel-system responsible for marrow formation, transport and nourishment.

##### 4.2 Moola (Root)

Charaka states that asthi (bones) and sandhi (joints) constitute the moolasthana of Majjavaha Srotas, since Majja resides within the bony cavities and governs joint lubrication and stability. Charak further elaborates that Vata Dosha creates porosity (Sushira) within bone, into which Meda settles to form Majja — a three-way interaction of Dosha (Vata), Dhatu (Meda) and structural substrate (Asthi)

##### 4.3 Structure

Charaka describes Srotas in general as tubular, of variable calibre, long and tendril-like in morphology, and similar in colour to the Dhatu they transport — implying, for MajjavahaSrotas specifically, a branching network intimately associated with the medullary cavities of bone and, by extension of the mastishka–majja equivalence, with neural tissue.

##### 4.4 Function

The primary function of MajjavahaSrotas is Majja Dhatu Poshana — carrying nutrient material for the formation, maintenance and transport of Majja, and thereby, secondarily, for the nourishment of Shukra Dhatu, since Majja is the Dhatu immediately antecedent to Shukra in the sequential Dhatu Poshana chain.

Table 2. Sequential formation (Dhatu Poshana Krama) and function of the seven Dhatus

| Sequence | Dhatu  | Formed from | Principal function                                     |
|----------|--------|-------------|--------------------------------------------------------|
| 1        | Rasa   | Ahara Rasa  | Nutrition                                              |
| 2        | Rakta  | Rasa        | Oxygenation, vitality                                  |
| 3        | Mamsa  | Rakta       | Muscular structure                                     |
| 4        | Meda   | Mamsa       | Lubrication, energy storage                            |
| 5        | Asthi  | Meda        | Structural support                                     |
| 6        | Majja  | Asthi       | Filling of bone cavities; nourishment of neural tissue |
| 7        | Shukra | Majja       | Reproduction                                           |

#### 4.5 Physiology

Majja is classically described as one of the chatu-sneha (four natural unctuous substances, along with ghrita, taila and vasa), predominantly composed of jalamahabhuta, and possessing snigdha and guru gunas. Its karma includes asthi purana (filling of bone cavities), conferring bala (strength), snehana (lubrication of joints and tissues) and shukrapushti. Individuals with Majja sara (optimal quality of Majja Dhatu) are described as possessing a strong, well-lubricated physique, well-developed joints, superior intellect and longevity, a constitutional description consistent with healthy neuromuscular coordination and well-nourished neural tissue.

#### 4.6 Majja and the Nervous System

Chakrapani commentaries explicitly equate mastishka with a form of Majja. This extends the classical concept of Majja beyond bone marrow to encompass the central nervous system, providing the conceptual basis for correlating Majja Dhatu pathology with neurological disease.

#### 5. Majjavaha Srotodushti: Classical Pathology

Like other Srotas, MajjavahaSrotas manifests the four classical patterns of Srotodushti: atipravrutti (correlating with Majja Vridhhi), sanga (correlating with MajjaKshaya), siragranthi and vimargagamana, collectively giving rise to MajjaPradoshaja Vikara.

#### 5.1. Clinical features of Majja Dhatu Dushti

- Majja Dushti (general): Parva Ruk (joint/bone pain), Bhrama (vertigo), Murchha (syncope), Tama Darshana (visual dimming/blackout), progressive weakness and bony porosity.<sup>[21]</sup>
- MajjaKshaya (depletion): Sensation of bones crumbling/fracturing, progressive bony lightness and weakness, predisposition to Vata disorders.<sup>[22]</sup>
- Majja Vridhhi (excess): Heaviness of eyes and body; furuncles at the base of small joints.<sup>[23]</sup>
- Majja Avrita Vata: Flexing/bending posture, yawning, sensation of being wrapped up, pain relieved by pressure.<sup>[24]</sup>
- Majjagata Vata: Cracking-type pain in bones/small joints, MamsaKshaya, Bala Kshaya, insomnia, continuous pain.<sup>[25]</sup>

Sushrut accounta largely concurs but additionally notes sthulamularuja (pain in large joints) and netra-abhishyanda (ocular discharge).<sup>[26]</sup>

