

DISEASES OF THE EAR AND THEIR  
TREATMENT IN AYURVEDA

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ALL INDIA INSTITUTE OF SPEECH AND HEARING  
MYSORE - 570006

1986

To

all lovers of AYURVEDA

**CERTIFICATE**

This is to certify that the Independent project entitled DISEASES OF THE EAR AND THEIR TREATMENT IN AYURVEDA is the bonafide work done in part fulfillment for FIRST Year M.Sc., (SPEECH & HEARING) of the student with Register Number. 8513



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**CERTIFICATE**

This is to certify that the Independent Project entitled DISEASES OF THE EAR AND THEIR TREATMENT IN AYURVEDA has been prepared under my supervision and guidance.



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## DECLARATION

This Independent Project is my own work done under the guidance of Dr.M.N.Vyasamurthy, Lecturer in Audiology, All India Institute of Speech and Hearing, Mysore-6, and has not been submitted earlier at any University for any other Diploma or Degree.

Mysore

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## ABBREVIATIONS

Astanga Hridayam	—	A.H.
Sutra Sthana	—	A.H. I.
Sarira Sthana	—	A.H. II.
Nidana Sthana	—	A.H. III.
Cikitsa Sthana	--	A.H. IV.
Uttara Sthana	—	A.H. VI.
Bhela Samhita	—	B.S.
Sutra Sthana	--	B.S. I.
Sarira Sthana	--	B.S. IV.
Cikitsa Sthana	—	B.S. VI.
Bhaisajya      Ratnavali	—	Bh.Ra.
Caraka Samhita	--	C.S.
Sutra Sthana	—	C.P. I.
Nidana Sthana	--	C.S. II.
Sarira Sthana	--	C.S. IV.
Cikitsa Sthana	--	C.S. VI.
Siddhi Sthana	--	C.S. VIII
Madhava Nidana	--	Ma.Ni.
Rasajala Nidhi	--	Ra.Ja.Ni.
Sahasra Yoga	—	Sa.Yo.
Sarngadhara      Samhite	--	Sa.Sam.
Prathama Khanda	--	Sa.Sam. I.
Madhyana Khanda	—	Sa.Sam. II.
Uttara Khanda	—	Sa.Sam. III.

Susruta	Samhita	--	S.S.
Sutra	Sthana	--	S.S. I.
Nidana	Sthana	--	s.S. II.
Sarira	Sthana	--	S.S. III.
Cikita	Sthana	-	S.S. IV.
Uttara	Tantra	--	S.S. VI.
Yoga Ratnakara		--	Yo.Ra.

(Numericals following these abbreviations indicate the chapter number followed by verse numbers. page number is indicated in the case of Yoga Ratnakara.)

## KEY TO TRANSLITERATION

अ a	आ ā	इ i	ई ī	उ u	ऊ ū	ऋ ṛ	
ए e	ऐ ai	ओ o	औ au	अं am	अः ah		
क k	क ka	ख kh	ख kha	ग g	ग ga	घ gha	ङ ṅa
च ca	च cha	ज ja	झ jha	ञ ña			
ट ṭa	ठ ṭha	ड ḍa	ढ ḍha	ण ṇa			
त ta	थ tha	द da	ध dha	न na			
प pa	फ pha	ब ba	भ bha	म ma			
य ya	र ra	ल la	व va	श śa			
ष ṣa	स sa	ह ha	क्ष kṣa	त्र tra	ज्ञ jña		

## CHAPTER - I

### INTRODUCTION

The ancient Civilization of India was a concrete unity of many sided developments in art, architecture, literature, religion, morals and science as far as it was understood in those days. An important achievement of Indian thought was medicine. The most ancient science of medicine of India known as Ayurveda is not only a system of curing patients but a science of living. Medicine was first a religion and then it became a science.

In the science of medicine, as in all other branches of study, the ancient Aryans claim to have derived their Knowledge from the Gods through direct revelation. SUSRUTA in his Samhita has described the Ayurveda as an upanga ( sub-division) of Atharvaveda. Indeed the orgin of the science is lost in dim antiquity. Death and disease had been there in the world since the advent of man; it was by following the examples of lower animals in disease that our ancestors acquired the knowledge about the properties of many valuable medicinal drugs. Individual experiences in the realm of cure and hygiene were collected and codified, and thus formed the basis of the present Ayurveda.

### SOURCE OF AYURVEDA

The Vedas represent the earliest known literary specimens of the Sanskrit language. They are also the earliest literary records of the Aryan people. There are four Vedas, viz., Rig, Yajur, Sama and Atharva Vedas. Verses on medicine, hygiene and surgery etc., lie scattered throughout the four Vedas. Of the four vedas, physicians owe their loyalty to the Atharvaveda because this deals with the treatment of diseases and it is in this veda that various therapeutic measures are prescribed for the sake of longevity.

### DEFINITION OF AYURVEDA.

That science is designated as Ayurveda where advantageous (hita) and disadvantageous (ahita) as well as happy (sukha) and unhappy (duhkha) states of life, its measurement and life itself are described ( C.S.I. 1/41).

### THE CREATION OF AYURVEDIC TREATISES.

After the Upanisadic period (2500 BC to 500 BC) Ayurveda emerged as a separate branch of knowledge. There was organisation, shaping, creation, preservation and particularly specification of Ayurveda as a separate branch in the Samhita period. In this period Ayurveda was specified into its different sections, namely, surgery (salya), medicine (kayacikitsa) etc. Susruta Samhita the treatise of surgery, and Caraka Samhita; the treatise of medicine are the two greatest contributions of

this age available today more or less in complete forms after having gone through their two or three redactions. Astanga Hridaya Samhita of Vagbhata, a treatise dealing with both surgery and medicine is a later work. These three treatises are collectively called as ' Brhat Trayi ' . Many other concise treatises and monographs were written later.

#### **BRANCHES OF AYURVEDA:**

There are eight branches of Ayurveda (3.3. I 1/7-8).

They are,

- (I) Salya Tantra (Surgery)
- (II) Kayacikitsa (Medicine)
- (III) Salakya Tantra (Diseases of Head and Neck)
- (IV) Bhuta Vidya (Psychiatry and Allied Diseases)
- (V) Kaumara Bhrtya (Paediatrics)
- (VI) Agada Tantra (Toxicology)
- (VII) Rasayana Tantra (Rejuvenation Therapy) and
- (VIII) Vajikarana Tantra (Aphrodisiac Therapy)

Salakya Tantra deals mainly with ophthalmology and otolaryngology. Before Susruta Samhita, the knowledge pertaining to ophthalmology and otolaryngology were so organized and advanced that specialists had written separate treatises of their own. Perhaps with the cultural lag the treatises have been lost for ever and at present we have only recorded of them in the commentaries on the Samhitas.

## **OBJECTIVE OF THE PRESENT STUDY.**

The present study of the available literature on the diseases of the ear and their treatment in Ayurveda was undertaken keeping in view a lack of comprehensive information on ear diseases. Information included in this compilation has been collected from various treatises of Ayurveda and an attempt have been made to arrange the available information in a systematic way. In this introductory chapter there is a discussion on some of the basic concepts of Ayurveda. A knowledge of these concepts and principles is a prerequisite to understand the Ayurvedic approach to diagnosis and treatment of diseases. In the subsequent chapters the information available on the anatomy of the ear and the diseases occurring in different parts of the ear and their treatment is arranged.

## **DOSAS AND CAUSATION OF DISEASES:**

Whatever may be the nature of the exciting factors of the disease (vyadhi) the actual intrinsic factors which become excited and imbalanced, either conferring a predisposition to or actually causing morbidities, are according to Ayurveda, the Tridosas viz. vata, pitta and kapha. These are spoken of as dosas, as they are susceptible to imbalance and vitiation. In their own turn, they vitiate other structural and functional elements of the living body. They are also known as 'dhatus' as they support the body in their state of equilibrium, which represents normalcy. This state of their equilibrium-samyata- is stated to be a disease-free state i.e., aroghata, whereas,

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the disease state is stated to be due to an imbalance of their equilibrium.

It has to be noted in this connection that the basic tissue-elements of the body known as the saptadhatus, corresponding to the different types of tissues, and the waste products-those which are periodically thrown out of the body, and others made use of by the organism for some of its vital functions and for the construction of some of its structural elements-the malas, as they are called are all spoken of as dhatus. Among themselves, the dosas, dhatus, and malas are stated to make up the body and determine its integrity.

According to SUSRUTA " Vayu (asynonym of vata), pitta, and slesma ( a synonym of kapha) are to be considered as the primary and essential constitutional factors of the human organism. These fundamental factors maintain the integrity of the human body. The human body is supported by these three basic dosas, in the same way a dwelling house is supported by the supporting stays. Thus the body is spoken of as the ' tristhunam ' - 'the three supported one'- by certain authorities ( S.S,I.21/3). The disequilibrium of these three basic dosas may bring about the dissolution of the body or cause its death, while on their equilibril state depends its well-being. The three dosas together with the fourth-the sonita (blood) determine the orgin preservation and dissolution of the living human organism, which latter they permeate with their respective properties till the time of death"(S.S.I.21/3.)

SUSHUTA then proceeds to make a positive statement that "there can be no organism without Vayu, Pitta, Kapha and Rakta. These are ever necessary for the maintenance of its integrity (S.S.I. 21/4). In their normal states, they cause the proper functioning of the body; in their abnormal states, they afflict the body by causing various kinds of disorders." (C.S.III. 1/5). Vata, Pitta and Kapha in their normal states, so combine as to make the man a complete being with his indriyas (sensory organs and organs of action), possessed of strength, good complexion and ease and he is assured of longevity (C.S.I. 12/13).

CARAKA is of the opinion that Vata, pitta and Kapha which move throughout the body produce good and ill effects on the entire system according as they are normal or abnormal. When normal, they produce good results, strength, complexion, cheerfulness etc. On the other hand, if they are excited and become abnormal, they produce ill effects which are spoken of as vikaras (C.S.I. 20/9).

VAGBHATA, in his Astanga Hridaya, notes that "Vayu, Pitta and Kapha are the three dosas. When in their samyavastha or equilibrial state, they support and maintain the body in healthy state. In their abnormal states, they cause the destruction of health. He adds that "the dosa, dhatu and mala are the foundation of the body. They are present

and they function from birth to death" (A.H.I. 1/6-7).

Describing in detail, the constitution and function of the tridosas, CARAKA furnishes the following facts.

VATA:

Vata is that primal constituent of the living body whose structure is akasa and vayu, and whose function is rajasika, it being concerned with the production of those somatic and psychic processes which are predominantly rajasi&a or dynamic in nature; hence, the presence of Vata is to be inferred in such mental phenomena as the exhibition of enthusiasm, concentration etc. It upholds all the supporting constituents and their due circulation throughout the body.

Vata exists in five forms viz., Prana, Udana, Samana, Vyana and Apana. It is the urger of all the senses and the carrier to the mind of all sense impressions; it holds together the various elements of the body in their proper form, and maintain the cohesive unity of the body as a whole; it brings about speech; it is the basis of sound and touch, as well as the root-matter of the organ of hearing and touch; it is the organ of joy and enthusiasm and the stimulation of agni. It is the cause of the dosas getting dried up and the malas - waste products - being thrown out of the body; it is the cause of division in all channels of the body-both

suksma (microscopic) and sthula (macroscopic); it is the cause which makes embryo in the womb to take particular forms, and it stands as an evidence of the existence of life (C.S.I.12/8).

### **PITTA.**

" Pitta is that primal constituent of the living body whose structure is tejas and whose function is satvika as it is concerned with the production of those physical and mental processes which are predominantly satvik (balancing and transformative) in nature. Its functions are\* vision, digestion, heat production, hunger, thirst, softness and suppleness of the body, lustre, cheerfulness and intelligence. Its presence is to be inferred in such mental phenomena as intellection and clear conception, as also such physical phenomena as digestion, assimilation, heat production, healthy appearance, courage, fear, anger, delight, confusion and lucidity etc., or otherwise (C.S.I. 13/11).

### **KAPHA.**

" Kapha is that primal constituent of the living body whose structure is apa and prithvi and whose function is tamasika as it is concerned with the production of those physical and mental processes which are predominantly tamasika (conserving and stabilizing) in nature. Its presence is to be inferred in such mental phenomena as the exhibition of courage, forbearance, zest, virility, knowledge, understanding etc., as also, such physical phenomena as the production of bodily

strength and build, intergration of structural elements of the body into stable structures; the maintenance of the smooth working of joints etc.,(C.S.I.12/12).

It will be seen from the foregoing description of tridosas that, many of the physical and mental phenomena ascribed by modern modern physiologists, primarily to the activities of the nervous system, in all its aspects- the central vegetative, the peripheral including the autonomous can be identified with the concept of Vata ( Dwarakanath, C. 1959).

Similarly many of the physical phenomena attributed to pitta are among those, which modern physiologists include under the activities of the thermogenetic and nutritional systems (including the thermogenetic, the activities of the glandular structures, especially enzymes and some of the harmones) whose functions are of vital importance in digestion, assimilation, tissue-building and metabolism generally.

Likewise, many of the functions of kapha are, among those, which the modern physiologists include under theactivities of the skeletal and anabolic systems (Dwarakanath C.1959).

