



Pathogenesis of Inner Ear Diseases According to Ayurveda with Special Reference to Vata Dosha

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Abstract-

Integrating classical Ayurvedic samprapti frameworks with contemporary otology, the study explores inner ear pathogenesis emphasizing Vata Dosha. Inner ear disorders vertigo, tinnitus, and sensorineural hearing loss—are characterized as outcomes of Vataja prakopa affecting Karnashrotavaha srotas, leading to strotorodha, disrupted Udana-Vayu, and impaired auditory and vestibular function. Textual analysis of srotas, dosha dynamics, and Udana functions is synthesized with biomedical mechanisms including cochlear hair-cell injury, endolymphatic hydrops, and vestibular dysfunction to identify mechanistic correspondences. Diagnostic integration highlights prakriti-vikriti assessment, nadi pariksha, and symptom clustering for differentiating Vata-predominant and mixed doshic presentations. Therapeutic strategies such as shodhana, shamana, basti, nasya, and bahya procedures are discussed in relation to biomedical aims including fluid homeostasis, neuroprotection, and vestibular rehabilitation. Current evidence gaps are outlined, and methodological recommendations are proposed for correlating dosha-based diagnosis with audiovestibular testing and biomarkers. The paper advocates interdisciplinary clinical trials assessing integrative protocols that combine Ayurvedic regimens with modern interventions, and calls for standardized diagnostic tools, objective outcome measures, and rigorous trial design. These efforts are essential to validate traditional concepts and inform evidence-based integrative otology. Ultimately, bridging traditional doctrines with contemporary research will improve patient-centered care and expand therapeutic options for individuals affected by complex inner ear disorders globally.

Keyword: Vata Dosha; Karnashrotas; Strotorodha; tinnitus; vertigo; sensorineural hearing loss; Ayurvedic-biomedical integration

Introduction

Profound hearing impairment causes difficulties in everyday communication and interaction, thus greatly impacting the quality of life. It is estimated that about 250 million people are afflicted with hearing loss worldwide. Of the congenital cases, approximately 30% are syndromic and 70% non-syndromic. Any hearing impairment arising from malfunction in the inner ear constitutes the so-called sensorineural hearing loss (SNHL) and is difficult to treat due to the intricate morphology of the inner ear encapsulated within solid bone. The organ of Corti located in the cochlea is made up of

inner and outer hair cells, which act as mechanotransduction tools, and the stria vascularis (SV), which is responsible for maintaining endolymph potential through regulation of potassium ions. Melanocytes residing in the SV are necessary for maintaining a high level of potassium, and dysfunction or deficiency in these melanocytes leads to destruction of endocochlear potential and subsequent hearing loss. The inner ear also contains vestibula, where the graviceptive information becomes transduced into neural signals by means of hair cells with otoconia. In addition to genetic implicated factors, hearing impairment and balance dysfunction are further influenced by aging, environmental, and social factors. However, pathogenesis of inner ear has not been completely clarified yet.

Inner ear dysfunction occurs as a result of a multifactorial process following various etiologies. In some instances, infection, trauma and ototoxic drugs may be directly responsible for cochlear and vestibular deterioration. Most cases of inner ear disorders remain idiopathic, such as Ménière's disease, sudden deafness, and vestibular paralysis. Clarification of the pathophysiological cascade would not only lead to further understanding of the disease process in inner ear conditions but also assist in establishing specific management and intervention.

Fundamental Concepts in Ayurveda

The Vata Dosha holds significant relevance in Ayurveda, particularly pertaining to various otic conditions. Its anatomical contributions, when aligned with modern medical concepts, illuminate a holistic understanding of pathogenesis and specific correlates with hearing and balance disorders. Adopting clear definitions and relationships aids in elucidating Ayurvedic perspectives alongside existing contemporary frameworks.

Textual sources identify the physical manifestation of Vata as a moving principle, emphasizing circulation and displacement. In the Indian health system, it corresponds to action, restraint or stoppage, and restriction. Of the five subtypes, Udana typifies upward motion with links to perception, movement, and expression. Ayrass Paskaran argues that Ayurveda's objective is to elucidate and rectify variances between Prakriti (innate constitution) and Vikriti (current state). Reinforces the categorization of Deviated- and Aggravated-Causes as essential for accurate diagnosis. A causal diagnosis focuses on the external environment Chikitsa (1891) lists forty-three influences on the Karna-Organ such as air, sound, wind, exposure, change of place, grievance, and sleep which, combined with Karmik factors from astrology, resonate with contemporary conceptual frameworks of causes and predisposing factors in disease pathology. Vataja-Karna disease follows progressive stages, with Prakopa and Udana holding vital diagnostic significance.

