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Anesthetic consideration in Prameha (Diabetics) *Dr.Alok kumar srivastava **Dr. D.N.Pande

Abstract: Madhumeh has been described by Acharya in ancient period wchich is useful in present era for diagnosis and treatment and also to understand and estimate the risk of anaesthesia in diabetic patient. Diabetes is a multiorgan affecting metabolic disorder which affect on every cells of the body. So its important to consider before planning for any surgery and before delivering any anaesthesia technique.

Key Words: Diabeties, Anaesthesia, Madhumeh, Prameh.

Introduction: Diabetes is a multisystem disorder caused by a relative or absolute lack of insulin. The prevalence of diabetes is approximately 7%. The majority (85%) have type 2 diabetes. With increasing obesity, reduced exercise and alterations in dietary habits, the prevalence of diabetes is increasing. For every case of diagnosed type 2 diabetes, there is another undiagnosed individual.

Types of diabetes: *Type-I*-insulin dependentor juvenile onset diabetes where insulin is required to to prevent hyperglycemi.

- 1. *Type-II*-maturity onset ornoninsulin dependent diabetes where there is relative deficiency of insulin or insulin resistance.this is usually seen in obese individuals and managed with diet control, weight loss and oral hypoglycemics.
- 2. *Type-III*-gestational diabetes-it occures during pregnancy.strict control of blood suger is essential to prevent fetal and maternal complications.
- 3. Type-IV-secondary to pancreatic disease (pancreatitis) or endocrinopathies(cushing syndrome, acromegaly).

Pathophysiology: The cleaving of proinsulin from the beta cells of the pancreas produces the peptide hormone insulin. Insulin has both excitatory and inhibitory effects. For example, it simultaneously stimulates lipogenesis from glucose whilst inhibiting lipolysis. It is the *inhibitory* actions, such as the tonic inhibition of lipolysis, proteolysis, glyogenolysis, gluconeogenesis and ketogenesis, that are the physiologically more important. Thus, the fasting hyperglycaemia of diabetes is due predominantly to overproduction of glucose by the liver as opposed to the commonly thought, underutilisation of glucose by peripheral tissues. In effect, insulin "keeps the brakes on" a number of key metabolic processes and prevents over-secretion of the "anti-insulin" hormones -glucagon, cortisol, growth hormone and catecholamines. These hormones also happen to be released as part of the "stress response" to surgery.

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In the absence of insulin, the "brake" is removed and a sort of metabolic mayhem ensues. The resulting hyperglycaemia leads to an osmotic diuresis and dehydration with associated sodium and potassium loss. In the absence of insulin (type 1 DM), ketogeneis also

Occurs with associated metabolic acidaemia – a state of diabetic ketoacidosis (DKA). If there is some residual insulin activity (type 2 DM), enough to inhibit lipolysis and ketogenesis but not gluconeogenesis, then a hyperosmolar non-ketotic (HONK) diabetic coma can ensue. Both states are medical emergencies with a high mortality; the specific treatments are beyond this review.

Chronic hyperglycaemia results in microvascular (including proliferative retinopathy and diabetic nephropathy), neuropathic (autonomic and peripheral neuropathies) and macrovascular (accelerated atherosclerosis) complications. Improved glycaemic control has a beneficial effect on the microvascular and neuropathic complications in type 2 diabetes. Blood pressure control is particularly important to help prevent macrovascular complications. It is the chronic complications that need careful assessment in the preoperative period.

Complications of diabetes: Microvascular complications are commoner in type I diabetes whereas macrovascular complications are commoner in type II DM.

MICROVASCULAR COMPLICATIONS-

- 1. Eye disease: Retinopathy, Macular edema, Cataract, Glaucoma
- 2. Neuropathy: .Sensory and motor, .Autonomic.
- 3. Nephropathies

MACROVASCULAR COMPLICATIONS-

.Coronary artery disease, .Peripheral vascular disease, .Cerebrovascular disease, .Gastrointestinal, Gastroparesis, Diarrhoea,.Genitourinary,Uropathies, Sexual dysfunctions, .Dermatological problems

ANESTHESIA STANDPOINTS OF DIABETICS:

Preoperative Assessment:

A standard assessment is required with specific attention to the following details:

Autonomic Neuropathy:

Autonomic dysfunction is detectable in up to 40% of type 1 diabetics. Only a few have the typical symptoms and signs of postural hypotension, gastroparesis, gustatory sweating, and nocturnal diarrhoea. It is worth assessing all diabetic patients for autonomic neuropathy. The easiest way is to assess heart rate variability. The normal heart rate should increase by over 15 beats/minute in response to deep breathing. Neuropathy is likely is there is less than 10 beats/minute increase. absence of sympathetic nervous system response leads to absence of warning sign of hypoglycemia, hypovolaemia and hypothermia. These patients have greater decrease in core body temperature than nondiabetics which may cause silent MI or sudden cardiac death in peri operative period. Other signs of autonomic neuropathy are-hypertension, painless myocardial ischemia, orthostatic hypotension, reduced heart rate response to atropine, resting tachycardia, early satiety, neurogenic bladder, lack of sweating, impotence.