### **BASIC CLASSIFICATION OF DISEASES.**

The survival of the organism and its recovery from internal or external stresses are largely determined by the integrity of the tridosa mechanism and its capacity to rehabilitate its samyata or steady-state equilibrium. The time interval between dosa-vaisamya and the restoration of the dosa-

samyata constitute the different phases of the disease.

Disease or vyadhi can be generally classified under three main categories according to the nature of the abhighata or stress or stresses, responsible for their causation, They are:

(I) Adhyatmika or the constitutional type i.e, those due to intrinsic somatic or saririka and psychic or mahasika kinds of disturbances.

(II) Adhidaivika types are those which are caused by providential causes i.e. acts of god (S.S.I. 24/4).

(III) Adhibhautika types are those which are caused by environmental stress.

The three fold main classification of diseases can be ultimately resolved under the one or the other of the following seven categories viz.,

- (I) Adibalapravritta
- (II) Janmbalapravritta
- (III) Dosabalapravritta
- (IV) Sanghatabalapravritta
- (V) Kalabalapravritta
- (VI) Daivabalapravritta
- (VII) Svabhavabalapravritta

(I) Adibalapravritta - The origin of diseases included under this heading is attributed to defects inherent in either the sukra (the male reproductive element) or sonita (the female reproductive element) which form the primary factors of being.

(II) Janmbalapravritta - The kind of diseases included under this category comprise of congenital types. They are attributed

to errors in the conduct of mother during the period of her pregnancy. It includes defects such as congenital blindness deafness, dwarfism etc.

(III) Dosabalapravritta - Diseases belonging to this class are engendered by the action of any one of the dosas, deranged by errors in ahara (diet), vihara and acara (regimen) or due to psychological disturbances.

(IV) Sanghatabalapravritta - This category includes those diseases caused by abhighata (trauma) such as external and internal injuries due to blow or inflicted by sharp instruments; due to overstrain (exceeding the individual limits) etc. In this group may be included the invasion of the body by other living organisms either to parasite or to kill.

(V) Kalabala pravritta: This group includes diseases which are caused by meteorological changes such as variations in the atmospheric temperature - hot or cold, humidity or dryness, rain and wind, incidental to changes in the seasons.

(VI) Daivabala Pravritta: In this category are included diseases which are engendered by forces beyond human control. These are considered to be caused due to providential dispensation or acts of God.

(VII) Svabhavabala pravritta: This type includes diseases which arise due to natural organic and functional changes in the body and mind, such as, due to senility; death, hunger, thirst, sleep etc.

brought about in persons who have strictly adhered to or followed the prescribed rules of health, in the normal course of events, due to the efflux of time.

Of the above, first three belong to the adhyatmika group, sanghatabala pravritta belong to the adhibhautika type and the latter three types of diseases are considered under the adhidaivika category. (S.S.I.24/5-7)

**TYPES OF MANAGEMENT OF DISEASES:**

- Therapies are of three kinds. Viz.,
- (i) Daivavyapasraya - Spiritual Therapy
  - (ii) Yuktiyapasraya - Therapy based on reasoning
  - (III) Satvavajaya - Psychological Therapy.

Spiritual therapies are incantation of mantras, talisman, wearing of gems, auspicious offerings, gifts, oblations, observance spiritual rules, atonement, fasts, chanting of auspicious hymns, obeisance to the gods, going on pilgrimage etc. Administration of proper diet and medicinal drugs comes under the second category. Withdrawal of mind from harmful objects constitutes psychological therapy.(C.S.I. 11/54).

In the event of the vitiation of bodily dosas, generally three types of therapies are required to be applied to the body, viz.,

- (I) Antahparimarjana - Internal cleansing
- (II) Bahirparimarjana - External cleansing
- (III) Sastra pranidhana - Surgical therapy



Diseases caused by improper diet, etc., are eradicated by medicines meant for internal cleansing. The cleansing therapy which has its curative effect by external contact with the body such as massage, fomentation, unction, affusion and kneading is the external one. Surgical therapy comprises excision, incision, puncturing, rupturing, scraping, uprooting, rubbing with a substance having rough surface, suturing, probing, application of alkalies and leeches. (C.S.I. 11/55).

#### **CAUSES OF AGGRAVATION OF VATA:**

Vata gets aggravated by the over-indulgence in the intake of ununctuous, light and cold things, over administration of emesis, purgation, asthapana type of enema, errhines, physical exercise, suppression of the natural urges, fasting, assault, sexual indulgence, anxiety, grief, blood letting in excess, vigil during the night and by maintaining irregular posture. (C.S.II. 1/19).

#### **PATHOPHYSIOLOGY OF VATAJA DISEASES:**

In all the diseases caused by aggravated vata, the inherent natural qualities and actions of vata are quite obviously manifested wholly or partially and as such it is not difficult for a competent physician to correctly diagnose the diseases caused by vata; for example roughness (rauksya), Coolness (saiya), lightness (laghava) nonsliminess (vaisadya) movement (gati), shapelessness (amurtatta), instability (anavasthitatva)- these are the inherent qualities of vata.

The natural actions of vata, moving from one part of the body to the other are looseness, dislocation, expansion, obstruction, separation, depression, excitation, thirst, trembling, circular movement, piercing pain, aching pain, acti ect., coarseness, harshness, non-sliminess, porousness, reddishness astringent taste and tastelessness in the mouth, wasting, pain, numbness, contraction, rigidity and lameness, etc. These signs and symptoms help a competent physician to diagnose the vataja type of diseases.

#### **GENERAL PRINCIPLES OF TREATMENT OF VATAJA DISEASES:**

The vitiated Vata should be treated by drugs having sweet, sour and saline taste and unctuous and hot qualities and by such devices as oleation, fomentation, asthapana and anuvasana types of enema, inhalation, diet, massage, unction, affusion - which should all contain materials having vata alleviating properties. This is, of course, to be done with due regard to the dosage and the season. Of all the devices stated above, the asthapana and anuvasana types of enema are the treatments par excellence for the cure of diseases caused by vata and because immediately after entering the colon, they strike at the very root of the vitiated vata and when it is overcome in the colon even the entire vitiated vata dwelling in other parts of the body is automatically alleviated. (C.S.I. 30/12-13).

#### **CAUSES OF AGGRAVATION OF PITTA:**

Pitta gets aggravated by the excessive intake of hot, saline and alkaline and pungent food, intake of meals while

suffering from indigestion and exposure to scorching sun, heat of fire, exhaustion, anger and irregular dieting.

(C.S.II 1/22)

### **PATHOPHYSIOLOGY OF PITTAJA DISEASES:**

In all the diseases caused by aggravated pitta, the inherent natural qualities and actions of pitta are quite obviously manifested wholly or partially and as such it is not difficult for a competent physician to correctly diagnose the pittaja type of diseases. The inherent natural qualities of pitta are heat (ausnya), sharpness (taiksnya), liquidity (dravatva), slight unctousness all colors except white and red, fishy smell (visragandha), acrid (katu) and sour (amla) tastes and fluidity (saratva).

The natural actions of pitta moving from one part of the body to other are burning sensation, heat, suppuration, perspiration, sloughing, putrefaction, itching, discharge, redness, and the exhibition of its inherent smell, color and taste - these are the actions that help a competent physician to diagnose diseases caused by pitta.

### **GENERAL PRINCIPLES OF TREATMENT OF PITTAJA DISEASES;**

These should be treated by drugs having sweet, bitter, astringent and cooling qualities and such devices as oleation, purgation, unction, affusion, massage, etc., which should all contain material having pitta alleviating properties. This is of course done with due regard to the dosage and season, of all the devices stated above, purgation is the treatment par excellence for curing diseases of pitta because immediately

after it is administered, it eliminates the vitiated pitta from its very root. When it is overcome in the amasaya (small intestine) it alleviates the entire vitiated pitta dwelling in other parts of the body.(C.S.I. 20/15-16)

#### **CAUSES OF AGGRAVATION OF KAPHA:**

Kapha gets aggravated by the excessive intake of unctuous, heavy sweet, cold, slimy, sour and saline food, sleep during day time, merriment and lack of physical exercise.(C.S.II 1/25).

#### **PATHOPHYSIOLOGY OF KAPHAJA DISEASES:**

In all kaphaja type of diseases the inherent natural qualities and actions of kapha are quite obviously manifested fully or partly and as such it is not difficult for a competent physician to correctly diagnose the diseases caused by kapha. Unctuousness (sneha), coolness (saitya), whiteness (sauklya), heaviness (gaursva), sweetness (madhurya), steadiness (sthairya), sliminess (paicchilya) and viscosity (matsnarya) are the inherent qualities of kapha.

The natural actions of Kapha moving from one part of the body to the other are whiteness, coolness, itching, stability, heaviness, unctuousness numbness, stickness, uapdeha ( act of being covered with bodily excreta), obstruction, sweetness and delay in manifestation. These actions help a competent physician to diagnose diseases caused by Kapha.

**GENERAL PRINCIPLES OF TREATMENT OF DISEASES CAUSED BY KAPHA:**

Diseases due to vitiated kapha should be treated with drugs having pungent, bitter, astringent, sharp hot and ununctuous qualities and by such therapies like fomentation, emesis, elimination of dosas from the head (sirovireoana), exercise etc., which should all contain materials having kapha alleviating properties. This is, of course, to be done with due regard to the dosage and season. Of all the devices stated above, emetic therapy is the treatment par excellence for the cure of diseases due to Kapha because immediately after entering stomach, it strikes at the very root cause of the vitiation of kapha and when it is overcome in the stomach even the entire vitiated kapha dwelling in other parts of the body is automatically alleviated (C.S.I. 20/18-19)

**SENSORY ORGANS AND EXTERNAL ENVIRONMENT:**

Changes in the external environment kala (seasonal and climatic variations), artha (the matter stuff and physical forces of the environment) which are the objects (visayas) of the special senses, and karma (actions-volitional and others)-; under normal circumstances serve as stimuli of the Jnanendriyas (cognitive organs or the exteroceptors). The body reacts to these stimuli or changes through the mechanisms of vata which corresponds to the neural-modulator, and pitta, the chemical (hormones and enzymes) modulator, and Kapha, the effector, responds with counter-change, resulting in the maintenance of the steady-state equilibrium- the samyata of the body. The jnanendriyas are ordinarily tuned to be equal to variations

in kala, artha, karma within narrow limits i.e., their liminal threshold levels are suitably conditional - indriya samyata to variations in the intensity values of stimuli, just a little above or slightly below those of the normal. The atiyoga or high intensity correlation, hinayoga or ayoga corresponding to extremely low intensity correlations or persistent non-correlations respectively and mithyayoga or perverse correlations for which, neither the indriyas nor the modulators are normally conditioned, set up internal stress in the body resulting in an over all imbalance of the functioning of the delicately equilibrated tridosas. Thus a severe form of an internal stress-dosavaisamya is engendered (Dwarkanath C. 1959).

A physician should first of all diagnose the disease and then he should select proper medicine. A physician who initiates treatment without proper diagnosis of the disease can do it only by chance; on the other hand, the physician who is well-versed in diagnosing diseases is sure to accomplish the desired object (C.S.I. 20/20-22.).

## C H A P T E R II.

### ANATOMY OF THE ORGAN OF HEARING.

The term life (ayus) stands for the combination of the body, sense organs, mind and soul (C.S.I. 1/42).

There are five sense faculties (pancendriyani), five material constituents (pancendriya dravyani) corresponding to the sense faculties five sense objects (pancendriyarthaha) and five sense perceptions (pancendriya buddhayaha) (C.S.I.8/7-12).

The five sense organs are the eyes (aksini), the nose (nasike), the tongue (Jihwa), the ears (Kama), and the skin (tvak) which lodge in them the five sense faculties(C.S.I.8/8)

Kama, sravana, stotra, sabdapatha and srotrendriya are the terms usually used synonymously to designate the organ of hearing. The organ of hearing is constituted by akasa (A.H.II. 3/3)

In Ayurvedic literature we come across the following anatomical terms for different parts of the ear. A clear discription of the anatomy of the ear is not available. The information regarding the ear anatomy appears scattered in the treatisis of Ayurveda.

Karnasaskuli	:	Pinna
Karnanadi	(	
Karnasrotas	( -	External Auditory Meatus
Sravanasrota	(	

Karnavatu	:	concha
Karnapitha	:	Bottom of Concha
Karnaputraka	:	Tragus
Karnaputrika	:	Antitragus
Karnapali	:	Lobule
Karnalatika	:	Mastoid Region
Karnapristha	:	Parotid Region
Karnamula	:	Eustachian Tube
Srotrapatha	:	Labyrinth of the ear
Srotrasringataka	:	Internal Ear
Antahsrotas	:	

(Dadomadar Goud,1979)

The auricle is made up of tarunasthi - Cartilages (SSIII. 5/20) A vital point called ' vidhura Marma ' is located behind the ear and if injured it causes hearing loss.(S.S.III 6/27)

In the internal ear there are spiral joints called 'Sankhavarta ' (S.S.III. 5/27)

Some of the Ayurvedic scholars of 20th Century like GANANATHSEN (1972) have attempted to Sanskritize the modern anatomical terms. The Sanskrit equivalents of some of the anatomical terms in connection with the ear are as below.