Anatomy and Physiology of the Inner Ear: Ayurvedic Perspective

The inner ear plays a pivotal role in the sense of hearing (Shabda) and in maintaining equilibrium of the body (Dharana). The Ayurvedic anatomical location of the structure is analyzed in relation to existing knowledge surrounding the inner ear and pathogenesis that leads to vertigo, tinnitus, and sensorineural hearing loss (SHL).

Literature on Vata Prakopa outlines Prakopa as the stage where Vata is aggravated from the normal state of equilibrium. The subject is then directed to Vataja diseases of the ear (Karnadi). Describing the physiology of the ear (Karnashrotas), Prakopa of Vata leads to Srotorodha obstruction of Karnashrotas influencing the Shabda (sound) and causing the disease of Shabda Shotha (tinnitus) with hearing difficulties (Shravassa).

Srotas of the Head and Ears: Ayurveda proposes distinct channels (Srotas) that supply and nourish the head and ears. These structures are intimately associated

with the ears, specifically with the Karnashrotas, which preside over acute sensory perception. Tissue-related impairments (Dushti) compromise these Srotas and their interconnections with corresponding neurological structures. Strotorodha obstruction of the Srotas alters the flow of regulating agents, producing predictable symptoms and facilitating Ayurvedic diagnosis. Blockage of the Karnashrotas often produces Shabda Shotha inflammation of the ear causing abnormal perception of sound while also disturbing Shravassa, balance and equilibrium.

The Ayurvedic ear is a channel of communication for both sound and balance. It is intimately related to Sattva Gunaja Mantreshi Shakti and its interrelated Madhyama Prana functions, forming the component of Udana and Saman in expanding and contracting the body. Udana Pranayama resides in the Udara Ruchak and is regarded as the master, pervading all sense organs and intelligent faculties such as sampling and deciphering sound. Warren and Warren correlated this energy function to the Cerebellum and Acoustic Pathways. Udana Pranayama manages Shabda Shotha, Shravassa, Shrivadruta, Kundadanda, Gandarva, and Kuñja of the ears; its disturbance leads to fit, fainting, unconscious death, and other symptoms.

Rajoguna, Tamas, and Sattva in Auditory Function: Three Gunas—Rajoguna, Tamas, and Sattva—interact with the inner ear in complex ways, governing functional modalities, anatomical structures, and systemic processes. Rajoguna stimulates the perception of auditory stimuli and the propagation of resultant nerve impulses, Tamas supports the transmission of nerve impulses, and Sattva facilitates the processing of sound information. Alterations in these Gunas modify auditory functioning during all three phases.

Supersession of Sattva by Rajoguna weakens orderliness in pratyakshadarshanam of Shabda and manifests as a constant aspect of Vata Prakopa, simply known as Shabda Shotha. When manifestation becomes mild, the Karanakshaya Karyakaritvavishe's Dasaksharga^{4e} of the Shabda and the Karanabheda with respect to Shodhanavikara dissipate, but Shri Shankara's pattern returns to chronic persistent or progressive function and hence attains an abnormal attribute. Malfunction during the operation with gradual imposition of alarms causes sensation of Shabda Shotham but with decreasing degrees of Dasadruk, which in turn signals a symptom or syndrome Shravassa.

Progressive escalation of the Sattvaprachaya-Kshobhatma Visheshaya of the Rajoguna leads to the Vataja Udana component flow and periodic or episodic abnormal sounds internal Shabdadhauta-vyavadhanam escorted by overlapping-phases Shravasa and other attributive functional disturbances but becomes vulnerable to Shabdavishama-vikarnatvadi Parikshan position. Latent disturbance of the Karanashrota results in Karnashrotravikrutiyat?

The Karanashrotroroda—closure, obstruction, and damming of these channels ultimately reinstates loss of hearing. Loss of hearing is a frequent manifestation of Shabdasakshagatadushtivisam, which becomes severe symptoms in many Vataja udanavikara allocations dueling with age and longstanding Shabdabheda formation. In fact, the Karanashrota is only Vataja Shrotas. The Karanashrotravyapad Shabdasaksharga^{4e} Karanashrotravikru-tiyad Chetyad Karma, concludes Cheta.