Peripheral Neuropathy :

The commonest type of peripheral neuropathy is the "glove and stocking" type. However diabetics are also prone to mononeuritis multiplex and some particularly painful sensory neuropathies.

Poor patient positioning is more likely to result in pressure sores that are often slow to heal given poor peripheral blood flow. Documentation of existing neuropathy is prudent, especially if considering a regional technique.

After the spinal or epidural anesthesia patients are likely to developnew neurological deficits.

Cardiovascular: Diabetics are more prone to ischaemic heart disease (IHD), hypertension, peripheral vascular disease, cerebrovascular disease, cardiomyopathy and perioperative myocardial infarction. Ischaemia may be "silent" as a result of neuropathy. Routine ECG should be performed and appropriate stress testing if in doubt.

Autonomic neuropathy can result in sudden tachycardia, bradycardia, postural hypotension and profound hypotension after central neuraxial blockade.

Respiratory: Diabetics, especially the obese and smokers are more prone to respiratory infections and might also have abnormal spirometry. Chest physiotherapy, humidified oxygen and bronchodilators should be considered.

Gastrointestinal :Gastroparesis is characterised by a delay in gastric emptying without any gastric outlet obstruction. Increased gastric contents increase the risk of aspiration. Always ask about symptoms of reflux and consider a rapid sequence induction with cricoid pressure even in elective procedures. If available prescribe an H_2 antagonist such as ranitidine150mg plus metoclopramide 10mg, at least 2 hours preoperatively.

Airway: Glycosylation of collagen in the cervical and temporo-mandibular joints(stiff joint syndrome) can cause difficulty in intubation. To test if a patient is at risk, ask them to bring their hands together, as if praying, and simultaneously hyperextend to 90 degrees at the wrist joint. If the little fingers do not oppose, anticipate difficulty in intubation.

Renal: Diabetes is one of the commonest causes of end-stage renal failure. Check urea, creatinine and electrolytes. Specifically check the potassium especially in view of the possible need for suxamethonium as a result of gastroparesis. If unavailable, proteinuria is likely to indicate kidney damage. Ensure adequate hydration to reduce postoperative renal dysfunction.

Immune system :Diabetics are prone to all types of infection. Indeed an infection might actually worsen diabetic control. Tight glycaemic control will reduce the incidence and severity of infections and is routine practice in the management of sepsis and diabetic foot infections. Perform all invasive procedures with full asepsis.

Metabolic: Osmotic diuresis, hypovolaemia, keto acidosis.

Other :Autonomic neuropathy predisposes to hypothermia under anaesthesia . Diabetics are prone to cataracts and retinopathy. Prevent surges in blood pressure, for example at induction, as this might cause rupture of the new retinal vessels.

Hypoglycaemic Therapy :

Type 1 diabetics *always* require insulin.

Insulin can be extracted from bovine or porcine pancreas, or more commonly now, synthesised using recombinant DNA technology.

There are three types of insulin preparation, each classified by its duration of action.

Soluble insulin has a rapid onset and short duration of action. Intermediate and longer acting insulins are mixed with protamine or zinc to delay absorption, are insoluble and should only be given S/C.

Type 2 diabetics can be managed with diet alone, diet and oral agents or insulin, depending on the degree of insulin resistance and residual insulin activity.

There are four groups of oral hypoglycaemics (see table below). Oral Agent	Example	Mechanism of action	Usage	Watch for
Sulphonylureas	Gliclazide, Tolbutamide	Increases insulin release	Variable half- lives. Common	Drug interaction
Biguanides*	Metformin	Potentiates insulin	Commonest 1 st line if obese	Lactic acidosis
Thiazolidinediones	Rosiglitazone	Peripheral insulin action	Add on therapy	Liver function
Glucosidase Inhibitors	Acarbose	Delays rise in postprandial	Add on therapy	Liver function

Dietary advice and weight loss is the mainstay of therapy:

RELEVANT PRE-OPERATIVE INVESTIGATIONS

.Fasting blood suger-126 mg% or more .Random blood suger-200 mg% or more

.Glycosylated haemoglobin-9% or more indicates bad response to therapy.