Outer Ear	-	Bahyakarna
External Auditory Meatus	-	Karna Kuhara
Middle Ear	-	Madhya Karna
Ear Drum	-	Karnapataha



Malleus	:	Mudgaraka
Incus	:	Ankusa
Stapes	:	Surmika
Eustachian Tube	:	Srutisuranga
Inner Ear	:	Antah Karna
Laoyrinth	:	Kantaraka
Semi Circular canals	:	Ardhacandrakara Nalika

Information regarding the physiology of hearing is not available in Ayurvedic treatises in detail. Vata, One of the tridosas, is said to be responsible for all sensory perceptions (C.S.I.12/8) All the parts of the ear, including the pinna, are said to take part in the preception of sound and they are collectively called as 'Sabdavaha Srotas' . This term also refers to the whole of thespace available in the ear (Atankadarpana commentary on Ma.Ni.57/1)

DISEASES OF THE EAR-ENUMERATION, CLASSIFICATION, PROGNOSIS AND REGIMEN

This chapter is presented under the following four headings:

- (i) Enumeration of ear diseases
- (ii) Classification of ear diseases
- (iii) Prognosis of ear diseases and
- (iv) Regimen in ear diseases

I. ENUMERATION OF EAR DISEASES.

It appears that different number of ear diseases are enumerated in different treatises of Ayurveda. CARAKA has considered only four types of ear diseases, namely Vataja, Pittaja Kaphaja and Sannipataja karnarogas (C.S.VI 26/127-128). Vataja are those which are caused by the vitiation of vata dosa, pittaja and kaphaja are the result of the excitation of pitta and kapha dosas respectively, and sannipataja karnarogas are the result of a concerted action of all the dosas.

Susruta has listed a total of thirty three diseases of the ear (S.S.IV-P5/3-4, S.S.VI. 20/3-5). We find the same number and similar descriptions of ear diseases in later works like Bhavaprakasa, Yogarathakara, Gadanigraha etc. The thirty three diseases enumerated by Susruta are

- 01. Karnasula
- 02. Karnanada
- 03. Karnabadhira
- 04. Karnaksvedha

- 23
05. Pratinaha
  06. Jantukarna
  07. Karnakandu
  - 08&9. Karnavidradhi - 2 types
  10. Karnapaka
  11. Putikarna
  - 12-15. Karnarsas - 4 types,
  - 16-22. Karnarbuda - 7 types
  23. Karnasrava
  24. Karnagutha
  - 25-28 Karnasopha - 4 types
  29. Paripota
  30. Utpata
  31. Unmantha
  32. Duhkhavardhana
  33. Parilehi

Of the above, five diseases numbering from 29 to 33 are said to occur in the pinna.

In Astangahridaya Samhita of Vagbhata we come across twenty five diseases of the ear (A.H. VI. 17 & 18). They are

- 1-5. Karnasula - 5 types
6. Karnanada
7. Badhirya
8. Pratinaha
9. Karnarsas
10. Karnasopha
11. Karnakandu
12. Karnavidradhi

15. Putikarna
14. Karnarhuda
15. Krimikarna
16. Kucikarnaka
17. Karnapippali
18. Vidarika
19. Palisosa
20. Tantrika
21. Paripota
22. Utpata
23. Unmantha
24. Duhkhavardhana
25. Lehya

Diseases numbering from 16 to 25 occur in the region of pinna.

In Sarngadhara Samhita, a list of thirty diseases is available under three distinct categories (Sa.Sam.1.7/142-146) viz., Karnarogas, Karnapalirogas and Karnamularogas. Of the thirty, eighteen are Karnarogas (diseases of the ear other than those occurring in lobule), seven are karnapalirogas (diseases of lobule) and five are Karnamularogas (diseases occurring behind the ear).

Eighteen Karnarogas are:

01. Vataja
02. Pittaja
03. Kaphaja
04. Raktaja

05. Sannipataja
06. Vidradhi
07. Sotha
08. Arbuda
09. Putikarna
10. Karnarsas
11. Karnahallika
12. Badhirya
13. Tantrika
14. Kandu
15. Karnanada
16. Pratinaha
17. Krimikarna
18. Saskuli

Seven Karnapali Rogas are:

01. Utpata
02. palisosa
03. Vidari
04. Dukhavardhana
05. Paripota
06. Lehi
07. Pippali

Five Karnamula Rogas are:

01. Vataja
02. pittaja
03. Kaphaja
04. Raktaja and
05. Sannipataja

The terms Karnapali and Karnamula refer to the lobule of the ear and the region behind and around the ear (parotid and mastoid region) respectively.

In Madhava Nidana, a popular treatise on diagnostics, thirty eight diseases have been described. These include thirty three diseases described by SUSRUTA, four diseases described by CARAKA and a description of symptoms caused by entry of foreign bodies into the ear (MR.Ni.57/8).

Panasika is another disease described by SUSRUTA (S.S.II. 13/12) which occurs in the external ear not considered directly under Karnarogas.

## **II. CLASSIFICATION OF EAR DISEASES.**

It is possible to classify the above diseases of the ear depending on the site of their occurrence. An attempt has been made here to categorize the diseases, based on the available descriptions, under the following headings.

### **1. DISEASES OF PINNA.**

- (i) Kucikarnaka
- (ii) Karnapippali
- (iii) Vidarika
- (iv) palisosa
- (v) Tantrika
- (vi) paripota
- (Vii) Utpata
- (viii) Unmantha
- (ix) Duhkhavardhana or Durviddha and
- (x) parilehi or Lehya

### **3. DISEASES OF EXTERNAL AUDITORY MEATUS.**

- (i) Karnagutha or Karnavitka
- (ii) Karnakandu
- (iii) Karnavidradhi
- (iv) Karnarbuda
- (v) Karnarsa
- (vi) Karnahallika and
- (vii) panasika.

### **3. DISEASES OF MIDDLE EAR CAVITY.**

#### a. Karnasula - 5 types

- vataja
- pittaja
- kaphaja
- sannipataja
- raktaja

#### b. Krimi Karna

#### c. Karnapratinaha

#### d. Karnasotha

#### e. Karnapaka

#### f. Karnasrava

#### g. Putikarna

Diseases like Karnasotha, Karnavidradhi, Karnapaka, Karnarbuda, Karnasrava may occur either in external auditory meatus or middle ear cavity.

### **4. DISEASES OF KARNAMULA (SWELLING IN PAROTID REGION?)**

#### a. Vataja Karnamularoga

#### b. Pittaja Karnamularoga

b. DIET. Foods prepared out of wheat, sali\*(a kind of rice); mudga; Yava; flesh of lava; mayura, harina; tittira and vanakukkuta are regarded as wholesome diet.

The patient should observe brahmacarya (abstinence from sex) and vocal rest (abhasana)

An unwholesome regimen (apathya) includes indulging in brushing the teeth (dantakastha), head bath (sirasnana), physical exercise (vyayama), intake of foods heavy for digestion, exposure to cold wind and scratching the affected part. These aggravate the disease and so the patient should be instructed not to indulge in them (Bh.Ra.62/82-85)

\* Botanical Names of the Herbs are given in Appendix I.



DISEASES OF PINNA.1. KUCIKARNAKA (ATRESIA)\*

In the intrauterine life, the pinna (saskuli) of the developing foetus gets atrophied because of the derangement of of vayu. This condition of atrasia is termed kucikarnaka (A.H.VI. 17/16)

2. KARNAPIPPALI.

In the foetal life itself certain growths (mamsankuras), appear in the area of pinna and they resemble pippali (fruit of piper longum ) AHYI.17/16-17.

3. VIDARIKA.

Vidarika is resulted by a concerted action of all the dosas. An immobile swelling appears in the region of the pinna having the skin colour accompanied with pain. If left untreated it undergoes suppuration, ultimately resulting in a kind of discharge similar to mustard oil in consistancy. After having healed up it results in the shrinking of the pinna (AHNI.17/17-18)

All the above three conditions are not amenable for treated similar to virdadhi (abseess) giving due consideration to the involved aggravated dopa(A.H. VI. 18/37).

4. PALISOSA.

The vatadosa located in the blood vessel supplying the pinna dries up the lobule of the ear (pali) and this condition is termed pa lisosa (A+H.VI.17/19).

\* The terminology used here doesnt denote the exact e of the Ayurvedic diagnostic terms.

The treatment of palisosa is similar to that of vataja karnasula. The diseased part should be applied with medicated oils and should be subjected to svedana (fomentation). After fomentation the part should be gently massaged with any of the following medicated oils.

- (i) Oil cooked with priyangu, yasti, yava, asvagandha.
- (ii) Oil cooked with Satavari, asvagandha, vidari, eranda, jivaka and milk.
- (iii) Oil boiled with anupamamsarasa (meat soup aquatic and marshy animals), milk and jivaniya group of drugs.

**5. TANTRIKA.**

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The derangement of vata in the lobule makes it thin and immovable and lobule assumes the toughness of a tantri (string of musical instrument) (A.H.VI. 17/19).

**TREATMENT OF TANTRIKA.**

The treatment of tantrika is similar to that of palisosa. If the lobule is too much thinned out that part of the lobule should be severed and the remaining intact part should be lengthened by the application of karnavardhaka sneha (A.H.VI.18/42),

Karnavardhaka sneha contains the following ingredients bone marrow and muscle fat of animals like jackal, pig etc., gingelly oil, ghee, milk, madhuragana drugs, apamarga, root of asvagandha and decoction of laksa. Oil must be cooked with these ingredients and must be applied to the lobule followed by fomentation. Massage with this oil can elongate the lobule, (S.S.IV.25/25-27.)

## 6. PARIPOTA.

In those whose lobule is very delicate, if the surgeon attempts to make a hole in the lobule forcibly and if he tries to widen the hole, the area becomes swollen because of the excitation of vatadosa. The swelling will be red in color accompanied with pain (A.H.VI.17/20).

It is not out of context here to mention that in ancient India it was a routine practice to create hole in the lobule of children at the age of 6 or 7 months. The hole was meant for wearing ornaments and it was also believed that creating a hole in the lobule would ward off the effects of some evil spirits. A detailed description of the surgical procedure of creating the hole in the lobule is available in Susruta Samhita (S.S.I.16). If the surgeon is not adept he may injure the organ and such a surgical trauma may result in many pathological symptoms like fever, swelling, pain in the ear, etc. SUSRUTA has also described about fifteen surgical methods of joining the cut end of the louble to the pinna.

In all such diseases of lobule the surgeon or physician should make use of treatment procedures like snehana(application of unctuous substances), svedana (fomentation), pariseka (sprinkling of medicinal decoction), lepa (ointments) and raktamoksana (blood letting) as and when required.(S.S.I.16/15).

### TREATMENT OF PARIPOTA.

Sesamum oil should be cooked with apamarga, yasti, saindhava lavana, devadaru, asvagandha, mulaka, bakuci, ghee, muscle fat

and marrow of certain animals, milk and bee wax. This oil should be applied externally to the affected area(S.S.IV.25/14-16)

Treatments prescribed for palisosa and Tantrika are also useful in a case of paripota.

### **7. UTPATA.**

By wearing heavy ornaments or by rubbing the lobule or by any other injury to the lobule, it gets swollen and assumes a dark blue color accompanied with burning sensation. This condition is termed utpata (S.S.IV.25/5-7).

#### **TREATMENT OF UTPATA.**

Blood letting should be done using leeches followed by an application of medicinal preparations which are cooling in property. Oil prepared using jambu, tender leaves of amra, bala, yasti, rodra, tila, utpala, dhanyamla, manjistha, kadamba and sarlva should be used for external application.

Ghee rubbed with cold water for 100 times (Satadhauta ghrita) is also useful as an application (A.H.VI. 18/43-44).

### **8. UNMANTHA OR GALLIRA.**

If the hole in the lobule is forcibly widened, vata gets vitiated and in combination with kapha it results in a hard swelling of white color or of skin color attended with itching and numbness (A.H.VI.17/32-23, S.S.IV.25/7-8).

#### **TREATMENT OF UNMANTHA.**

Application of oil prepared with the muscle fat of iguana and crab, leaf of tala, asvagandha, bakuci fruit, arka,

saindhavalavana, surasa, larigali to the affected part suffices the treatment of unmantha (S.S.IV.25/18-19).

#### **9. DUHKHAVARDHANA OR DURVIDDHA**

If the lobule is improperly punctured and if attempts are made to enlarge the hole, it results in itching, burning, pain, swelling and supuration. This condition is due to concerned action of all the three dosas (A.H.VI.17/23-24, S.S.IV.25/8-9)

#### **TREATMENT OF DUHKHAVARDHANA.**

DHAVANA - The affected part should be cleansed with a decoction of the leaves of jambu, amra and asvattha.

PARISEKA - Sprinkling of oil cooked with the above drugs on the affected part.

Avacuraana - Dusting the part by a fine powder of madhuka, manjistha haridra and pundarika.

ABHYANGA - Application of oil prepared using laksa and vidanga (A.H.VI.18/46-48).

#### **10. PARILEHI OR LEHYA.**

Krimi (germs) originating from rakta (blood) and kapha result in small pustules of the size of a mustard. The pustules break open accompanied with itching, burning and pain. If this condition is not attended to properly the krimi invade the whole area and destroy the lobule (AH.VI.17/24-25, S.S.IV25/10-11).