Table 3. Clinical features of Majja Dhatu Dushti

| Condition               | Classical clinical features                                                                                                                       |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Majja Dushti (general)  | Parva Ruk (joint/bone pain), Bhrama (vertigo), Murchha (syncope), Tama Darshana (visual dimming/blackout), progressive weakness and bony porosity |
| MajjaKshaya (depletion) | Sensation of bones crumbling/fracturing, progressive bony lightness and weakness, predisposition to Vata disorders                                |
| Majja Vridhhi (excess)  | Heaviness of eyes and body; furuncles at the base of small joints                                                                                 |
| Majja Avrita Vata       | Flexing/bending posture, yawning, sensation of being wrapped up, pain relieved by pressure                                                        |
| Majjagata Vata          | Cracking-type pain in bones/small joints, MamsaKshaya, Bala Kshaya, insomnia, continuous pain                                                     |

**Table 4. MajjavahaSrotodushti Lakshanas (Charaka and Sushruta)**

| Lakshana                     | Clinical correlate                  |
|------------------------------|-------------------------------------|
| Parvaruk                     | Small-joint pain                    |
| Bhrama                       | Vertigo                             |
| Murcha                       | Syncope/unconsciousness             |
| Tamadarshana                 | Transient visual blackout           |
| Arumsha in Sandhi Mula       | Deep painful lesions at joint roots |
| Sthulamula Ruja (Sushruta)   | Large-joint pain                    |
| Netra-Abhishyanda (Sushruta) | Ocular discharge                    |

## 6. Samprapti of MajjavahaSrotodushti Caused by Viruddha Ahara

Integrating the etiological, pathological and physiological material reviewed above, the Samprapti linking Viruddha Ahara to MajjavahaSrotodushti may be constructed as a sequential cascade:

Viruddha Ahara Sevana (vitiates Doshas from natural seat; Doshas not expelled — artificial-poison-like action) → Agni Dushti (impaired digestive and metabolic fire) Ama Nirmana (formation of incompletely metabolised, toxic residue) and derangement of Pittadhara Kala, which is regarded as synonymous with Majjadhara Kala, lining the pakvashaya where Agni resides → Rasadi Dhatu Dushti — progressive, sequential corruption of the Dhatu Poshana chain, since vitiated Dhatus cannot adequately nourish the Dhatu that follows them (Rasa → Rakta → Mamsa → Meda → Asthi → Majja). MajjavahaSrotodushti direct channel vitiation, since Viruddha Ahara is a specifically named dushtikarana of Majjavaha Srotas, acting alongside utpeshana, atyabhishyandiahara, abhighata and prapeedana causes majjadhatu dushti, expressed through the four Srotodushti patterns as MajjaKshaya (Sanga-type depletion), Majja Vridhhi (Atipravrutti-type excess) and MajjaPradoshajaVikaracasuing Vata Prakopa



localising in Majja Dhatu (Majjagata Vata, MajjaAvrita Vata), because MajjaKshaya in particular predisposes strongly to Vata aggravation. Manifesting any of the eighty Vatavyadhis described in Charaka Sutrasthana, those most relevant here include Padasuptata, Gulphagraha, Urustambha, Ekanga/SarvangaRoga, Bahushosha, Mamsashosha, Kriyakashta, Kriyahani, Timira, Akshishula and Ardita, with Vakshauparodha, Vishada, Hriddrava and Moha as upadravas (complications) in severe presentations.<sup>[27]</sup>

This Samprapti is summarised as Hetu → Purvarupa → Rupa → Upadrava.  
Table 5. Samprapti Ghatakas of MajjavahaSrotodushti due to Viruddha Ahara

| Samprapti stage    | Ayurvedic correlate                                                                                                |
|--------------------|--------------------------------------------------------------------------------------------------------------------|
| Nidana (cause)     | Viruddha Ahara Sevana (Samyoga, Samskara, Matra, Sampat Viruddha types predominating)                              |
| Dosha involved     | Vata (primary, especially in Majjagata/MajjaAvrita stage), with secondary Pitta (Agni/Pittadhara Kala derangement) |
| Dushya             | Majja Dhatu (primary); Rasa–Rakta–Mamsa–Meda–Asthi (sequentially, as antecedent Dhatus)                            |
| Srotas             | MajjavahaSrotas (primary), RaktavahaSrotas (associated)                                                            |
| Srotodushtiprakara | Sanga (→ MajjaKshaya), Atipravrutti (→ Majja Vriddhi)                                                              |
| Adhishtana         | Asthi and Sandhi (Moola of MajjavahaSrotas); Mastishka (Majja-equivalent)                                          |
| VyadhiSwabhava     | Chirakari (chronic, cumulative)                                                                                    |
| Sadhyasadhyata     | Variable; dependent on Bala, Agni, Vaya and quantum/duration of Viruddha Ahara exposure                            |