.Other related inv. Like-blood urea, serum creatnin, sr.electrolyte, urine RM, ECG, CBC, LFT, RFT.

ANESTHSIA TECHNIQUE

Regional anaesthesia should be preferred whenever feasible because it has advantage as-

.Patient can alert the anaesthesiologist if he/she feels uneasy.

.Decreased stress response to surgery.

Peri-operative management

PREMEDICATION: Should be scheduled as first case to avoid metabolic complications. Prophylaxis against aspiration should be given (metoclopromide) to cope up delayed gastric emptying.

.Other anxiolytics, antisalagogues can be given.

MONITORING: .ECG-to detect any myocardial complications. .BLOOD SUGER-to be maintained beween 120 to 180 mg% to avoid hypoglycaemia. .Other routine monitoring-BP,PR,RR,sPO2, EtCO2,Temperature.

INDUCTION:

.Thiopentone .Propofol .Avoid ketamine as it raises blood sugar level.

MAINTAINANCE: .N2O+O2.Isoflurane/halothane/desflurane can be used.

.Avoid ether, trielene and chloroform as they raises blood sugar level.

.Perioperative bradycardia and hypotntions if developes I.V. adrinalin remains choice of drug as atropine and ephedrine sometime do not respond in autonomic neuropathies.

Management of blood glucose:

The primary goal of perioperative blood glucose maintinance to avoid hypoglycaemia.however loose blood sugar control(more than 180 mg%) has been associated with hyperosmolarity, infection and poor wound haeling.more important metabolic control may be lost perticularly in type II DM patients.

<u>**1.** For minor procedures (upto 20 min.)</u> where patient is likely to be allowed oral intake in couple of hours postoperatively, oral hypoglycemics to be allowed omitting morning dose before operation.

<u>2.For major abdominal surgeries</u>- patients should be shifted on insulin 48 hours before operation as following fashions-

A. PREOPERATIVE:

Bolus administration-D5W(1.5ml/kg/hr)with insulin(half usual AM dose). Continuous infusion- D5W(1.0ml/kg/hr)with regular insulin in a dose as Unit/hr=plasma glucose/150

INTRA OPERATIVE:

Bolus administration-regular insulin as per sliding scale

Continuous infusion-same as pre operative.

POST OPERATIVE:

Bolus administration-same as intraoperative.

Continuous infusion-same as pre operative.

В.

An alternative method to administer regular insulin as a continuous infusion.the advantage of this technique is more precise control of insulin delivery. Here 250 units of regular insulin is added to 250 ml of NS and administered according to following formula

Unit/hr=plasma glucose(mg/dl)/150

Post-operative management

Careful monitoring of -

Blood sugar level, BP, PR, RR, sPO2, input/output charting, etc.

Reason for close monitoring is to avoid progression of stress hyperglycaemia in recovery period.

If large volume of lactate containing IV fluid have been administered intraoperatively ,blood sugar will tend to rise 24 to 48 hrs post operatively as liver convert lactate to glucose.

Close monitoring of PONV as these patients era very much prone to nausea and vomiting because of pre existing gastro paresis.

AYURVEDIC REVIEW OF DIABETES AND ITS COMPLICATIONS:

Didetes has been explained very beautifully in ayurveda as PRAMEHA/MADHUMEHA.its etiologies, prodromal symptoms, complications and management has been covered under references as follows

.Carak nidan chapter	ch. 4 (prameha nidana)
.Carak chikitsa	ch. 6(prameha chikitsa)
.Carak indriya	ch. 9
.Sushruta nidana	ch. 6
.Sushruta chikitsa	ch. 11,12,&13
.Vagbhatta nidana	ch. 10
. Vagbhatta chikitsa	ch. 12
.Madhaw nidana	ch.33

Types of prameha-

1.Sahaj prameha-bija doshat(heriditory diabetes)
2.Kulaj prameha –kulaj pravrittifamilial diabetes)
3.Apathyaj prameha (acquired diabetes)

Carak has classified it as

1.Sthoola pramehi	-	(seen in DMI)
2.Krisha pramehi	-	(seen in DM II)

ETIOLOGIES:

.Asya sukham- sedentry life .Swapna - sedentry life .Mams rasa,guda,navannapana,dugdha vikara,-means subustances having high caloric diet.