#### **TREATMENT OF PARILEHI.**

Svedana - Formentation of affected part by a bolus of fresh cowdung is useful.

LEPA - Application of pastes made out of

a. Karpura (Camphor) and goat's urine.

b. Vidanga sara and sheep's urine.

c. Barks of kutaja; ingudi and syamaka, seeds of karanja with urine of sheep.

ABHYANGA- The wound should be applied with an oil prepared by boiling barks of kutaja; syamaka; ingudi, seeds of karanja, leaf of nimba, and candana with sarsapa oil (S.H.VI.18/48-50).

#### **11. SURGICAL TREATMENT OF SEVERED PINNA.**

Apart from the description of treatments for above diseases occurring in the region of Pinna, a description of surgical treatment of severed pinna from its point of attachment to the head is available in Ayurvedic treatises.

SUSRUTA and VAGBHATA have described in detail the surgical operation which can be summarized as Below:

The cut edges should be gently scraped with rough surface of a leaf and kept in situ and irrigated with a mixture of honey and ghee. On the point of attachment a bolus of cotton covered with a gauze is kept followed by a bandage. A bolus of cotton covered with gauze should be kept along the area of attachment of the edges and bandaged. The bandage should be neither too tight nor too loose. The bandaged area should be dusted with a fine powder of drugs having the property of arresting haemorrhage. The treatment recommended in a case of wound should be administered to the patient. After seven days the bandage should be gently

removed by wetting it with oil. After the wound is completely healed and if the size of pinna is abnormally reduced karnavardhaka sneha mentioned previously under Tantrika should be used to elongate the pinna.(A.H.VI.18/52-54)

C H A P T E R - V

DISEASES OF EXTERNAL

AUDITORY MEATUS

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01. KARNAGUTHA OR KARNAVITKA (Cerumen).

Any secretion accumulated in the canal of the ear dried and hardened by local pitta is called karnagutha (S.S.VI. 20/11).

TREATMENT OF KARNAGUTHA.

The affected ear should be sufficiently fomented after being filled with oil as to soften the filthy deposit in the cavity of the ear. The softened filthy matter should be extracted with a salaka (probe) (S.S.VI. 21/55).

Syringing the ear with lake warm cow's urine or decoctions of pathya, amalaka, manjistha, rodhra, tinduka or rajavrikshadi drugs or surasa is useful (Yo. Ra. 691 ).

02. KARNA KANDU (Itching sensation in the ear).

The excessive itching sensation in the ear due to the aggravation of the local kapha is called karnakandu. (S.S.VI 20/

TREATMENT OF KARNAKANDU.

The treatment of karnakandu should comprise of nadisweda (a type of sudation using a tubular instrument), vamana (induction of vomiting), dhumapana (smoking medicinal herbs), murdhavirecana (snuffing) and all other measures useful in combating kapha (S.S.VI. 21/56).



Any abscess caused by any local ulcer by a blow as well as any idiopathic (dosaja) abscess in the ear is known as karnavidradhi. It is marked by a choking and burning sensation, piercing and sucking pain, and it secretes red, yellow or reddish yellow discharges(S.S.VI.20/14).

Vidradhi is mainly of two types-Agantuja (traumatic) and Doshaja (idopathic). Under dosaja there are five subtypes, namely, Vataja, pittaja, Kaphaja, Sannipataja, and Raktaja (A.H.III IIII/3.)

**a. VATAJAVIDRADHI.**

Vataja vidradhi is pale red or black in colour, rough to touch, and accompanied with severe pain, It is slow in onset and when suppurates it results in a thin discharge. (S.S.II 9/7)

**TREATMENT OF VATAJAVIDRADHI.**

1) DHAUTA - the affected area should be cleansed with the decoction of pancamula.

ii) LEPA - A paste made out of bhadradaru, nata, kustha, dasamula, bala, atibala. Yasti, tila and saindhava lavana should be applied.

iii) VIRECANA- The patient should be administered with purgatives for the purpose of internal cleansing. For this purpose trivrit is mainly used.

iv) VRANA ROPANA - the wound should be treated with an oil made out of vidari, eranda, vriscakali, punarnava, devadaru, mudgaparni, masaparni, kandukari, jivana pancemula, hrasv-apancamula, sariva, tripadi and trivrit.(A.H.IV13/2-3).

**b. PITTAJA VIDRADHI**

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Pittaja vidradhi resembles the riped fruit of udumbara, is dark blue in colour accompanied with fever and burning sensation. It is of sudden onset and suppurates quickly resulting in an yellowish discharge.(S.S.II.9/8)

**TREATMENT OF PITTAJA VIDRADHI.**

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i) Prakasalana - The part should be cleaned with a decoction of ksirivriksaa.

ii) Lepa - Application of a paste of yasti, amrita and tila is useful.

iii) Ropana - Healing of the wound is done by applying ghee cooked with manjistha, usira, padmaka, vidari, haridra, daruharidra, triphala, yasti and milk (A.H.IV.13/4-5).

**c. KAPHAJA VIDRADHI**

Kaphaja vidradhi resembles the shape of an earthen saucer, white, in color, cold to touch, attended with itching sensation. It suppurates slowly and on breaking it results in a white discharge (S.S.II 9/9)

**TREATMENT OF KAPHAJA VIDRADHI**

i) Praksalana - The affected part should be washed with a decoction of aragvadha.

ii) Lepa - A paste of sakthu, danti, haridra and tila should be applied.

iii) Ropana - An oil cooked with kulattha, danti, trivrit, syama, citraka, tilvaka and sindhava lavana is applied for the purpose of healing the wound (A.H.IV. 13/5-7)

**d. SANNIPATAJA VIDRADHI**

This is due to a concerted action of all the dosas and is characterised by a combination of signs and symptoms of all the dosa types. It sometimes suppurates quickly and at other times slowly and it will be of uneven size(S.S.II.9/10-11).

**TREATMENT OF SANNIPATAJA VIDRADHI.**

No specific treatment is indicated in sannipataja vidradhi. A combination of the treatment procedures mentioned under the above types may be employed depending on the predominance of the involved dosas.

**e. RAKTAJA VIDRADHI**

This is due to vitiated rakta (blood) and the vidradhi will be black in colour and predominantly pittavidradhi symptoms are present.(S.S.II.9/13-14).

**TREATMENT OF RAKTAJA VIDRADHI.**

The procedure of treatment of raktaja vidradhi is similar to that of pittaja vidradhi (A.H.IV.13/7).

**f. AGANTUJA VIDRADHI.**

This is the result of physical injury, and is accompanied with fever, burning sensation and excess of thirst(S.S.II.9/11-13).

**TREATMENT OF AGANTUJA VIDRADHI.**

Treatment is similar to that of pittaja vidradhi.

Before resorting to the above specific treatments in 41 each type of vidradhi, the vidradhi should be incised after confirming that it is well suppurated and the resultant ulser should be treated. If required, blood letting also should be resorted to (A.H.IV.13/7).

#### **INTERNAL MEDICATION IN VIDRADHI.**

Inspite of the above mentioned treatments there are some preparations which are used internally. They are as below:

(i) A decotion of trayanti, triphala, nimba, katukh, madhuka (each one part); trivrit & root of patola (4 parts each); and dehusked masura (8 parts) should be mixed with ghee and taken. This decotion is also useful in gulma (abdominal tumors), fever, vomiting, skin diseases, jaundice and cardiac diseases.

(ii) Ghee cooked with a decoction of trayamana, expressed juice of amalaka, milk, katuki, trayanti, dhanvayasa, musta, amalaka, vidari, jivanti, candana, utpala is also useful (A.H.IV.13/11-15).

#### 4. KARNAREUDA ( TUMOUS IN THE AUDITORY MEATUS)

The term ' arbuda ' refers to an immobile swelling or a growth which doesn't suppurate. Many theories have been put forward by the ancient seers to explain why the arbuda doesn't suppurate.

Seven types of arbuda have been described in general which may also occur in the ear. They are vataja, pittaja, kaphaja, medoja, siraja, mamsaja & raktaja types(S.S.II. 11/14-15). The description of signs and symptoms and treatments of arbuda is as follows.

**a. VATAJA ARBUDA:**

The swelling enlarges accompanied with pricking and piercing pain. It will be black and hard and when it breaks open there will be bloody discharge. (S.S.II.11/4)

**TREATMENT OF VATAJA ARBUDA:**

i) Fermentation of the affected area with a paste of the seeds of Karkaruka, ervaruka, narikela, priyala, and eranda boiled in a mixture of milk and ghee.

ii) Blood letting using sringa (horn of animals)

iii) Internal administration of a mixture of oil, ghee and muscle fat boiled hundred times with the decoction of bhadradarvyadi group of drugs (S.S.IV.18/29-31).

**b. PITTAJA ARBUDA:**

This type of swelling is characterized by burning sensation and the patient experiences as if fumes are coming out of the swelling. When it breaks open there will be a discharge of hot yellowish red blood. (S.S.II.11/5)

**TREATMENT OF PITTAJA ARBUDA:**

1. Application of a paste of Sarjarasa, priyangu, pattanga, rodhra, strotonjana, yasti, and honey after scraping the area with a rough surfaced leaf is useful.

2. Application of a paste of aragvadha, goji, guduci, and trivrit is useful.

3. Administration of ghee with trivrit or draksarasa or srotonjana is internally useful (S.S.IV.18/32-34).

**c. KAPKAJA ARBUDA:**

The swelling will be hard and cold to touch, and has the color of the skin. It is accompanied with slight pain and severe

itching sensation. It grows slowly and when it breaks there will be a whitish thick discharge (S.S.II.11/6).

**TREATMENT OF KAPHAJA ARBUDA:**

1. Internal cleansing should be done by inducing vomiting and purgation.
2. Lepa - A paste of drugs used to induce vomiting and purgation is applied to the affected area.
3. A paste of nispava, pinyaka (paste of tila)Kulattha, flesh of animals and upper portion of curd should be applied.

Faecal matter of pigeon & parrot, rust of bronze, langali, root of kakadani, pasted with cows urine and mixed with yavaksara should be applied.

The purpose of these applications is to invite flies (and germs) which may eat away the excess tissue. When only a little portion of the swelling remains after having been eaten away by the flies etc., it should be burnt by a red hot metallic rod. The area should be covered with a plate of tin or copper or lead or iron and should be bandaged properly. This procedure of surgical excision or application of caustics to destroy the excess growth should be resorted to repeatedly.

4. The resultant wound should be washed with a decoction of leaves of sariva, jSti and karavira. An oil cooked with bharngi, vidanga, patha, and triphala is useful for the purpose of healing (S.S.IV.18/35-40).

**D. MEDOJA ARBUDA**

Medoja arbuda is due to vitiation of medodhatu (muscle fat). The growth increases or decreases in size depending upon

the increase or decrease in the size of the whole body. The swelling is accompanied with severe itching sensation. It is glossy in appearance and when it breaks there will be a discharge similar to pinyaka (paste of sesamum seeds) or ghee in color & consistency (S.S.II. 11/7).

**TREATMENT OF MEDOJA ARBUDA.**

Medoja arbuda should be treated by applying upanaha (hot poultices). The swelling should be incised and the contents should be drained out. The wound thus created should be sutured properly. A paste of the powders of haridra, grihadhuma, rodhra, patanga, manasila, haratala with honey should be applied. When the wound becomes clean i.e. when there is reduction in size and cessation of discharge, oil of karanja should be applied for the purpose of healing (S.S.IV.J6/41-42).

**e. RAKTAJA ARBUDA.**

The excited dosa in the blood causes contraction of the blood vessels and results in a muscular out growth which does not suppurate and from which there will be continuous blood loss (S.S.II. 11/15-17).

**f. MAMSAJA ARBUDA.**

The muscle tissue undergoes pathological changes by such of the injuries like a blow etc., resulting in a hard painless immovable swelling having the color of the skin. It doesn't suppurate. This mamsarbuda occurs mostly in those who are habituated to the intake of non-vegetarian diet (S.S.II. 11/17-18)\*

**TREATMENT OF RAKTAJA AND MAMSAJA ARBUDA.**

These two types of arbuda are regarded as incurable (A.H.VI.29/18) No specific treatments are mentioned for these conditions.

## 6. SIRAJA ARBUDA.

Susruta has described only 6 types of arbuda in the eleventh chapter of Nidana Stana. KARTIKA as quoted in Madhukosa vyakhya on fiftyseventh chapter of Madhava Nidaha, has considered siraja arbuda as a seperate type of arbuda. No further descriptions of Siraja arbuda are available. SUSRUTA in the twentysecond chapter of Uttaratanttra makes it clear that the six types of arbuda described in Nidana Stana are in the context of general surgery and a seventh type, namely, Sannipataja Arbuda should be specially considered in Salakya Tantra ( a branch of Ayurveda dealing mainly with ophthalmology and Otolaryngology) (S.S.VI.22/19). Keeping this in view we have to consider siraja arbuda or sannipataja arbuda as the seventh one occuring in thear.

(i) The sannipataja type of arbuda is characterized by a combination of the signs & symptoms of Vataja, pittaja and Kaphaja types of arbuda and the treatment should be geared at alleviating the predominant dosa.