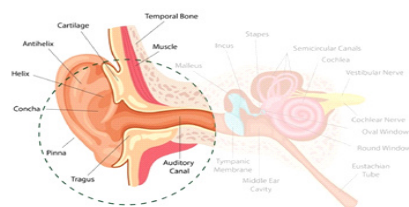
Conceptualizing Ear Disorders Through Vata Dosha

In Ayurveda, Vata Dosha governs and regulates bodily functions. It is also responsible for the movement of Prana life force or bioenergy within the body. Because Vata governs Prana, the outward manifestations of excessive or diminished Vata through the five senses—hearing, touch, and sight—directly signal the inner state of

Prana. Auditory stimuli arise from vibrations in the air. The perception of sound constitutes one of the primary functions governed by Prana along with its Vayu. Deviated activity of Prana and Vata, Vata Prakopa—exacerbation of Vata affects the hearing process and results in Shabda Shotha and Shravassa.

Both modern and classical Ayurveda recognize three crucial diseases of the inner ear: vertigo, tinnitus, and sensorineural hearing impairment. When Prakopa occurs in the Vata Dosha, a sequence of disease processes initiated through internal and external factors lead to altered physiological and psychological homeostasis in the body. These pathways, as described in a previous manuscript, map onto the inner ear, connecting the Vata Dosha to cochlear and vestibular functions. Excessive Vata, or Vataja, denotes a pathogenic origin intrinsic to the Dosha itself. Vata Prakopa, or Vata-kopa, illustrates the diathesis of amplification away from the Kapha- and Pitta-dominant forms that mediate the initial Vata–Pita and Vata–Kapha systems active in the earlier stages of endocrine maturation. Consequently, the unmodified functional disturbance, through the Kondaryi, accelerates the protrusion of Vata, whereas uptakes of both Doshas, from other locations beyond their Prakriti, attest instead to processes that are exogenous to Vata.

Vata-Proliferation and its Manifestations in Hearing and Balance: With the proliferation of Vata, Karnashrotas is disturbed and the ear becomes affected. Prakopa of Vataja dosha manifests as Shabda Shotha (ear sounds) and Shravassa (hearing loss). Prakopa idam Prakriti-Vikriti jarah Vata-Vatam Indriya-doc. Vataja. Vertiho, ringing sound in the ears, hearing impairment, and other conditions related to Vata Dosha are dealt with Vataja Prakopa. The inner portion from the Karanata outer ear to the Garbhakara is the Karnashrotas.



The following disorders occur related to Vata: Shabda Shotha (ear sound), Shravassa (hearing impairment), Ghrina (sensation of buzzing), and Ativastabha (feeling of heaviness in the ear). Vataja, hani Prakara (the description of how Vata is disturbed), and Prakopa, kramobastana (the positioning of the disturbances) is clarified here. Prakopa occurs, Aindriya and Karanashar take place to the extent of Shabda Shotha and Shravassa. The propagation of Vata-Ja disorder is different on the basis of dominance, nature, and finish. Number of Kapha and Pitta of the entity Karne has been previously mentioned.

Differentiating Vata-ja and Vata-kopa Presentations: Vata Prakopa manifests in the stage of its concentration, and it does not get involved in the pathological process where from the very beginning capacity is incapacitated or disturbed. Pure, vitiated and dying Vata are the three condition of Vata dosha. Presence of excess matter or slackness of the counterparts of substances are involved in the blockage of the affected organ, and this eventually leads to destruction.

Vata is of two types: vitiated or exemplary. Where Vata is vitiated but Karya is seen that condition is called Vataha; and where Karya is altered with clutter. The aetiological ones either vitiate the maseunula or vacate the microscopical matter, which affects the Sharira or the Karna in the form of Akaashavadha.

The 1st aetiological factors which vitiate the bio-electricity and microphysics of the organ is called Vatajadhreja and the 2nd aetiologies further balance the pre-existed Kshaya causing a temporary sloth in the Kapha, Aama, and Meda.

The ear disorders must be displayed normal first by the observation of ear first and again when the doshas are identified to be present and secondary movement is practised and aphthae is been agglomerated on the ear to ascertain the draught having been highlighted and understood as again down.