PRODROMAL FEATURES:

.Karpadyoh suptata dahah-parasthesia & burning sensations in limbs.

.Mukha talu kantha sosha-thurst due to polyurea & dehydration.

.Pipasa-polydipsia

.Paridaha suptata change- parasthesia & burning sensations in limbs.

.Pipilikabhishcha mutrabhicharanam-glycossuria

COMPLICATIONS:

.Trishna- polydipsia

.Atisara-diarrhoea seen in gastroparesis in DM.

.Daha,daurbalya,arochaka,avipaka, putimamsa,vidhridhi.

PROGNOSIS:

.Madhumeha has been included in astha maha gada by carak in indriya stahana stating that it is incurabli one.(c.in.9)

.Mahagada are very tough to cure. (sushruta)

.Prameha resulting from bija doshaj are incurable.(c.ci.6)

Again Carak has included stoola persons(obese) in ASTAUNINDATIYA persons in c.su.21. As it is well known that *OBESE* persons are very much prone for DM II,ayurveda claims these persons *nindya* giving special attention that these patients are tough to be managed for any disease.

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Rakta-Pradoshaja Vikara in Ayurveda

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Abstract: Ayurveda, the science of life in general and especially the system of medicine, is unique. It is based and flourished on the valid fundamental doctrines which are proven to be useful through the ages. Ayurvedic approach towards the maintenance of health is the holistic. It can be observed in the context of protection and promotion of health as well as cure of different diseases. Either it is the definition of *Ayu* or *Ayurveda, Purusha* or *Karma-purusha, Swastha-purusha* or *Aswastha-purusha*, diagnosis or prognosis, principles of treatment or its applications; everything is discussed in a holistic way. If we see the pathological consideration of the diseases in Ayurveda, it includes the status of *dosha* as well as the *dhatu-upadhatu, mala, srotas, adhishthana, ahara, vihara, kala, satmya, sattwa, bala* and many more.

Concept of *dhatu* (body tissues) is vividly discussed in Ayurveda as it is the significant entity and considered to be the foundation of the body along with *dosha* and *mala*. The term 'Dhatu' means the entity which sustains and nourishes the body. But due to the improper diet or faulty life style or ignorance, when abnormalcy of *dhatu* or *dhatus* takes place, different diseases arise as discussed by Acharya Charaka, Acharya Sushrua and other scholars of Ayurveda. Dhatus are seven in number viz. Rasa, Rakta, Mamsa, Meda, Asthi, Majja and Shukra as discussed in Ayurveda. Rakta-Dhatu occupies significant place among all Dhatus and has been given the prime importance. Acharya Sushruta and Acharya Charaka consider Rakta as a cause of 'Jiva' and 'Pranavatana' respectively. Acharva Charaka has designed one separate chapter named 'Vidhi-Shonitiya-Adhyaya" dealing with factors responsible for proper formation of blood, features of pure blood and man having pure blood on the one hand and causes of blood impurities, diseases due to impurities and their principles of treatment on the other. Again in 'Vividhashitapitiya-Adhyaya' of Charaka-Samhita, Rakta-pradoshaja vikaras are enumerated. Acharva Sushruta has discussed 'Shonita-varnaniya Adhyaya' in Sutrasthana of Sushruta-Samhita dealing with the concept of Rakta-dhatu. Both the Sushruta and Vagbhata have discussed Siravvadha-vidhi Adhvava and Jalokavacharana for the treatment of Raktaja Rogas. Rakta-dhatu has been considered as dushya in many diseases e.g. Vishama-Jwara, Pittaja-Prameha, Rajayakshma, Kshatakshina, Shwayathu, Arsha, Vatarakta, Yonivyapad and so on. In the later stage of some diseases, there is association of Rakta-dhatu such as Atisara, Chhardi etc. These diseases are diagnosed raktaja on the basis of kshaya-vriddhi lakshanas of Rakta-dhatu and when dosha-shamaka-chikitsa does not respond in curable diseases. Treatment according to dhatu-dushti along with dosha-shamana chikitsa has been advocated in Rakta-pradoshaj vikaras in Ayurveda.

Keywords: Ayurveda, Rakta, vikara, chikitsa.