(ii) If we consider siraja arbuda it is implied that the signs and symptoms of siraja granthi described by SUSRUTA are also applicable to siraja arbuda as we do not come across a separate description of siraja arbuda. In an emaciated or a weak person the vitiated vata dries up and shrinks the network of blood vessels resulting in a round swelling. This is termed as Sirajagranthi (or siraja arbuda). If it is painful and movable it becomes curable with difficulty and if it is painless and big in size, immobile and appears in a marma (vital area), it is incurable (S.S.II. 11/8-9).



Information regarding the specific treatment of this condition is not available.

## **5. KARNARSAS (POLYPS IN THE EAR)**

The term ' arsas ' usually refers to hemorrhoids occurring in the anal canal. Growths resembling haemorrhoids can occur in organs like nose, ear, vaginal canal, penis etc(S.S.II.2/1!).

When such a growth (mamsankura) appears in the ear it is termed as karnarsas.

Arsas is of 4 types according SUSRUTA. They are vataja, pittaja, kaphaja and raktaja types (S.S.11.2/17).

### **a. VATAJA ARSA3.**

The arsas appears dry; light red in color resembling in shape of the flower of Kadamba or mukula (flower bud) or tundikeri or the tip of a needle and it is painful(S.S.11.2/10).

### **b. PITTAJA ARSAS**

This type of arsas has an yellow or blue colored tip. It is tender and spreading in nature and there is continuous exudation. It resembles the beak of a parrot at the base, having the size of yava in the middle and at the tip it resembles the mouth of a leech (S.S.II.2/11).

### **c. KAPHAJA ARSAS.**

The mamsankura will be round and white in color attended with severe itching. It resembles the shape of Jackfruit seed or the udder of a cow or the aprout of a bamboo. There is no exudation (S.S.II. 2/12).

### **d. Raktaja Arsas.**

The signs & symptoms are similar to that of pittaja are as.

It resembles Kakananti. seed or red Coral (vidruma) or sprouts of nyagrodha in shape (S.S.II. 2/13).

#### **TREATMENT OF KARNARSAS.**

An elaborate description of the surgical and medical treatments of arsas is available in Susruta Samhita in the sixth chapter of cikitsasthan. The treatment of arsas includes surgical excision, application of caustics, cauterization, and use of internal medication. No specific treatments for Karnarsas are indicated. It is mentioned that the treatments recommended for arsas in general are also useful in the case of karnarsas.

#### **6. PANASIKA.**

A growth appearing inside the ear canal which is immovable is termed as ' panasika '. It involves the vitiation of vata and kapha dosas (S.S.II.13/12).

It may be accompanied with burning sensation and is visible outside according to BHOJA, as quoted in Madhukosha commentary on Ma.Ni. 52.

#### **TREATMENT OF PANASIKA.**

The affected part should be fomented first. A paste of manasila, haratala, kusta, devadaru should be applied. When the swelling suppurates it should be incised and the resultant ulcer should be treated properly.

#### **7. KARNAHALLIKA.**

This term refers to a group of symptoms resulting from an entry of foreign bodies into the ear canal(Dipika commentary on Sa.Sam. 17/143).

Accidentally certain flies or worms can enter the ear canal. They cause severe pain, pricking sensation and their movement inside results in a peculiar sound (as heard by the patient) like pharaphara, or ghurghur. (B.S.VI.21/74-75). If they stop moving the pain reduces in severity.

**TREATMENT OF KARNAHALLIKA.**

(1) The ear should be filled with gently hot madhus\*ukta, milk, sura or asava and the patient should lie down on the affected side or bend his head, for a period of muhurta (approximately 45 minutes). The flies which have entered the ear will come out. If there is any discharge from the ear it should be duly treated (B.S.VI.21/76-77)

(ii) Ear may be filled with oil of sarsapa or cow's urine mixed with haratgla.

(iii) A mixture of juices of surasa, root of sigru, suryavarta, kapikacchu and trikatu powder is also useful in removing the flies and worms (Sa.Sam. III.11/151-152).

## C H A P T E R VI.

### DISEASES OF MIDDLE EAR CAVITY.

#### 1. KARNA SULA (OTALGIA)

The violent aching pain in the region of the ear and inside the tympanum caused by the deranged local vayu, aggravated and obstructed by the other deranged dosas in the locality is called karnasula (S.S.VI.20/6).

VAGHBATA has described five types of karnasula namely, vataja, pittaja, kaphaja, sannipataja and raktaja(A.H.VI.17).

##### a. VATAJA KARNASULA.

Vata after being excited by such of the factors like pratisyaya ( a disease of the nose characterized by nasal discharge), swimming, scratching the ear, perverse correlation of the sense organ with the sound like hearing loud sounds etc., and other vata aggravating factors traverse the srotrasiras (auditory channels?) and results in a violent pain in the ear. Along with the pain in the ear, there will be ardhavabhadaka (hemicrania), stambha (numbness of the affected area), aversion to cold and if there is any swelling inside the ear it suppurates slowly. When the swelling breaks open there will be a scanty discharge of a watery fluid (lasika). The patient feels as if the ear is opening and closing alternatively. (A.H.VI.17/1-3).

##### TREATMENT OF VATAJA KARNASULA.

(i) The patient should be given meat soup followed by intake of ghee cooked with bhadradarvyadi drugs.

(ii) The ear should be forented. Juice of the leaves of pippali, bilva, arka, eranda with (saindhava lavana should

be extracted by putapaka method and the ear should be filled with this juice when it is comfortably not. Similarly the leaves mulaka and syonaka may be used to extract the juice.

(iii) Mahasneha ( a combination of ghee, oil, muscle fat and bone marrow) cooked with vataghna group of drugs, amlagana and mutra varga alleviate the pain immediately.

(iv) Dipika Taila. Roots of any one of pancamulas should be wrapped with ksauma vastra (silk cloth) and soaked in oil and should be burnt. The oil should be collected while the root is burning and should be filled in the ear. Devadara, kusta and saraia are also useful for this purpose. This oil is termed dipika taila and is useful in alleviating ear-ache.

#### **b. PITTAJA KARNASULA.**

The patient experiences pain, burning sensation and fever. The swelling suppurates quickly and the secretion will be yellow in colour. Any area in the ear which is contact with the secretion (lasika) becomes inflamed (A.H.VI. 17/45).

#### **TREATMENT OF PITTAJA KARNASULA.**

First the patient should be given ghee mixed with sugar to drink followed by administration of suitable purgatives

The ear must be filled with milk cooked with drahsa and madhuka.

Oil cooked with yasti, anantha, canadana, usira, kakoli, rodhra, jivaka, mrinala, bisa, manjlsta, sariva and yastisvarasa is useful for karnapurana and nasya in pittaja karna sula.

The ear should be smeared with ghee cooked with the above drugs. (A.H.VI.18/7-10).

**c. KAPHAJA KARNASULA.**

There will be dull pain with heaviness of the head; jaw & neck, itching, a desire for heat, and when the swelling suppurates and breaks there will be a thick white discharge.

(A.H.VI.17/ 5,6)

**TREATMENT OF KAPHAJA KARNASULA.**

The patient should be first administered with ghee boiled with pippali. Cleansing therapy like inducing vomiting should be restored to dhuma (smoking), nasya (errhiness),

gandusa (gargling) and svedara (sudation) therapies should be adopted.

The ear is filled with a luke warm juice of any of the following: lasuna, ardraka, sigru, mulaka, and kadali.

(A.H.VI.18/15-15)

Filling the ear with a mixture of ginger juice, honey, saindhava lavana and gingelly oil made lukewarm is useful.

Oil of ingudi or of sarsapa or a decoction of bitter herbs are useful for filling the ear.

Oil cooked with surasadigana drugs or with matulanga fruit or useful for karnapurana. (S.S.VI.20/17-18).

**d. RAKATAJA KARNASULA.**

Blood vitiated by physical trauma causes pain in the ear and the signs and symptoms are similar to that of pittaja karnasula (A.H.VI.18/6).

**TREATMENT OF RAKATAJA KARNASULA.**

The treatment of raktaja type is similar to that of pittaja karnasula. Blood letting should be done by venesection (A.H.VI.18/6).

This is due to a concerted section of all the three dosas. There is severe pain with fever. The patient alternately desires for heat and cold. The swelling, when breaks, results in a discharge of thick pus, or pale or dark coloured blood (A.H.VI.17/7-8)

As this condition is not amenable for treatment, no specific therapy is described in the treatises various therapies useful in dosic types may be employed depending on the predomiance of involved dosas.

Karnasula is a symptom in ear diseases like karnarsas Karnarbuda & Karnasotha (A.H.VI.17/15).

#### **OTHER MEDICINAL PREPARATIONS USEFUL IN KARNASULA.**

1. For Kamapurana - (filling the ear)

Madhuka taila (B.S.IV.4/79-85), Masadi taila, Tintidi svarasadi taila, anu taila, nagaradi taila (Sa.Yo.3/102-106) Svarjika/(Sa.Sam.III.11/143-144) Nirgundyadi taila (Yo.Ra./691) svarjiksara tails & Madhukadi taila (Bh.Ra.62/27,65-69) are useful.

2. Internally - Mayura ghrita, (Sa.Sam.II,9/75-79) Bhairava rasa, Saribadi vati & Induvati (Bhai.Ra.62/70-81).

#### **KRIMIKARNA OR JANTUKARNA OR KRUEEKARNAKA**

When the ear is affected by vatadi dosas, the germs . orginating from the vitiated mamsa (muscle), rakta(Blood) and kleda (secretions) eat away the contents of ear cavity and the patient experiences severe pain. This condition is termed krimikarnpka (A.H.VI.17/13-14) This condition affects

hearing and the ear will be infested with flies which lay eggs in the ear cavity (S.S.VI.20/13)

### **TREATMENT OF KRIMIKARNAKA.**

The general procedure of treatment to be employed in the cases krimikarna, karnasrava and putikarna are the same. They include the following.

- (i) Sirovirecana (errhines),
- (ii) Dhupana (Fumigation),
- (iii) Purana (Filing the ear cavity with ear drops),
- (iv) Pramajana (Cleansing) and
- (v) Dhavana(washing) according to the exigences of the case (S.S.VI.21/40-41).

Dhavana - The ear should be syringed with a decoction of Rajavriksadi or surasadi group of drugs.

Pramajana - After dhavana the affected part should be properly wiped.

Dhupana - Dried vartaka or guggulu should be used for fumigating the affected part.

Purana - Sarsapa tails or powder of vidanga and haratala mixed with cows urine is useful in filling the ear (S.S.VI.21/41,52,53).

Filling the ear with any of the following: suryavarta Rvarasa, and sinduvara svarasa, juice of langalimula, trikataurna is useful in removing krimi.

Roots of nandyavarta & palasa are chewed and the paste is kept in the ear to remove the krimi(Yo.Ra.692).

### **3. KARNAPRATINHAHA (OBSTRUCTION OF EUSTACHIAN TUBE?)**

When the secretions (kapha) in the ear cavity get dried



up by the action of vayu they get clogged to the surfaces 54 of the ear cavity resulting in heaviness, pain and a feeling of fullness in the ear. This condition is termed as pratinaha (A.H.VI.17/11).

A different description of the disease is available in Susruta Samhita. When the dried accumulations of the ear in the case of karnagutha become liquified and come out through the cavity of the nose accompanied with ardhavabhedaka (hemicrania), the condition is termed as 'Pratinaha' (S.S.VI,20/12).

#### TREATMENT OF PRATINAHA.

The clogged material should be softened first by applying oils followed by fomentation. The ear should be cleansed properly and filled with oil or with a mixture of sukta, saindhava lavana, honey, and juice of matulunga. When the ear becomes dry by these treatments, the ear must be filled with ghrita manda (upper clear portion of ghee) (S.S.VI.18/32-33).

#### 4. KARNASOTHA (Inflammatory Conditions of the ear)

The term sotha here refers to a swelling which may be prodromal symptom of vrana (ulcer). Sotha occurring inside the ear is of 4 types. They are vataja, pittaja, kaphaja and raktaja types (Madhukosha Commentary: Ma.Ni.57/13.)

##### **a. VATAJA KARNA SOTHA.**

The swelling is slight red or black in colour rough and soft to touch accompanied with pricking, stabbing and cutting pains. The size of the swelling is not constant, it may increase or decrease in size depending on the degree of the involvement of the dosa.

The swelling will be soft to touch, reddish yellow in colour accompanied with burning sensation and redness. It grows in size quickly.

**C. KAPHAJA KARNASOTHA.**

The swelling is white or pale white in colour, hard, glossy in appearance attended with itching, heaviness and numbness of the affected part. The swelling gradually increases in size.

**D. RAKTAJA KARNASOTHA.**

This type of swelling is deep black in colour. Other signs & symptoms are similar to that of pittaja type.(S.S.I.17/4)

**TREATMENT OF KARNA SOTHA.**

The following general treatment procedures are useful in karnasottha.

- (i) Apakarsana - Fasting (Fasting is contra indicated in the case of emaciated, old aged, pregnant, debilitated and timid individuals, young children and in those suffering from hiccough),
- (ii) Alepa - Application of ointments or paste,
- (iii) Pariseka - Pouring of medicated douches etc on the affected area,
- (iv) Abhyanga - Oleation,
- (v) Vimlapana - Rubbing to reduce the swelling,
- (vi) Sveda - Fomentation,
- (vii) Upahaha - Poulticing,
- (viii) Pacana - Induction of suppuration,
- (ix) Visravana - Draining the contents of swelling,

- (x) Sneha - Intake of unctuous substances, 56
- (xi) Vamana - Induction of vomiting,
- (xii) virecana - Purgation.