## 7. Modern Correlates: Neuroscience, Immunology and Nutritional Pathology

### 7.1 Biochemical Parallel Between Majja Dhatu and Nervous Tissue

Nervous tissue is among the most lipid-rich tissues in the body; lipids constitute a large fraction of its dry weight, with sphingolipids and cholesterol essential for neuronal membranes and myelin. This lipid-dominant, snigdha–guru biochemical character of nervous tissue corresponds closely with the Ayurvedic description of Majja as sneha-pradhana and jalamahabhuta-dominant, lending biochemical plausibility to the classical mastishka–majja equivalence.

### 7.2 Gut Dysbiosis and the Gut–Brain Axis

The gut–brain axis denotes bidirectional communication between the enteric and central nervous systems, substantially mediated by gut microbiota,<sup>[28]</sup> such that dysbiosis of the gut microbial ecosystem has been implicated in the pathogenesis of several neurological disorders. Since agni-mandya and improperly processed or incompatible food are well

recognised precipitants of gastrointestinal dysbiosis, this axis provides a plausible mechanistic bridge between Viruddha-Ahara-induced Agni Dushti/Ama formation on one hand, and downstream neural dysfunction (Majja Dushti) on the other — conceptually paralleling the description of pittadhara/majjadhara kala vitiation as the pivot between digestive and neural pathology.<sup>[29]</sup>

### 7.3 Lipid Oxidation and Toxic Aldehyde Formation

Samskara Viruddha — faulty processing, notably the repeated reheating of cooking oils — is now well documented to promote lipid peroxidation with formation of cytotoxic aldehydes such as 4-hydroxy-2-trans-nonenal (HNE);<sup>[30]</sup> HNE concentration in vegetable oils rises with frying duration and temperature, alongside depletion of protective tocopherols.<sup>[20]</sup> Such oxidative food-processing byproducts are consistent, in principle, with the Ayurvedic notion of Ama generated through viruddha, and with the broader concept that faulty processing renders otherwise nutritive substances harmful.

### 7.4 Advanced Glycation End Products (AGE–RAGE Signalling)

Dietary advanced glycation end products, generated abundantly by high-temperature, dry-heat cooking of protein- and fat-rich foods, bind the receptor for advanced glycation end-products (RAGE) on cell surfaces, activating downstream reactive oxygen species generation, mitochondrial dysfunction and chronic low-grade inflammation; a growing body of literature links dietary AGE–RAGE signalling, via the “Western diet,” to neuroinflammatory and neurodegenerative pathology.<sup>[31]</sup> This mechanism offers a biochemically explicit pathway by which samskara and sampat-Viruddha food practices could plausibly contribute to the kind of chronic, cumulative neural-tissue compromise that the classical texts describe as Majja Dushti.

### 7.5 Fermented and Putrefied Food, Biogenic Amines

Fermented and improperly stored foods (relevant to sampatviruddha) may contain elevated biogenic amines such as histamine and tyramine; histamine poisoning is a recognised cause of foodborne chemical intoxication,<sup>[32]</sup> and biogenic amines have been proposed as triggers of hypertensive crisis and dietary migraine in susceptible individuals — a modern parallel to the classical description of stale/putrefied (sampatviruddha) food as harmful.