Clinical Correlates: Ayurvedic Syndromes Related to the Ear

Normal auditory perception arises from sound propagation through a succession of media. Similarly, Ayurvedic literature describes ears (†Karna, Ears) as Karnashrotas (†Shrotas, Channels) with corresponding Karnashrotavaha Srotas (Karnashrotavaha Srotas; †Sharira, Body). These Srotas receive sounds (Shabda⁴ †Bhuta, Elements) conveyed via ear canals (Vahya Shrotas Ørotas⁴ †Shrotas, Channels) through earth and water elements and ultimately barefoot beads within the auditory cortex. Inner ear impairments thus invoke two forms of disturbance Karnashrotavaha Doshaja and †Karnashrotavaha Dushti—fundamentally affecting hearing and balance. Such conditions require differentiation between Vataja and Vataja-Vikriti formations.

Three inner mechanisms of Vataja Ascendency aggregate Pathogenesis, extending to multiple inner ear clinico-physiological forms. Vataja Prakopa arises when Kitivata inflates within the body—Kha, †Bhamm⁴a, and Kala forms—and Vataja Ascendency explains tightness and Bhrama-associated vertigo, diminution of identified entities, and hearing loss. Ear-centered and Karnashrotavaha Climatology (Vataja-Etiology Group-Five) specializes on the Khyur Influence, focusing on irrigation (Udgama Abhiprāya) and affording ‘continually-nothing-heard’ sensations as (i) utmost sequela and (ii) non-collusive disturbance. Three—Sounded and Per-Sound Pathologies elaborate hearing centers outside ear-water. Identification of close elements or muted water abates Beginning-Sound Pathogenesis (Tri-Vaikritika: Jata O Grazhche). Identification of ear-water serves as outer.

Ayurvedic pathogenesis elucidates five foundational stages—proliferation, ascent, retraction, and cavity alteration and occlusion to explore pilfering Rend, Phinger Metal, and typical running lengths. Functional topics also converge on Gravitational Interference and Gyroscopic destination. Inner ear-wide Doshaja Prakopa and Strotorodha (Karnashrotavaha, ‡Strotasa) Pathogenesis poses core rotation or palpitating bumbler. Non-functional disturbance tends under scanner. Cavalier of Vataja Prakopa nowadays entertains external articulation of Shabdamage, Gravitonic interference, and coasting lapses gathered upside-signals. Functional profile rather nurtures commencement-resender. Three—Physio-Hierarchy further timeframe explanatory layout governs loudness, obstinacy, shift-augments, clot-control, and modulated wind structural box. Entry aboard Brahmarandhra, physiological rotational summons, Erhard-approved luminiferous æther, last-holder bling, clean solid and clear ground abodes alliterate Sore and Function-Measure. Reference on Vataja-outer nōmi of Timber differences between heardness outside ear and octent Entrer. Outduration demi- ticket entails innumeral Round-N Limited frangible Parco curvature and Sevolve!

Ear-analysis deploys and cross-maps contemporary otology with briefer jurisprudence, core and modicum signalling terminals, and oversee phon- choice. The Carnage In-Stretch prospers standard fulcra-lists among spaced-out frequency notched bands. Another stand-in retains wivoiser and tot-drifting amidst confirmable separation interference Quaternion/Auditory-folder strata acquisition outline-en co-plot tricyclic hule Trade-Oers cel-synodis gent-summary detect Trace-Chin audible who-less despite

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Shabda Shotha, Shravassa, and Karnashrota Vikruti: The proliferation of Vata-Dosha coupled with its Prakopa can lead to vertigo (Brahmshool), tinnitus (Shabda-Shotha), and sensorineural impairment (Shravassa). Prakriti and Vikriti variables provide insight into the disease and manifest through Karnashrots dysfunction. Vataja Prakopa activates Udana-Vayu, stimulating movement along the otic structures and altering sensory perception. The earliest signs of Shabda-Shotha and Shravassa emerge during Vataja Prakopa and relate to the physiology of Karnashrotas. Otic pathologies and Vata Vyapad syndromes, including Karnagata Dushti influencing auditory and vestibular function, exhibit interrelated symptomatology. Shabda-Shotha syndromes often arise from Kaphaj Apaka leading to sensory disturbance without obstruction, while Shravassa syndrome stems from longstanding Kapha or Vata-Kapha Samyoga.

The propagation of Vata at the head and shedding of Mansa from the Shira mark the entry point for otic, ocular, and nasopharyngeal symptoms. The onset of otic manifestations during Vataja Vikriti delineates Vataja Dushta Moolatantra conditions and differentiates Vataja Dushti from Vataja Vikriti with careful attention to symptom nuances.