If the sotha doesn't disappear by the above treatment vigorous efforts should be made to induce suppuration (S.S.IV.1/8,

If the swelling is hard, discolored & painful blood letting should be done by applying leeches which reduces the swelling & other symptoms (A.H.VI.25/25,36).

Darana (Incision) - The surgeon should incise the swelling only after confirming that it has suppurated properly and the pus should be drained out. Neither should un-suppurated swelling be incised nor suppurated one be neglected. If un-suppurated sotha is incised it results in profuse bleeding, pain and loss of tissue and if suppurated one is neglected the pus destroys the underlying tissues resulting in a nadivrana (fistula) (S.S.I.15/10).

The resultant ulcer should be treated by applying Jatyadi Ghrita (A.H.VI.25/66-68).

Guggulu vataka, vidangadi guggulu, Amritadya guggulu are useful internally (Yo. Ra. 572-573).

##### **5. KARNAPAKA (SUPPURATION IN THE EAR).**

A process of suppuration in any of the swellings occurring in the ear due to the aggravated condition of

pitta is called karnapaka. The disease is marked by a 57 blocked and putrid condition of the ear canal (S.S.VI.20/15).

Karnapaka may result from the suppuration of Karna vidradhi (Ma-Ni. 57/12).

#### **TREATMENT OF KARNAPAKA.**

The ear should be syringed with medicinal decoctions and the clogged material in the canal, if any, should be removed by a salaka (probe) or sringa (horn of animals) (S.S.VI. 21/58). A thin application of a paste of kaseru, sringataka, padma, gundra, saivala, utpala and kardama or a paste of hrivera, candana, usira, srotanjana, mukta-mani and gairika is useful.

Application of Gauryadi Ghrita is useful externally (S.S.IV. 17/6-13). Filling the ear with Madhukadi taila is beneficial (Bh. Ra. 62/65-69). All those treatments useful in pittaja visarpa are beneficial in a case of karnapaka (S.S.VI.21/58).

#### **6. KARNASRAVA( Otorrhoea).**

Any disease or secretion of pus from the ear caused by the deranged bodily Vayu stuffing the ear cavity owing to a blow on the head or a long immersion in water or a spontaneous suppuration and bursting of any abscess in the ear is called Karnasrava (S.S. VI 20/10).

### TREATMENT OF KARNASRAVA

DHAVANA - Affected ear should be washed with a decotion of Rajavriksadi or Surasadi group of drugs.

PURANA - Ear should be filled with any of the following;

- (i) Powder of the bark of Sarja and fruit juice of Karpasi mixed with honey,
- (ii) a mixture of the powder of laksa and sarjarasa (S.S. VI 21/41-44),
- (iii) Sarjiksara Taila,
- (iv) Sambukadi Taila,
- (v) Nisa Taila (Bh. Ra. 68, 40, 41),
- (vi) Rasanjanadi Yoga (Yo. Ra. 691).

Treatment procedures adopted in Krimikarna and putikarna are also useful in karnasrava(S.S.VI.21/39-40)

#### 7. PUTIKARNA (Foetid discharge from the Ear)

A discharge of condensed and foetid pus whether accompanied or hot with pain is set up by the local mucous accumulation in the passage of the ear having been liquified by the heat of aggravated pitta. This disease is called Putikarna (S.S.VI 20/15-16)

### **TREATMENT OF PUTIKARNA.**

Treatment procedures adopted in Karnasrava, Krimikarna and putikarna are similar (S.S.VI.21/39-40)

Sirovirecana - Errhines,

Karnapurana - Instillation of ear drops.

Pramarjana - Cleansing the canal by mopping.

Dhavana - Syringing with lotions or decoctions of  
Rajavriksadi or Surasadi group of drugs.

Dhupa - Fumigation.

Avacurnana - The affected part may be dusted with  
samudraphena curna or a mixture of laksa,  
rasanjana and sarja curna (S.S.VI. 21/40-50)

Dhupa with guggulu destroys the foetid smell (Yo.Ra.692)

Karnapurana (filling the ear) is done with any  
of the following:

- (i) Kusthadi Taila (yo.Ra. 692)
- (ii) Mixture of cow's urine and haratala (Bh.Ra.62/36)
- (iii) Nirgundi Rajanyadi Taila
- (iv) Vacalasanadi Taila (Sa.Yo.3/134-135)
- (v) Sambuka Taila
- (vi) Amradi Taila (Sa.Sam.III, 11/146-150).

Nirgundi Rajanyadi Taila is used as an errhine also.

Diseases like karnasotha, Karnarasa, and Karnarouda  
also result in PStikarna which shall be treated accordingly  
(A.H.VI. 18/15).

#### KARNAPURANA VIDHI (procedure To Fill the Ear)

The patient is made to lie on his side and the affected  
ear should be subjected to fomentation. The ear should be  
filled with any of the following; medicated luke warm unctuous  
substances or juices of medicinal herbs or urine of certain  
animals.

The fluid should be retained in the ear cavity for a  
period of 100, 500, or 1000 matras (one matra is the time

taken to rotate the hand around the knee joint and to  
map the fingers once - approximately one second). Filling  
the ear with Juices of the herbs should be done after the  
intake of food. The time of sunset is conducive for filling  
the ear with oil. (Yo.Ra.689).

A swelling behind or around the ear (parotid and mastoid region) appears at the final state of sannipata jvara, a type of fever resulting from a concerted action of all the three dosas. The swelling will be very difficult to treat and it may be life-threatening to the patient (C.S.VI.3/287).

The swelling occurs as a complication of sannipata-jvara (Adhamalla's commentary on Sa.Sam. I.7/146) and it will be red in colour accompanied with pain (Atankadarpana commentary on Ma. Ni. 2/23).

VIRARAJENDRA in his Sakalavaidya Samhita Sararnava, has described a type of sannipatajvara called 'Karnika sannipata' which is characterized by a swelling in karnamula (behind or around the ear).

**CLASSIFICATION OF KARNAMULA SOTHA.**

SARNGADHARA has enumerated five diseases (five types of swelling) occurring in karnamula as a complication of Sannipatajvara. They are:

- i. Vataja,
- ii. Pittaja,
- iii. Kaphaja,
- iv. Raktaja and
- v. Sannipata types of Karnamula sotha (Sa.Sam.I.7/146).



According to SUSRUTA, as quoted in Vaidya Jivana of LOLAMBARAJA, if the swelling occurs in the beginning stage of sannipatajvara it becomes incurable, if it appears in the middle stage it becomes curable with difficulty and it becomes easily treatable, if it appears at the final stage of sannipatajvara.

**TREATMENT OF KARNAMULA SOTHA.**

CARAKA has mentioned the following treatment procedures as useful in karnamulasottha.

- i. Raktavasecana - Blood letting,
- ii. Ghritapana - Intake of medicinal ghee,
- iii. Pradeha - Application of medicinal pastes having kapha, pitta alleviating property,
- iv. Nasya - Errhines having antipyretic property,
- v. Kavala - Gargling of the mouth (C.S.IV.3/288).

LOLAMBARAJA has prescribed eight recipes useful in karnika sannipata which include six decoctions, one lepa (application of paste) and one gandusa (gargling).

1. Decoctions: Decoctions prepared out of the following six combinations of drugs are useful internally.

- i. Roots of patala and kapittha, mahanimba, brihati, kantakari, goksura, triphala, trikatu, katuki, citraka and bhunimba.
- ii. Rasna, brihati, trikatu, katuki, musta, haritaki, puskarāmula, ativisa, karkatakasrihgi, bharngi and dhanyaka.

- iii. Bala, atibala, kupilu, trikatu, daruharidra, roots 63 of citraka, pippali, bark of arka and kantakari.
- iv. Triphala, trikatu, bhunimba, brihati, patala, goksura, roots of kapittha, prisnaparni and salaparni.
- v. Usira, udicya and musta.

2. Lepa: A paste of hingu, haridra, roots of indravaruni, saindhava lavana, devadaru and pippali with the latex of arka and ghee is useful for external application.

3. Gandusa: Gargling the mouth with a mixture of saindhava lavana and pippali is useful in Karnikasannipata.

HEARING LOSS (BADHIRYA) AND ITS TREATMENT.

The term 'badhirya ' is used in the Ayurvedic treatises to denote hearing loss. This term refers to a condition which results from a continuance in the sound carrying channels (sabdavaha arotas) of the deranged local vayu in combination with the deranged local kapha in the ear. (Ma. Ni.57/3).

The term 'Sabda vaha srotas ' refers to the whole of the space in the ear including the Karnasaskuli (pinna of the ear) (Atankadarpana commentary on Ma.Ni.57/5).

**ETIOLOGY OF HEARING LOSS.**

1. Congenital Hearing Loss:

SUSRUTA is of the opinion that a woman who wishes to have a healthy progeny should not expose herself to loud sound during menstrual period which otherwise would cause congenital hearing loss in the offspring. (S.S.III.2/25)

According to BHELA, if the pregnant woman indulges in the intake of dry foods which aggravate vata and if she suppresses the natural urges like urination, defaecation etc., it may result in abortion or miscarriage and if the foetus survives, the child may be born deaf(B.S.IV.5/14).

2. i) Hearing loss is caused by perverse or incompatible correlation of the sense organ with the sense object(sound). Transgression of the power of tolerance affects the sensory faculty.(A.H.I. 1/19)

ii) Certain diseases of the ear like Karnasotha, Karnarhuda, Karnarsas also cause hearing loss.(A.H.VI.18/15)

iii) Intake of expressed juice of cowdung with likuca,

or honey with likuca results in hearing loss(B.S.I. 12/11-12).65

iv) A chronic disease of the nose called pinasa which is characterised by nasal discharge may result in hearing loss. (S.S.VI.24/17)

v) Karnanada (tinnitus), if left untreated, gradually leads to hearing loss(A.H.VI.17/10).

vi) All vata aggravating factors may cause hearing loss. Karhabadhira (hearing loss) is one of diseases specifically caused by vata (C.S.I.20/11).

vii) Hearing loss may occur as a symptom in various bodily diseases. An analysis of hearing loss, a sensory disability, based on Madhava Nidana by Ramaprasad T.R. and Dattatri T.R. (unpublished) reveals that hearing loss may occur as an associated symptom in the following bodily diseases:

a. Udavarta - This term refers to a cluster of symptoms caused by the suppression of natural urges and reflexes. Hearing loss is resulted by suppressing the bodily urges like thirst, sneezing, yawning and hunger.

b. Arsas - (Haemorrhoids)

- Vataja Arsas.

c. pandu - (Anaemia)

- Sannipataja pandu due to a concerted action of all the dosas.

d. Mridbhaksanajanyapandu - resulting from habitual intake of mud.

e. Vardhakya sosa(Emaciation due to senility) and

f. Marmaksata - (injury to vital points in the body).

viii) Vocal abuse (talking in excess and talking in loud voice) also causes decreased hearing sensitivity.(C.S.VI.12/14).

### TREATMENT OF HEARING LOSS.

Due consideration should be given to the underlying cause of hearing loss. The disease conditions in which hearing loss occurs as an associated symptom should be treated properly.

The patient should abstain from indulging in sexual intercourse, anger, and intake of dry foods(Bh.Ra.62/33).

All the measures employed in combating vitiated vata should be used in a case of badhirya(Yo.Ra/690).

If Kapha is involved along with vata in the pathogenesis of hearing loss, one should resort to measures of combating kapha. (A.H.VI.18/22).

Ghritapana (intake of medicated ghee) is a common prescription in the diseases of the ear, (S.S.VI.31/3).

The following medicinal preparations are useful in a case of badhirya:

i) For Karnapurana (filling the ear):

- a. Apamarga Ksara Taila
- b. Bilva Taila
- c. Dasamuli Taila
- d. Madhukadi Taila
- e. Masa Taila
- f. Svarjika Ksara Taila
- g. Lasunadi Taila.(Bh.Ra.62/32-69).
- h. Narayana Taila (Sa.Sam.II.9/101-110)

- i. Bhringamalaka Taila (Sa.Yo.3/110)
  - j. Oil cooked with goats milk, sugar, yasti and root of biabi.
  - k. Oil cooked with bilvaphalamajja (pulp of bilva fruit), Cow's urine, milk and water are useful(S.S.VI.21/35-37)
- ii) for internal administration
- a. Bhairava Rasa
  - b. Sarivadi Vati
  - c. Induvati are useful in all the diseases of the ear.
- iii) Rasayana preparations which have the property of arresting senile degeneration like candraprabhavati, cyavana-prasa, Agastyaharitaki, euvarnabhasma, yogarajaguggulu etc., are also useful internally (Sa.Sam.II).

**TREATMENT OF TINNITUS AND VERTIGO**

1. TINNITUS: In Ayurvedic literature we come across three terms which denote 'tinnitus'. They are Karnanada, Karnaksvedha and Kamasvana.

(i) KARNANADA - Ringing and various other sounds in the ear are heard when the deranged vayu of the locality gets into the wrong way and remains there stuffed with the sound carrying channels of the ear. This disease is called Karnanada or Pranada (S.S.VI.20/7).