### 7.6 Neuro-immunological Correlate: Guillain–Barré Syndrome

GBS is an acute, immune-mediated polyradiculoneuropathy in which molecular mimicry most classically following gastrointestinal infection with *Campylobacter jejuni*, a pathogen typically acquired through undercooked or contaminated food — triggers antibody- and T-cell-mediated attack on peripheral nerve myelin or axolemma, producing ascending, often symmetrical, weakness, paraesthesia, areflexia and, in severe cases, respiratory or autonomic failure. Its major subtypes (AIDP, AMAN, AMSAN, Miller Fisher syndrome)

differ in whether the primary immune target is myelin protein or axolemmal gangliosides.<sup>[33]</sup> Several features of GBS — the food/infection-linked trigger, an immune-mediated cascade that damages rather than merely disturbs marrow/neural tissue, ascending weakness, areflexia, sensory disturbance, cranial-nerve and autonomic involvement — map closely onto the classical descriptions of Majjagata Vata (bone/joint pain, weakness, MamsaKshaya), Majja Dushti (Bhrama, Murchha, Tamadarshana) and the Vatavyadhi complex (Padasuptata, SarvangaRoga, Vakshauparodha, Hridrava).<sup>[34]</sup> This correlation is illustrative rather than diagnostic: GBS is a single, well-defined autoimmune disease with an established (though not exclusively dietary) trigger, whereas MajjavahaSrotodushti as classically conceived is a broader Srotas-Dhatu pathology encompassing a spectrum of Vata-dominant, marrow/neural presentations.

## 8. Review of Published Research

Published literature directly investigating “MajjavahaSrotodushti caused by Viruddha Ahara” as a defined clinical entity is essentially absent from the indexed biomedical literature; the concept remains, at present, a matter of classical textual synthesis rather than an empirically validated diagnostic category. However, substantial supporting literature exists for each component of the proposed mechanism, the lipid biology of myelin and neuronal membranes; the bidirectional gut–brain axis and its dependence on microbial ecology; the generation of cytotoxic lipid-oxidation products through repeated high-temperature cooking-oil use; the pro-inflammatory, neurodegeneration-associated effects of dietary AGE–RAGE signalling; the toxicological profile of biogenic amines in fermented and poorly stored foods; and the well-established causal relationship between *Campylobacter jejuni* food-borne infection and GBS via ganglioside-directed molecular mimicry. A limited number of narrative and integrative reviews in Ayurvedic journals have addressed Viruddha Ahara from a critical standpoint, underscoring both the interest in, and the current scarcity of, rigorous scholarship on this theme.<sup>[35]</sup> Taken together, the literature strongly supports the plausibility of each individual mechanistic link in the proposed Samprapti, while highlighting the absence of dedicated clinical, epidemiological or experimental studies testing the composite hypothesis that habitual Viruddha Ahara sevana produces a distinct, recognisable MajjavahaSrotodushti syndrome in human subjects.

## 9. Discussion

The classical Ayurvedic description of MajjavahaSrotodushti caused by Viruddha Ahara is neither vague nor arbitrary: it specifies a defined channel (MajjavahaSrotas), a defined root (Asthi–Sandhi), a defined tissue target (Majja Dhatu, explicitly inclusive of *mastishka*), a specific causative category (Viruddha Ahara, alongside physical trauma/compression), and a coherent four-fold pathological grammar (atipravrutti, sanga, siragranthi, vimargagamana) that maps onto clinically distinguishable syndromes (Majja Vriddhi,

MajjaKshaya, and their Vata-dominant sequelae). This internal coherence is a strength of the classical model and provides a testable structure for future clinical correlation studies.

The modern correlates assembled here — lipid-rich neural biochemistry, the gut–brain axis, oxidative lipid degradation products, AGE–RAGE-mediated neuroinflammation, biogenic-amine toxicity, and the Campylobacter–GBS paradigm — do not prove the classical Samprapti in a reductionist sense; rather, they demonstrate that each conceptual step of the classical pathway (dietary trigger → digestive/metabolic derangement → systemic toxin formation → tissue-specific, particularly neural, vulnerability → chronic or acute neurological dysfunction) has a recognisable, independently documented counterpart in contemporary biomedical science. The GBS correlation is illustrative rather than diagnostic: GBS is a single, well-defined autoimmune disease with an established (though not exclusively dietary) trigger, whereas MajjavahaSrotodushti as classically conceived is a broader Srotas-Dhatu pathology encompassing a spectrum of presentations.