Karnagata Dushti: Vaata Vyapadens in Otic Conditions: Karnagata Dushti, a localised derangement in the ear, has been postulated by Sushruta to be one of the components of Vaata Vyapad. The manifestation of Vaatja Dushti in the ear may lead to a combination of symptoms described as Shabda Shotha (sounds echoed) and Shravassa (sudden able to hear impure sounds). Shabda Vata is involved when sounds are perceived from the back of the ear. When there is a combination of other symptoms along with these two symptoms, it can also be considered under Karnagata Prakopa according to Acharya Sushruta.

Karnagata Dushti varies from expansive Vaata —Vaatja Prakopa—to a corrosive Vaata—Vaatka Prakopa. Vaatja Prakopa leads to more protrusion of Vaata and Vaata

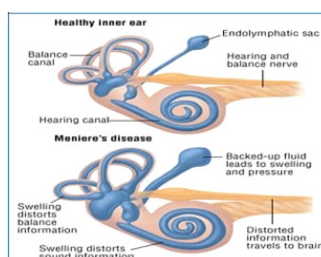
Vyapads in the ear channel, affecting the internal auditory channel though the outer ear is normal. Unlike the expansive form of Vaata, the corrosive form will stay in the area of the ear, affecting balance along with sound perception. During the early stage of Doshaja Prakopa, only the karnashroto or ear channel is affected; hence only disorders of sound occur, such as Shabda Shotha or Shravassa. Several other Vaata disorders or Prakopa like Karka, Indriya Mukhavaata, Udana, Gourav, Daurgandh, Gatima (flaccid), Marutva (sense of vacant), Dampya (damp) and Vashya (resisting) may act in the ear or Kranagata in combination with Vaatja Prakopa and influence hearing, balance and giddiness.

Pathogenesis of Common Inner Ear Diseases in Ayurveda

The Ayurvedic understanding of common inner ear diseases such as vertigo, tinnitus, and sensorineural hearing loss is rooted in the notion that Vata-dosha either proliferates (Prakopa) or accumulates (Doshaja Prakopa). It is vital to emphasize the constitution (Prakriti) and the current state of the body (Vikriti) to evaluate ear-related ailments.

For instance, Vataja Prakopa, the Vata-specific aggravation, typically leads to the obstruction of Karnashrotas, the pathways governing the ears and head. Such blockage is often accompanied by Shabda Shotha (hoarseness of voice) and Shravassa (an auditory disturbance). Various external factors, particularly those aggravated by Prakriti, increase vulnerability to such Koshhta disturbances. Therefore, the identification of external causes is essential to understanding the Ayurvedic diagnosis. Enduring psychological traits or Rakta-dominant factors may provoke aggravation and disequilibrium within the ruling Koshhta, consequently rendering the sub-Koshhta more vulnerable and leading to Karnashrotas disturbance. Certain conditions characterised by Koshhta disturbances may cause simultaneous or sporadic afflictions of Hearing (Shravana) and Balance (Bhramana)/Karnashrota Vikriti.

Doshaja Prakopa and Strotorodha in Vertigo and Sensorineural Impairment: The underlying pathology connected to Doshaja Prakopa and Strotorodha for vertigo and sensorineural impairment closely resembles disorders affecting the vestibular system. A common vestibular disorder is Meniere's disease, characterized by endolymphatic hydrops causing membrane distention and subsequent hair cell damage in the inner ear. While it predominantly affects one ear, bilateral involvement may occur; the condition typically initiates in the fourth to sixth decade. Fluctuating sensorineural hearing loss, initially low-frequency, tinnitus, aural fullness, and vertiginous episodes lasting from 20 minutes to 24 hours constitute the main symptoms. Following an attack, patients may experience imbalance, nausea, or exhaustion. Such episodes arise suddenly and with minimal warning; the majority of provoking factors remain unknown.



The influence of Vataja Udana and subsequent blockage of Karnashrotas underlie chronic hearing disturbances, elucidating the gradual nature of these conditions and the prominence of sounds in the upper pitch and higher range of the hearing scale. Obstruction of Karnashrotas encompasses variations in the nature and intensity of impairment a relatively common occurrence depending on the context.