When the vata residing in the ear vavity results in a sensation of hearing sounds similar to a bheri(drum), mridanga ( a musical percussing instrument), sankha (conch shell), the condition is termed as karnanada (Ma.Ni.57/2).

According to VAGBHATA the patient hears different types of sounds repeatedly in the case of karnanada (A.H.VI.17/9).

VIDEHA, as quoted in the Madhukosa commentary on Ma. Ni. 57/2, is of the opinion that when the vata traversing in the region of the head gains entry into the ear, it produces various kinds of sounds which are heard by the patient. The sounds are similar to that of bhringa (honey-bee), kraunca ( a type of crane), manduka (frog), kaka(Crow), tantri (stringed musical instrument,) mridanga (musical percussing instrument), gita dhyaha (reciting songs), vamsa (bamboo flute), breathing sounds of serpent etc.

Vaidyavacaspati, a commentator of Madhava Nidana, justifies the consideration of karnanada as a separate diseases entity as it causes psychological distress (manoduhkha) though there is no pain accompanying it (Atankadarpana commentary on Ma.Ni.57/2).

Karnanada occurs as a symptom associated with Vataja areas (haemorrhoids of the anal canal caused by Vata)

A.H.III. 7/32.

KARNAKSVEDHA - An attack of karnaksvedha (a peculiar sound of the ear) may be attributed to such causes as to the use of any cold food or drink or exposure to cold wind etc., after being treated with sirovirecana (errhines) remedy, or to the continuance of the deranged local vata in the ear passage aggravated by excessive physical exercise by any wasting process in the system or by taking foods of astringent taste or of parching property (S.S.VI.20/9)

MADHAVA is of the opinion that the deranged vata in combination with pitta results in a sound in the ear resembling venughosa (sound produced by blowing a bamboo flute) and this condition is called 'Karnaksvedha (Ma.Ni.57/4).

In Madhukosa commentary on the above verse of Madhava. Nidana an attempt has been made to differentiate karnanada and karnaksvedha. The difference may be summarized as below:

(i) KARNANADA is caused by deranged vata, whereas in KARNAKSVEDHA there is also an involvement of other dosas like pitta, kapha, and rakta.

(ii) Karnaksvedha has a characteristic sound resembling that



of a flute where as in karnanada different types of sounds 70 are heard by the patient.

(iii)Vata combating measures should be adopted in a case of Karnanada and in karnaksvedha the treatment depends on the involvement of other dosas.

3. KARNASVANA - Karnasvana is another term used to denote 'sound in the ear'. It occurs as an associated symptom in sannipatajvara (C.S.IV.3/104 ) and vatajagrahani(A.H.III.8/22).

Sannipatajvara is characterized by hyperpyrexia resulting from a concerted action of all the doses and 'grahani ' is a disease of intestinal origin characterized by egestion of undigested food and alternate attack of constipation and diarrhoea.

Karnasvana is not specifically interpreted as karnanada or karnaksvedha. Karnanada & karnaksvedha may be included under karnasrvana.

#### **TREATMENT OF TINNITUS.**

Due consideration should be given to the underlying disease. The patient should be advised against indulging in dosa aggravating diets and habits.

Treatment procedures are similar for both Karnanada and Karnaksvedha. Treatments indicated for karnasula and Karnabadhirya are also useful in tinnitus (Yo.Ra. 690).

The affected ear should be filled with any of the following medicinal preparations,

- i) Katutaila
- ii) Apamarga ksara Taila

- iii) Svarjiksara Taila (Bh.Ra.62/25-27).
- iv) Guda Nagara Toya is useful as a nasya (errhine) (Bh.Ra.62/31).

## **II. VERTIGO (BHRAMA)**

The literal meaning of the word bhrama is 'rotation. AS a disease it has been defined as a feeling a person experiences while riding a rapidly moving rotating wheel. In Ayurvedic texts, viz., Caraka Samhita and Susruta Samhita, bhrama has been mentioned as a symptom in various diseases. In Madhava Nidana, bhrama has been recognised as a separate disease entity and is called 'Bhrama Roga' (Ma.Ni.17/19). In a severe condition the patient feels sudden whirling sensation of his own body or of the surrounding objects and falls down to the ground (Ma.Ni.17/19).

ETIOLOGY OF BHRAMA: VSta, Pitta and rajas ( a dosa related to mind) are considered as the causative factors for Bhrama (S.S.III.4/56).

Bhrama has been enumerated in Caraka Samhita as one of the diseases exclusively caused by Vata dosa (C.S.I.20/11) According to Cakrapanidatta, the renowned commentator of caraka samhita, bhrama, here, means 'illusion' or 'hallucination'.

VAGBHATA has mentioned 'bhrama' as a symptom caused by an increase of vatadosa, (A.H.I.11/6) Bhrama results when the quantum of kapha is pathologically decreased and both Vata as well as pitta are increased (C.S.I.17/57-98). Bhrama may also occur when kapha gets decreased inspite of the other dosas being normal (A.H.I.11/16). Pranavata (a sub-type of Vata)

when blocked up or invaded by the vitiated pitta dosa results 72 in bhrama (C.S.IV.28/221-222).

Bhrama is one of the diseases which occur when majjadhatu (bone marrow) is afflicted (C.S.I.28) and when there is wasting of bone marrow (A.H.I.11/19).

Excessive intake of foods which increase boily heat may also result in bhrama by an increase of pitta dosa (A.H.I. 9/81).

From the foregoing references, it can be discerned that the disturbed vata dosa either along or in combination with or obstructed by vitiated pittadosa is the causative factor for bhrama. Majjadhatu afflicted by any of the dosas or by undergoing wasting can cause this ailment. Rajas, a psychological factor, is also involved in the causation of bhrama (S.S.III.4/56).

Bhrama may be associated with various bodily diseases and psychological disorders. As a prodromal symptom, bhrama occurs in the following diseases.

- a. Apasmara - epilepsy (C.S.II.8/6).
- b. Arsas - Haemorrhoids (S.S.II.2/8).
- c. Jvara - Fever, hyperpyrexia (C.S.II.1/33)
- d. Trisna - Excess of thirst, polydypsea (S.S.VI.48/7).
- e. Unmade. - Psychiatric diseases (S.S.VI.62/7).

An analysis of bhrama based on Madhava Nidana (Ramaprasad T.I and Dattatri T.R. 1984) reveals that bhrama occurs as a symptom in the following diseases:

- a. Ajirna (indigestion)\*

- Vidagdhajirna

\*Characteristic symptom or equivalent of the Ayurvedic diagnosis given in the parenthesis and the sub-category of the disease is below the disease concerned.

- b. Amlapitta (hyperacidity)
  - Kaphad hika
  - Vatadhika
  - Sanilakapha
- c. Areas (haemorrhoids)
  - Vataja
- d. Udara (abdominal distension)
  - Pittaja
- e. Krimi (intestinal worms)
- f. Chardi (Vomiting)
  - Pittaja
- g. Parigarbhika (a disease in children who are breast-fed by the pregnant mothers).
- h. Pandu (anaemia)
  - Vataja
- i. Madatyaya (alcoholism)
  - Pittaja
- j. Dusivisa (toxic condition)
- k. Visarpa (erysipelas)
  - agnivisarpa
  - kardamavisarpa
  - granthi visarpa
  - pittaja visarpa
- l. Masurika (small pox)
- m. Vrana (physical injury)
  - Marmaksatavrana
- n. Sotha (oedema)
  - Pittaja.

o. Sula (abdominal pain)

- pittaja

p. Halimaka ( a stage of pandu)

As a complication (upadrava), bhrama appears in the following diseases.

a. Ajirna (chronic indigestion)

b. Amavata (rheumatism)

c. Asrigaara (metrorrhagia)

d. Madatyaya (alcoholism)

e. Hridroga (diseases of the heart)

In certain diseased conditions bhrama occurs as one of the symptoms of incurability (asadhya lakshana). Vatarakta (gouty affections), atisara (diarrhoea), and mudhagarbha (dystocia) are some of the diseases in which bhrama occurs as a symptom of incurability (Ramaprasad T.R. and Dattatri.T.R.198

#### **DIAGNOSIS AND TREATMENT OF BHRAMA.**

Efforts should be made to find out the causative factor and the underlying disease in which bhrama may be a symptom and the treatment should be given accordingly. The following treatment are said to be useful in a case of bhrama.

1. Intake of any of the following.

(a) Milk boiled with roots of satavari, roots of bala, and raisins mixed with seeds of bala.

(b) Milk boiled with seeds of bala.

(c) Decoction of duralabha mixed with ghee.

(d) Decoction of triphala.

(e) Milk.

2. Use of medicines called 'Rasayana' (which not only cure diseases but do away with senile decay also), or rubbing the head with

ghee of ten years of standing may also be prescribed and it should also be drunk.

3. Four tolas\* each of sunthi, pippali, satapuspa and haritaki, and twenty four tolas of molasses are to be rubbed together and made into pills. This medicine cures bhrama.

4. Incinerated copper, mixed with decoction of duralabha and ghee is to be taken for the cure of bhrama.

5. Murchantaka Rasa - Equal quantities of rasasindhara, copper pyrites, gold, silajatu and iron are to be rubbed together and subjected with the juice of satavari and vidanga. This medicine in the form of pills is useful in bhrama.

6. Kana Rasa - Incinerated mercury mixed with honey and pippali cures bhrama.

7. prameha Gaja Kesari, Laksmivilasa Rasa, Svarnamaksika Bhasma, Abhraka Bhasma, Loha Bhasma, Sutasekhara Rasa, Muktapisthi, Cyavanaprasa, Sarasvatarista, vasantakusumakara are all useful internally in a case of bhrama (Ra. Ja. Ni. Vol. 5).

#### **DIETS AND DEEDS USEFUL IN BHRAMA.**

Sprinkling or pouring of cold water on the head and face, taking dips in cold water, wearing necklaces made of gold and gems, smearing the body with cold unguents, treating

\*One tola is approximately equal to 11.5 gms.

the patient with breeze raised by hand fans, cold, cooling and perfumed drinks; resorting to rooms cooled with water-spray issuing out of artificial founts, enjoying the rays of the moon, inhaling of smokes of Jatamamsi, collyrium snuffs, hearing of strange and amusing speeches, living in shaded places, exposure to rain; rubbing the head with ghee rubbed with water for one hundred times, soft foods, bitters, paste prepared from paddy fried and divested of husks, barley and sali (a kind of red rice) as old as procurable, ghee of more than ten years standing, soup of mudga and kalaya, soup of meat of animals like raga and saraba, cows milk, sugar, kusmanda fruit of long standing, patola, banana, haritaki, pomegranates, coconut, madhuka flower, such pot herbs as tanduliya and upodaka, light food, good water, smearing the body with white sandal paste, drinking of water perfumed with camphor, inhaling of camphor, hearing of music, contemplation and patience are all wholesome in a case of bhrama.

**FOOD STUFFS AND DEEDS UNWHOLESOME IN BHRAMA.**

Betal leaves, pot herbs (patrasakha), rubbing teeth and cleansing, exposure to sun rays, foods and drinks ingential by combination, sexual intercourse, fomentation, pungents, suppression of thirst and sleep, intake of butter milk are all injurious in bhrama (Ra.Ja.Ni. Vol.5).

C H A P T E R-X.CRITICISMS, CONCLUSIONS AND RESEARCH PROBLEMS.

The present study of the available literature on the diseases of the ear and their treatment in Ayurveda was undertaken keeping in view a lack of comprehensive information on ear diseases. Information included in this compilation has been collected from various treatises of Ayurveda. An attempt has been made to arrange the available information in a systematic way.

CRITICISMS AND CONCLUSIONS.

- 1,1+ Information regarding the anatomy and physiology of the organ of hearing is very scanty. Except the information that in the internal ear there are spiral joints called "Sankhavarta" no details regarding the structures of the middle ear and internal ear is available in the Ayurvedic texts.
2. Classification of hearing loss based on the part of the ear affected is not available in the Ayurvedic texts.
3. Many a time a situation arises where in the details of a particular disease or treatment are not available under the concerned heading, but there will be profuse cross references. Forexample, in Susruta Samhita, twenty first chapter of uttara tantra we come across a statement which mean that the descriptions of the diseases like karnarsas, karnasotha, kamarbuda and their subeategories and their treatments also, are similar to that of agsas, sotha and arbuda occurring elsewhere in the body. This poses many problems. Though the signs of these diseases occuring in the ear may be taken to be similar to those occuring elsewhere in the body, the



symptoms and treatment procedures pose a special problem as 78 it is difficult to select and adopt the treatment procedures in the aforementioned ear diseases.

4. Vertigo (Bhrama) has been considered as a separate disease entity in Ayurveda, There is no mention of Bhrama accompanying a hearing disorder.

5. According Ayurveda, hearing loss may be congenital (S.S.I.24).

6. Hereditary nature of hearing loss is not given due consideration in Ayurvedic texts.

7. There is no clear indication of the site of the diseases in the ear. Diseases like karnasotha, karnarbnda, karnavidradhi, karnarsas, karnapaka, Karnasrava, and karnagutha may occur either in the external auditory meatus or in the middle ear cavity.