Several limitations must be acknowledged. First, the classical descriptions of Majja Dushti Lakshanas (Bhrama, Murchha, Parva Ruk, Tamadarshana) are non-specific and overlap with numerous non-neurological conditions (e.g., anaemia, vestibular disorders, metabolic syncope), so clinical application requires disciplined differential correlation rather than superficial symptom-matching. Second, much of the modern evidence cited addresses general mechanisms of diet-induced inflammation and neurodegeneration rather than MajjavahaSrotas pathology specifically, and should be read as corroborative rather than confirmatory.<sup>[36]</sup> Third, no controlled clinical or epidemiological study has yet tested whether habitual Viruddha Ahara sevana is independently associated with objectively measurable Majja Dhatu or MajjavahaSrotas dysfunction in human populations.

## 10. Conclusion

Viruddha Ahara is described across the classical Ayurvedic corpus as an artificial-poison-like dietary practice that vitiates Doshas without expelling them, thereby corrupting the Dhatu Poshana chain. Among its documented consequences is vitiation of Majjavaha Srotas, the channel governing Majja Dhatu — a tissue explicitly equated with both bone marrow and neural substance including the brain. The resulting Majja Dushti, expressed as MajjaKshaya, Majja Vridhhi and their Vata-dominant sequelae, produces a clinical picture — joint and bone pain, vertigo, syncope, visual disturbance, progressive weakness — that overlaps meaningfully with several neurological syndromes recognised in modern medicine, of which Guillain–Barré syndrome is a particularly instructive example given its own dietary/infective trigger. This review has attempted to construct, for the first time in an integrated form, the Samprapti connecting Viruddha Ahara to Majjavaha Srotodushti, and to align each pathological step with corroborating biomedical literature. The evidence assembled supports MajjavahaSrotodushti as a conceptually robust and clinically relevant framework, meriting further structured investigation, while

also affirming — consistent with classical teaching — that disciplined Ahara Vidhi Vidhana remains central to the prevention of neurological morbidity.

## References

1. Acharya YT, editor. Charaka Samhita of Agnivesha with Ayurveda Dipika commentary by Chakrapanidatta. Sutrasthana, Yajjahpurushiyadhyaya, Ch.25, verseno.33. Varanasi: ChaukhambhaSurbharati Prakashan; 2019. p.130.
2. Acharya YT, Kavyatirtha Acharya Ram Narayan, editors. Sushruta Samhita of Sushruta with Nibandhasangraha commentary of Sri Dalhanacharya and NyaychandrikaPanjika of Sri Gayadasacharya. Sutrasthana, Hitaahitadhyaya, Ch.20, verse no.20. Varanasi: Chaukhambha Sanskrit Sansthan; 2019. p.174.
3. Acharya YT, editor. (Reprint ed.), Charaka Samhita of Agnivesha with Ayurveda Dipika commentary by Chakrapanidatta, Sutrasthaan, Atreyabhadrakapiyadhyay: Chapter 26, Verse no.81, Varanasi: ChaukhambhaSurbharati Prakashan, 2019; 149
4. Acharya YT, editor. (Reprint ed.), Charaka Samhita of Agnivesha with Ayurveda Dipika commentary by Chakrapanidatta, Siddhisthaan, Trimarmiyasiddhi: Chapter 09, Verse no.79, Varanasi: ChaukhambhaSurbharati Prakashan, 2016; 414
5. World Health Organization. Diet, nutrition and the prevention of chronic diseases. WHO Technical Report Series 916. Geneva: WHO; 2003.
6. Yuki N, Hartung HP. Guillain–Barré syndrome. N Engl J Med. 2012;366(24):2294–304.
7. National Institute of Neurological Disorders and Stroke. Guillain–Barré syndrome information page. NIH; 2020.
8. Rees JH, Soudain SE, Gregson NA, Hughes RA. Campylobacter jejuni infection and Guillain–Barré syndrome. N Engl J Med. 1995;333(21):1374–9.
9. Dasa S, editor. Hindi sabdasagara. Vol. 9. Kashi (Varanasi): Nagari Pracharini Sabha; 1926. Virodh, p. 4525.
10. Acharya YT, editor. (Reprint ed.), Charaka Samhita of Agnivesha with Ayurveda Dipika commentary by Chakrapanidatta, Sutrasthaan, Atreyabhadrakapiyadhyay: Chapter 26, Verse no.85, Varanasi: ChaukhambhaSurbharati Prakashan, 2019; 150
11. Paradakara HSS, editor. (Reprint ed.), Astangahrudaya of Vagbhata with Sarvangasundar commentary by Arunadatta and Ayurvedarasayana commentary of Hemadri, Sutrasthana, Annarakshadhyay: Chapter 07. Verse no. 29 Ayurvedrasayanateeka, Varanasi : ChaukhambhaSurbharati Prakashan, 2011; 133
12. Athavale A, editor. (1st ed.), ShreemadvagbhatavirachitamAshtangasangraha with Induvyakhya, Sutrathana, Viruddhannavignyaniya, Chapter 9, Verse no.17, Pune: Shreemad Atreya Prakashan, 1980 ; 87