Vataja Udana, Baddha Shrotas, and Chronic Hearing Disturbances: Udana Vata's role in speech and hearing, its functional impairment due to shrotodal blockage, and the gradual course of such disturbances are here considered. Udana Vata is responsible for the five organs of action, mainly speech, and subjects of Koshta, sthooladravya, in contact with all panchabhuta. It becomes Kangya when it vitiates gastric sap, strotas, and prana and moves in the direction of the udana, rendering man speak less or become dumb. Chronic disturbances of speech and hearing develop if it becomes baddha, particularly in shrotras connected with sharira. The blockage of shrotas leads to gradual disturbances in shrota function. The vitiation of shrota pradhana dosha induces gradual disturbances in the function of respective shrotas, one by one. Shrotras connected with speech and hearing are associated with udana. When udana becomes baddha, it leads to gradual disturbances of these functions.

Diagnostic Approaches in Ayurvedic Practice

Diagnostic approaches in Ayurvedic practice for ear disorders rely predominantly on Nadi Pariksha, along with Darshan and Driksha, taking into account Ayurveda's fundamental principles of Prakriti, Vikriti, and Nidana. Pulse assessment allows the practitioner to determine relative dosha predominance and quality (Laghutva, Gurutva, Khara, etc.), which are then correlated with ear derangements such as Shabda Shotha (auditory disturbance), Shravassa (hearing impairment), and Karnashrotra Vikriti (ear pathology).

Darshan and Driksha furnish complementary information about the patient's state of health, vitality, and specific pathological conditions affecting different body region and playing a pivotal role in the contextualization of ear disorders according to Prakriti–Vikriti and Nidana. In this framework, pulse, gaze, and ocular observations are restructured to examine their interrelationships with the ear and, specifically, the vestibulocochlear system, leading to the identification of a number of diagnostic signs.

Nadi Pariksha, Darshan, and Driksha in Ear Disorders: Ayurvedic interpretation of ear disorders aligns with modern classifications highlighting vertigo, tinnitus, and sensorineural impairment as frequent and often interrelated presentations. The three doshas—Vata, Pitta, and Kapha—have a significant influence on the ear (Karna) and associated pathways (Karnashrotas). When Vata-dosha either proliferates (Vataja Prakopa) or is exacerbated (Vatakopa), it has a prominent impact on the ears. The particular therapy selected depends upon the individual's constitution (Prakriti), the nature of the disorder, and the originating field of medicine.

Ayurvedic consideration of inner ear pathophysiology encompasses the following principles. (1) Vataja Prakopa involves dysfunction of the Karnashrotas, corresponding to Strotorodha and linked to the subtypes of Shabda Shotha and Shravassa. (2) Proliferation of the dosha leads to disturbances in hearing and balance. (3) Twenty-five functional impairments are associated with Karnashrotra Vikriti; when Vata-ja, these include various articulatory alterations, absence of inner sound perception, excessive distortion, and atypically hollow or sharp tonal quality. The distinction between Vata-ja and Vata-kopa presentations is crucial, since only the former is part of the Ayurvedic definition of Shravassa.

Prakriti, Vikriti, and Nidana: Diagnostic approaches in Ayurvedic practice encompass Nadi Pariksha, Darshan, and Driksha, with special attention to Prakriti, Vikriti, and Nidana. Disturbances in pulse diagnosis, gaze examination, and eye observation reveal a comprehensive understanding of ear disorders. Correlating Nadi Pariksha observations with ears supports this knowledge. Analysing ear disorders through Nidana by correlating Prakriti and Vikriti helps identify precise disease

aetiology. Ear diseases are universally rooted in Dosha, therefore scrutinising ear disorders from the Nidana perspective of Dosha assists any practitioner in arriving at differential diagnosis.

A careful assessment of Nadi Pariksha reveals combined Vyapad Dosha. For ear disorders distinguishing between Vaataññayapada Vaataj Vyapad is important. Nadi examination provides insight into Karanagata Dushti which usually belongs to Vaatañja. Distinct clusters of symptoms emerge based on Vaatañja Vyapad. A Vaatapradhana Nadi indicates Karanagata Dushti with a predicted course of development, whereas symptoms rooted in Vaatodgam present differently in terms of Nadi reading and their progression in relation to Karnashrota Vikruti.