8. It is interesting and is of therapeutic importance to note that hearing loss is curable except in the case of very young children (congenital hearing loss?) and in senile age group.

9. All the diseases of the ear except sannipataja karnasula and four diseases of the pinna viz., pippali, tantrika, vidarika and kucikarnaka are amenable for treatment which means that hearing can be restored in case of middle ear pathology by medical or surgical treatment depending on the exigencies of the case.

10. Tinnitus (Kananada and Karnaksedha) is treatable according to Ayurveda. There are several prescriptions useful internally in tinnitus.

11. It may be assumed that it is possible to prevent hearing loss and diseases of the ear by having a recourse to a wholesome regimen as laid down in Ayurveda and by avoiding certain unwholesome diets and deeds.

**RESEARCH PROBLEMS:**

Keeping in view the foregoing criticisms and conclusions it is necessary that research should be carried out on the following lines:

i. A comparative research into the Ayurvedic concept of etiology, pathology and other aspects of the ear diseases should be carried out.

ii. All the diseases of the ear should be clinically established.

iii. Research into the Ayurvedic methods of management of ear diseases should be done.

iv. A clinical and experimental study of the efficacy of different treatment techniques should be conducted.

v. All the medicinal preparations said to be useful in ear diseases should be prepared and studied both experimentally and clinically.

vi. Chemical analysis of single drugs and preparations should be done and pharmacological actions of the drugs should be studied which would facilitate the development of a pharmacological system in Ayurvedic otology.

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APPENDIX I.BOTANICAL NAMES OF DRUGS.

Agnimantha	-	Prejma integrifolia.
Ananta	-	Ichnocarpus frutescens
Amalaka or Amalaki	-	Emblica officinalis.
Amra	-	Mangifera indica
Amrita	-	TinosporaCardifolia
Apamarga	-	Achyranthus aspera
Aragvadha	-	Cassia fistula
Ardraka	-	Fresh Zinziber officinale
Arka	-	Calotropis gigantea
Asvagandha	-	Withania somnifera
Asvattha	-	Ficus religiosa
Atibala	-	Abutilon indicum
Ativipa	-	A conitum heterophyllum
Bakula	-	Vernonia anthelmintica
Bala	-	Sida cordifolia
Bhadradaru	-	Cedrus deodaru
Bharngi	-	Clerodendron siphonarthus
Bimbi	-	Coccinea indica
Bhunimba	-	Swertia chirata
Bilva	-	Aegle marmelos
Bisa	-	Leaf stalk of Nelumbo nucifera
Brihati	-	Solanum indicum
Candana	-	Santalom album
Citraka	-	Plumbago zeylanica
Danti	-	Baliospermum montanum

Daruharidra	- Berberis aristata
Dasamula	- Roots of Bilva, Agnimantha, gyonaka, Gambhari, Patala, Goksuru, Brihati, Kantakari, prisnaparni and Salaparni
Devadaru	- Cedrus deodara
Dhanvayasa	- Fagonia Cretica
Dhanyaka	- Cprriander sativa
Draksa	- Vitis Vinifera
Duralabha	- Hedysaram alhagi
Eranda	- Ricinus Communis
Eravaruka	- Cucumis momordica
Gambhari	- Gmelina arborea
Goji	- Elephantopus scaber
Goksara	- Tribulus terrestries
Guduci	- see Amrita
Guggulu	- Balsupodendron mukul
Gundra	- Typha angustifolia
Gunja	- Abrus precatorius
Haridra	- Curcuma longa
Haritaki	- Terminalia Chebula
Hingu	- Ferula foetida
Hrasva Pancamula	- Roots of Brihati, Goksuru, Kanta- kari, Prisnaparni and Salaparni.



Hrivera	- Coleus vettiveroides
Ingudi	- Balanitus roxburghii
Jambu	- Eugenia Jambolana
Jatamamsi	- Nardostachys jatamansi
Jati	- Myristica fragrans
Jivaka	- Microstylis muscifera
jivanti	- Leptadenia reticulata
Kadali	- Musa paradisiaca
Kadamba-	- Anthocephalus Cadamba
Kakadani	- A variety of Physalis minima (kakamaci)
Kakananti	- See Gunja
Kakoli	- Liliium Polyphylum
Kalaya	- Lathyrus sativus
Kandukari	- Mucuna Prureins
Kantakari	- Solanam xanthocarpum
Kapikacchu	- See Kandukari
Kapittha	- Feronia limonia
Karanja	- Pongamia Pinnata
Karavira	- Nerium indicum
Kardama	- Eletteria cardamomum
Karpasa	- Gossypium herbaccum

Karkaruka	- Cucurbita pepo
Karkatasringi	- Pistaria integerrima
Karpura	- cinnamonam camphora
Kaseru	- Scirpus Kysoor
Kasmari	- see Gambhari
Katphala	- Myrica raga
Katuki	_ Picrorrhiza kurroa
Kodrava	- paspalum scrobiculatum
Ksiri vriksha	- Asvattha, Vata, udumbara, parisa and plaksa
Kulattha	- Dolichos biflorus
Kupliu	- Strychnos nuxvomica
Kutaja	- Holorrhena antidysenterica
Kusmanda	- Benincasa hispida
Kustha	Saussurea lappa
Lakuca	- Artocarpus lakoocha
Langali	- Gloriosa superba
Lasuna	- Allium sativum
Madhuka	- Glycyrrhiza glabra
Madhuka	- Madhuka indica
Mahanimba	- Melia azedarach
Manjistha	- Rubia cordifolia
Masa	- Phaseolas mungo
Masaparni	- Teramnus labialis
Masura	- Lens culinaris
Marica	- Piper nigrum
Matuluhga	- citrus medica

Mrinala	-	Nelumbo nucifera
Mudga	-	Phaseolus radiatus
Mudgaparni	-	Phaseolus trilobua
Mulaka	-	Raphanus sativus
Musta	-	Cyperus rotundus
Nagara	-	zinziber officinale
Nandyavarta	-	Tabernaemontana divaricata
Narikela	-	Cocos nucifera
Nata	-	Valeriana wallichii
Nimba	-	Azadiracta indica
Nispava	-	Dolichos lablab
Nyagrodha	-	Ficus bengalensis
Padma	-	See Mrinala
Palasa	-	Butea monosperma
Parisa	-	Thespesia populnea
Patala	-	Sterospermum suaveolens
Patha	-	Cissampelos pareira
Pathya	-	See Haritaki
patola	-	Trichosanthes dioica
Pattanga	-	Caesalpinia sappan
Pippali	-	peper longom
Plakpa	-	Ficus infectoria
Prisnaparni		Uraria picta
Priyala		Buchanania lanzen
Priyangu	-	Callicarpa macrophylla
Pundarika	-	A variety of 'Padma'

Puskaramula	- <i>Inula racemosa</i>
Rasna	- <i>pluchea lanceolata</i>
Rodhra	- <i>Symplocos racemosa</i>
Saivala	- <i>Zannichellia palustris</i>
Salaparni	- <i>Desmodium gangeticum</i>
Sali	- <i>Crize sativa</i>
Sarala	- <i>Pinus roxburghii</i>
Sariva	- <i>Hemedismus indicas</i>
Sarjarasa	- <i>Vateria indica</i>
Sarsapa	- <i>Brassica campastris</i>
satapuspa	- <i>Anethum sowa</i>
Satavari	- <i>Asparagus racemosis</i>
Sigru	- <i>Moringa pterygosperma</i>
Sigdhuvvara	- <i>Vitex negundo</i>
Sringataka	- <i>Trapa bispinosa</i>
Sunisannaka	- <i>Marsillia minuta</i>
Sunthi	- See Nagara
Surasa	- <i>Ocimum sanctum</i>
Suryavarta	- <i>Gynandropsis pentaphyla</i>
Syama	- <i>Ipomea petaloidea</i>
Syamaka	- <i>Echinochloa frumentacea</i>
Syonaka	- <i>Croxylum indicum</i>
Talapatra	- <i>Borassus flabellifer</i>
Tanduliyaka	- <i>Amaranthus campestris</i>
Tila	- <i>Sesamum indicum</i>
Tilvaka	- See Rodhra

Tinduka	-	Diospirus perigrina 90
Tiatidi	-	Thus paryiflora
Trayamana	-	Gentiana Kuroo
Trayanti	-	See Trayamana
Tripadi	-	Adiantum lunulatum
Trikatu	-	Combination of Pippali, Marica & Sunthi
Triphala	-	Fruits of Amalaki, Haritaki & Vibhitaki
Trivrit	-	Ipomoea turpethum
Udicya	-	Coleus vettiveroides
Udumbara	-	Ficus racemosa
Usira	-	Vetiveria zizanioides
Utpala	-	Nymphaca stellata
Vartaka	-	Solanum melongena
Vibhitaka or		
Vibhitaki	-	Terminalia belerica
Vidanga	-	Embelia ribes
Vidari	-	Ipomoea paniculata
Vriscikali	-	Pergularia extensa
Vata	-	See Nyagrodha
Yasthi	-	See Madhuka
Yava	-	Hordeum vulgare

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LIST OF DRUGS OF MINERAL AND ANIMAL ORIGIN

Gairika	- Red ochre
Grihadhuma	- Soot, black smoke deposited in the kitchen
Haratala	- Orpiment
Manasila	- Realgar
Muktamani	- Pearl
Rasanjana	- Yellow oxide of Mercury
Rasasindhura	- Red Sulphide of Mercury
Samudrapsiena	- - Vertebrae of Sea - cuttle
Saindhava lavana	- Rock salt
Silgjatu	- Black bitumen, asphalt
SrotaRjana	- Stibnite
Svarjiksara	- Impure sodium bicarbonate
Yavaksara	- Pottasium nitrate
Laksa	- Lac is resinous substance deposited on the twigs of trees such as the banyan, croton, acacia & people, by a small insect called the 'Carteria Lacca'.

APPENDIX IIIDESCRIPTION OF CERTAIN MEDICINAL PREPARATIONS

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ASAVA AND ARISTA - Asavas and Aristas are medicinal preparations made by soaking the drugs, either in the form of decoction (Kasaya), in a solution of sugar or jaggery, as the case may be, for a specified period of time, during which it undergoes a process of fermentation generating alcohol, thus facilitating the extraction of the active principles contained in the drugs. The alcohol so generated also serves as a preservative.

PUTAPAKA - In this process drugs are reduced to a pasty mass which is then wrapped up in the leaves of either Jambu, Vata, Kasmari, etc., firmly tied with a thread on vegetable fibre covered with a layer of clay from 1/2" to 1" in thickness and roasted over fire made of cow dung cakes. When the layer of clay assumes a brick red color, roasting is known to be complete. The ball, now is withdrawn from the fire & broken open. The juices of the roasted drugs is extracted.

SARA OR GHANA SARA - In this process the medicinal decoctions are boiled down to a solid consistency (Sa.Sa.II).

MADHU SUKTA - Sixty four parts of lemon juice, sixteen parts of honey, four parts of pippali powder should be mixed together and filled in an earthen pot. This pot should be buried in a heap of grains and should be taken out after three days and the content of the pot now, is termed as 'Dhanyamla'.

SURA - Sura is the product of fermenting the rice Gruel (Sa. Sam. II. 8/10).

RASA OR SVARASA - Svarasa is the juice which is obtained from a green medicinal plant by pounding it and then straining the liquid through a clean lien. (Sa. Sam.II.1/2)

SUKTA - Sukta is the product of fermenting the tubers, Roots, fruits etc., of different vegetable drugs along with a salt and oily substances. (Sa. Sam. II. 10/7-8)

DHANYAMLA - Dhanyamala is prepared by fermenting the powder of grains like Sali, kodrava etc., and useful as a gastric stimulant.

MADYA - A liquid preparation possessing intoxicating property.



APPROXIMATE PERIOD OF SOME OF THE AUTHORS,  
TREATISES AND COMMENTARIES.

01. Adhamalla's Dipika Commentary  
on Sarngadhara Samhita - - 15th C:, A D
02. Atankadarpana Commentary of  
vaidya Vacaspati on  
Madhava Nidana - 1260 A D
03. Bhava Misra, author of  
Bhavaprakasa - - 1550 A.D
04. Caraka - 1st C, A D
05. Cakrapani's Ayurveda Dipika  
Commentary on Caraka Samhita - 1040 A D
06. Dalhana's Nibandha Sangraha  
Commentary on Susruta samhita - 12th C.A D
07. Govindadasa, author of  
Bhaisajya Ratnavali - 19th C.A D
08. Kasirama's Gudhartha Dipika  
Commentary on sarngadhara  
Samhita - 1550 CAD
09. Lolambaraja, author of  
Vaidya Jivanam - 1633 AD
10. Madhava, author of  
Madhava Nidana - 700 AD
11. Madhukosa Commentary by Vijaya-  
raksita and Srikanthadatta on  
Madhavana Nidana - 13th C.AD

12. Sarngadhara, author of  
Sarngadhara Samhita - 1350 to 1400 AD
13. Sodhala, author of Gada Nigraha - 12th C.AD
14. Susruta, author of  
Susruta Samhita - 5th C.BC
15. Vagbhata, author of  
Astanga Hridayam - 6th C.AD
16. Virarajendra, author of  
Sakala Vaidya Samhita Sararnava - 17th C.AD
17. Yogaratnakara - 1676 AD.