- 427 13. Acharya YT, editor. (Reprint ed.), Charaka Samhita of Agnivesha with Ayurveda  
428 Dipika commentary by Chakrapanidatta, Sutrasthaan, Atreyabhadrakapiyadhyay:  
429 Chapter 26, Verse no.86-87, Varanasi: ChaukhambhaSurbharati Prakashan, 2019;  
430 150
- 431 14. Acharya YT , (Reprint ed.), Kavyatirtha Acharya Ram narayan, Sushrutasamhita of  
432 Sushruta with Nibandhasangraha commentary of Sri Dalhanacharya and  
433 NyaychandrikaPanjika of Sri Gayadasacharya, Sutrasthaan, Hitaahitadhyay: Chapter  
434 20, Verse no. 15 Nibandhasangrahateeka, Varanasi : Chaukhambha Sanskrit  
435 Sansthan, 2019 ; 172
- 436 15. Paradakara HSS, editor. (Reprint ed.), Astangahrudaya of Vagbhata with  
437 Sarvangasundar commentary by Arunadatta and Ayurvedarasayana commentary of  
438 Hemadri, Sutrasthana, Annarakshadhyay: Chapter 07. Verse no. 29  
439 Ayurvedrasayanateeka, Varanasi : ChaukhambhaSurbharati Prakashan, 2011; 133
- 440 16. Athavale A, editor. (1st ed.), ShreemadvagbhatavirachitamAshtangasangraha with  
441 Induvyakhya, Sutrathana, Viruddhannavignyaniya, Chapter 9, Verse no.26, Pune:  
442 Shreemad Atreya Prakashan, 1980; 91
- 443 17. Paradakara HSS, editor. (Reprint ed.), Astangahrudaya of Vagbhata with  
444 Sarvangasundar commentary by Arunadatta and Ayurvedarasayana commentary of  
445 Hemadri, Sutrasthana, Annarakshadhyay: Chapter 07. Verse no. 29  
446 Ayurvedrasayanateeka, Varanasi : ChaukhambhaSurbharati Prakashan, 2011; 133
- 447 18. Acharya YT, editor. (Reprint ed.), Charaka Samhita of Agnivesha with Ayurveda  
448 Dipika commentary by Chakrapanidatta, Sutrasthaan, Atreyabhadrakapiyadhyay:  
449 Chapter 26, Verse no.88-101, Varanasi: ChaukhambhaSurbharati Prakashan, 2019;  
450 150-151
- 451 19. Acharya YT, editor. (Reprint ed.), Charaka Samhita of Agnivesha with Ayurveda  
452 Dipika commentary by Chakrapanidatta, Vimansthaan, Srotoviman: Chapter 05,  
453 Verse no.10-22, Varanasi: ChaukhambhaSurbharati Prakashan, 2016; 251-252
- 454 20. Acharya YT, editor. (Reprint ed.), Charaka Samhita of Agnivesha with Ayurveda  
455 Dipika commentary by Chakrapanidatta, Chikitsasthaan, Grahanichikitsa: Chapter  
456 15, Verse no.16, Varanasi: ChaukhambhaSurbharati Prakashan, 2016; 514