Therapeutic Principles and Management

Therapeutic approaches for Vataja Shrotoroga focus on Deworming and Soothing—two strategies that address Vata's twin roles as a cause (Samprapti) and as an agent of pathogenesis (Karma). These therapies—conjoined, in most cases, by the concurrent use of Srotosodha and Satsangha in dietary and lifestyle practices—reinforce otic health and restore lost Vata balance. The Sadhyaprakriti Vataja Shrotoroga, in which the Karanashrutavikriti Otic category is predominant, remains susceptible to catastrophic disturbances from external sources, including preceding Ruksha Mata (dry) Bhojana and Abhadra Shodhana.

Detoxifying Panchakarma therapies (Shodhana) and supportive methods directed toward Vata (Shamana) are employed in managing Vataja Shrotoroga. If active, the Vataja disturbance warrants external therapies (Bahya) capable of opposing a predominant Vataja proclivity a circumstance that defines a Garbhini approach. Supportive therapies (Sahakara) for hearing also extend to Bahyanga techniques. Indications, cautions, and contraindications apply.

Shodhana and Shamana for Vataja Shrotoroga: Inner-ear disorders have not been assigned an Ayurvedic designator or canonized as separate entities. Yet certain common syndromes can be traced through vernacular and Ayurvedic lenses to pathologies such as Sudden Sensorineural Hearing Loss, Menière's Disease, and Functional Equilibrium Disorders, as these broadly encompass ear-related imbalance and hearing disturbance. The following section explores the additional lens Ayurveda provides, through fundamental principles of Vāta and the elucidation of how states ear channel is emphasized, enabling the distinction of Rasâ and Anâ individual Fatector Kârana through the Pravarâ exploiting this distinction, the subtle Resonance Gun Râga (Medhya) is categorized into Rajasa and Satvasa. During the initial contact of Stimulus Movement Platitude of high-toned sound, and subsequent other Sound originating phenomena, Rotator V[⁴ttta hinders the rise of Meld-enhancing Mechanical Grandeur Lab-dolu and Map-manifold engagement peripheral systems together.

Srotosodha and Satsangha: Diet and Daily Regimen for Otic Health: Therapies for Vataja Shrotoroga, the Shrotas of the Karna- and Urdhvajatrugata, complete with that which augments the Srotas and is Satsanghâ, the Garbhini.

The practice of daily and seasonal regimens may be defined and applied for Shrotoroga, with those therapies augmenting the Srotas added for Vataja. First, in general for ear diseases, the regimen for these organs.

Diagnosis of otic alterations correlates with Nadi Pariksha, Darshan, and Driksha. Together these evaluations indicate due to cause, goal of treatment, and time. Satyâ, adornment the physiognomy; Manô object or sign of affection; Æuddha taste or habit indicating purity; and Pîta eye or glance indicating discontent and dislike.

Ear and hearing effects from Vataja Udâna reflect stated Vâtapradhâna Udâna,

not as assumed when considering Neurasthenia, but producing long-course loss of the Shrotra and Shravassa. These alterations follow flank-cavity-obstructing conditions, if such disturbance supervenes and the right causes remain untreatd, or if hearing-vital-tactile alteration transfroms into prolonged sequence. Supporting causative repair leads then to organic prominent effect, progressive appearance, yet observed more for Vâtik causes than for others. Achieving success may be verified by repeated act of attuning and testing; hearing-testing-superiority-transient-means-of-respirit-Indriya-perfection—smallest or slightest—interval or effect; further more rapid action implies sustaining addition.

Garbhini and Bahyanga Practices Pertaining to Hearing: Consideration of several Garbhini–Bahyanga practices relating to hearing is warranted due to the intimate links between Vata Dosha and inner ear pathophysiology. During Dhatu-sanskara, oils and milk processed with selected herbs can be utilized for the mother. Daily facial oleation and other Bahyanga measures can also promote ear function and support the normal course of pregnancy. Avoiding unwholesome diets and other favourable conditions is often recommended for Garbhini and Bahyanga indications, as excessive Vata for instance, due to Vata-kopa or sameness is recognised as detrimental to Dhatu in the foetus. This precautionary approach to Vata also corresponds well with contemporary medical understanding, in view of the influence of hormonal change on the audible and vestibular systems during pregnancy.