21. Acharya YT, editor. (Reprint ed.), Charaka Samhita of Agnivesha with Ayurveda Dipika commentary by Chakrapanidatta, Sutrasthaan, Vividhaashitpeetiya: Chapter 28, Verse no.17, Varanasi: ChaukhambhaSurbharati Prakashan, 2019; 179
22. Acharya YT, editor. (Reprint ed.), Charaka Samhita of Agnivesha with Ayurveda Dipika commentary by Chakrapanidatta, Sutrasthaan, Keeyantashiraseeya: Chapter 17, Verse no.68, Varanasi: ChaukhambhaSurbharati Prakashan, 2019; 103
23. Acharya YT , (Reprint ed.), Kavyatirtha Acharya Ram narayan, Sushrutasamhita of Sushruta with Nibandhasangraha commentary of Sri Dalhanacharya and NyaychandrikaPanjika of Sri Gayadasacharya, Sutrasthaan, Doshadhatumalakshayavruddhivignyaneeeyadhyay: Chapter 15, Verse no. 07, Varanasi : Chaukhambha Sanskrit Sansthan, 2019 ;117
24. Ministry of Ayush. Namaste Portal: National AYUSH Morbidity and Standardized Terminologies Electronic Portal, India [Internet]. [cited 2026 Jul 16] Namaste Portal - National AYUSH Morbidity and Standardized Terminologies Electronic Portal | Ministry of Ayush, India. 2025. Available from: [https://namaste.ayush.gov.in/sat\\_Ayurveda](https://namaste.ayush.gov.in/sat_Ayurveda)
25. Paradakara HSS, editor. (Reprint ed.), Astangahrudaya of Vagbhata with Sarvangasundar commentary by Arunadatta and Ayurvedarasayana commentary of Hemadri, Sutrasthana, Doshadivignyaniya: Chapter 11. Verse no. 11, Varanasi : ChaukhambhaSurbharati Prakashan, 2011; 184
26. Acharya YT, editor. (Reprint ed.), Charaka Samhita of Agnivesha with Ayurveda Dipika commentary by Chakrapanidatta, Chikitsasthaan, Vatavyadhichikitsa: Chapter 28, Verse no.67, Varanasi: ChaukhambhaSurbharati Prakashan, 2019; 319
27. van den Berg LM, van der Meulen M, van der Meijden W, et al. Lipid composition of the nervous system and its relevance to neurodegenerative disease. Prog Lipid Res. 2018;70:1–20.
28. Khandelwal KR. Practical Pathology of Nervous System. 3rd ed. New Delhi: Jaypee Brothers; 2015.
29. Cryan JF, O'Riordan KJ, Cowan CSM, Sandhu K, Bastiaanssen TFS, et al. The microbiota gut brain axis. Physiol Rev. 2019;99(4):1877–2013.
30. Ghaisas S, Maher J, Kanthasamy A. Gut microbiome in health and disease: linking the microbiome–gut–brain axis and environmental factors in the pathogenesis of neurodegenerative disorders. Pharmacol Ther. 2016;158:52–62.

- 490 31. Bercik P, Collins SM. The effects of inflammation, infection and antibiotics on the  
491 microbiota gut brain axis. *Adv Exp Med Biol.* 2014;817:279–89.
- 492 32. Sanders ME, Merenstein DJ, Reid G, Gibson GR, Rastall R. Probiotics and prebiotics  
493 in intestinal health and disease: from biology to the clinic. *Nat Rev Gastroenterol*  
494 *Hepatol.* 2019;16(10):605–16.
- 495 33. Esterbauer H, Schaur RJ, Zollner H. Chemistry and biochemistry of 4  
496 hydroxynonenal, malonaldehyde and related aldehydes. *Free Radic Biol Med.*  
497 1991;11(1):81–128.
- 498 34. Shahidi F, Zhong Y. Lipid oxidation and improving the oxidative stability. *Chem Soc*  
499 *Rev.* 2010;39(11):4067–79.
- 500 35. Uribarri J, Woodruff S, Goodman S, Cai W, Chen X, et al. Advanced glycation end  
501 products in foods and a practical guide to their reduction in the diet. *J Am Diet*  
502 *Assoc.* 2010;110(6):911–16.e12.
- 503 36. Brownlee M. The pathobiology of diabetic complications: a unifying mechanism.  
504 *Diabetes.* 2005;54(6):1615–25.  
505