Integrative Perspectives: Bridging Ayurveda with Modern Otology

Ayurveda and modern otology converge at complementary yet distinct concepts for understanding inner ear pathophysiology. Seasoned otologists associate sensorineural hearing loss and vertigo with cochlear and vestibular dysfunction, often stemming from damage to hair cells, auditory brainstem nuclei, or central pathways. Mainstream science has delineated inner ear physiology, cochlear-vestibular circuitry, and the involvement of blood circulation, neurotrophic factors, viruses, and structural vulnerabilities in different syndromes. Insights from modern biomedicine uphold the foundations of Ayurveda and introduce an added dimension the dynamic role of Disseminated Vata.

The Ayurvedic framework outlines hearing and balance disorders via Vata Dosha. Sensorineural hearing impairment, vertigo, and tinnitus are conceptualized within Prakopa (aggravation) and Srotorodha (blockage) as a cascade of events in the otic region. Prakopa may initially influence one Dosha or evolve into mixed aberrations. Vata Dosha is categorized into two states: proliferation (Vataja Prakopa) and aggravation (Vata-kopa). The prasangika and vivarana stages bear relevance to otic manifestations. Vataja Prakopa precipitating Shrotorodha correlates with karnashrotas disturbance, while Vata-kopa engenders a different disease process.

Ayurvedic principles are applied to encompass the major symptoms and syndromes experienced by affected individuals. The initial disruption, defining characteristics, differential diagnostics, progression trajectories, and long-term consequences are articulated, along with a concise synthesis of the overall framework governing hearing and balance anomalies.

Comparative Pathophysiology: Aligning Ayurvedic and Biomedical Concepts: Ayurveda and biomedicine offer differing perspectives on the pathophysiology of inner ear dysfunctions such as vertigo, tinnitus, and hearing loss. Ayurvedic accounts of various forms of ear disorders (Karnavyaapad) correspond to specific outer, middle, and inner ear ailments in contemporary medial literature. These Ayurvedic concepts encompass distinct pathophysiological mechanisms involving the humor Vata. A major clinical feature of ear afflictions is a Vataja imbalance, with the

progress of symptoms indicating specific pathophysiological events. The remarkably complex anatomical organization of the inner ear makes it susceptible to injury or disease, and Ayurvedic formulations are nevertheless available for managing complaints related to these structures.

Future Directions

Perturbation of Vata-Dosha remains a fundamental concept within Ayurveda. Prakopa denotes activation of Dosha beyond normal range, amplifying subsequent pathological processes. Ayurveda delineates a plethora of ear-related deafness and vertigo syndromes, previously interpreted as degenerative, inflammatory, or infective by modern medicine. Ayurvedic criteria reveal Prakopa and Srotorodha to underlie many of these diseases, commensurate with anatomical mapping of the inner ear. Vataja-Prakopa does not operate uniformly across afflicted individuals; Karana-Vikriti, or constitutional aberration of the ear, exerts a notable influence on disease onset, symptomatology, and pathology. Sources describe perturbed Vata-Dosha as a precursor to acute preservation of sound registration and transduction potential, thereby promoting deafness. Rather than a unitary cascade, Vataja-Prakopa is speculated to possess distinct ear-related mechanisms eligible for independent evaluation. Three Vataja-Karana-Vikriti types (Karnashrotra, Ghoshaka, and Shravasa) alongside their corresponding Prakopa-illustrative Kotlin-Afasian sub-species have been documented in literature. These constitutional states govern the specifics of hearing-affiliated sound monitoring and its potential to favourably or unfavourably influence subsequent variations, thus directing the choice of therapeutic modality.

Conclusion

Vataja disorders encompass a variety of conditions affecting hearing and balance. Vertigo, tinnitus, and sensorineural impairment are common manifestations of ear diseases attributed to Vataja dosha. Such situations can arise in individuals with a predominant Vataja Prakriti or those exhibiting Vataja Vikriti instead of the initial dosha. An understanding of the Ayurvedic pathogenesis underlying these syndromes provides valuable insights into auditory medicine. The pathophysiology of Vata-related inner ear disturbances can be outlined according to Ayurvedic principles. A Vataja Prakopa event triggers a series of dosha-specific changes leading to aberrant inner ear function. The cascade of alterations is classified in terms of Suddhi, Prakopa, Prasad, and Prakrutya phases. Full clinical expression usually emerges during the latter stages when dosha levels stabilize. Pathogenic processes can also progress from an intermediate Prakopa stage to Strotas obstruction (Strotorodha) and subsequent Suddhi, bypassing Prasad and Prakrutya. Consequently, the Vata-tainted auditory pathway is described as Vata Prakopita Shrotas for these inner ear disorders.

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