Background

Ayurveda *Chikitsa* advocates about the consideration of *dosha, bheshaja, desha, kala, bala, sharira (dhatu, upadhatu, mala, samhanana, pramana, sara,* different parts of the body), *ahara, satmya, sattwa, prakriti, vaya¹ etc.* multiple factors which make it the scientific. It is the strong belief of Ayurveda that no knowledge is derived about the entire object by a part of its source². Our ancient seers and sages were very sincere and keen observer of all the issues causing diseases and affecting treatment strategy. If we see the pathological consideration of the diseases in Ayurveda, it includes the status of *doshas* as well as the *dhatu-upadhatu, mala, srotas, adhishthana, ahara, vihara, kala, satmya, sattwa, bala* and many more.

Concept of *dhatu* (body tissues) is vividly discussed in Ayurveda as it is the significant entity and considered to be the foundation of the body along with *dosha* (body humours or biological forces) and mala (excreta)³. The term 'Dhatu' means the entity which sustains and nourishes the body. But due to the improper diet and life style or ignorance, when abnormalcy of a *dhatu* or Dhatus takes place, different diseases arise as discussed by Acharya Charaka and other scholars of Ayurveda. Dhatus are seven in number viz. Rasa, Rakta, Mamsa, Meda, Asthi, Majja and Shukra⁴ as accepted by all the scholars. Rakta-dhatu occupies significant place among all dhatus and has been given the prime importance. Acharva Sushruta and Acharva Charaka consider Rakta as a cause of 'Jiva⁵ and 'Pranayatana⁶ respectively. Acharya Charaka has designed a separate chapter named 'Vidhi-Shonitiya-Adhyaya'' dealing with factors responsible for proper formation of blood, features of pure blood and man having pure blood on the one hand and causes of blood impurities, diseases due to impurities and their principles of treatment on the other. Again in 'Vividhashitapitiya-Adhyaya' of Charaka-Samhita, Rakta-pradoshaja vikaras are enumerated such as Kushtha, Visarpa, Pidaka, Raktapitta, Asrigdara, Guda-Medhra-Asyapaka, Pliha, Gulma, Vidradhi, Nilika, Kamala, Vyanga, Piplu, Tilakalaka, Dadru, Charmadala, Shwitra, Pama, Kotha and Raktamandala. Acharya Sushruta has discussed 'Shonita-varnaniya Adhyaya' in Sutrasthana of Sushruta-Samhita dealing with the concept of Rakta-dhatu. Both the Sushruta and Vagbhata have discussed Siravyadha-vidhi Adhyaya (chapter dealing with the method of venesection) and Jalokavacharana (application of medicinal leeches) for the treatment of raktaja-rogas. Treatment according to dhatu-dushti has been advocated in Ayurveda and in Rakta-pradoshaja vikaras, it is observed in two ways i.e. general treatment and specific treatment. General treatment includes the use of purification / pacification of *Rakta* and *Pitta* (blood purifiers etc.), purification by *virechana* (purgation), fasting and raktamokshana (blood-letting)⁷. Specific treatment includes the disease specific treatment such as use of haemostatic medicines in bleeding diseases, tropical applications especially in skin diseases, healing in kshatakshina and so on.

What does it means by the term *Rakta* in Ayurveda?

Ayurveda consider *Rakta* as a *dhatu* (body tissue) which is the cause of life and *Dushya* (that which is vitiated by *doshas*). Again *Rakta* in Ayurveda in not only the RBC, WBC and platelets but it includes *Rasa* (plasma) also. As *Acharya Sushruta* says that the *Apya-Rasa* when enters into the liver and spleen, it turns into red colour and called as *Rakta-dhatu⁸*.

Factors responsible for normal haemopoiesis:

By observing the proper regimen with due regard to the place, time and homologation/acclimatization as described in the context of seasonal regimen, pure blood is formed in human beings⁹.

Characteristic features of pure blood:

Pure blood resembles with the colour of gold, fire fly, red lotus, lac and fruit of *Gunja* (Abrus precatorius Linn.). The signs and symptoms of the person having normal blood are clarity in complexion, normal functioning of sense organs, natural desire for the objects of the sense organs, uninterrupted digestion and motion, happiness, nourishment and strength¹⁰.

Causes of Rakta-pradosha or Rakta-dushti

Acharya Charaka, Acharya Sushruta and scholars of latter period have given due importance to *Rakta-dhatu* and elaborately discussed the factors which cause the *Rakta-pradosha* or *Raktadushti* (impurity or vitiation in blood). As per *Acharya Charaka*, habitual intake of unwholesome, sharp and hot wines and other similar drinks in large quantity, too much salt and alkali, sour and pungent substances, horse gram, black gram, legumes, sesame, oils, tubers, salads, meat of aquatic, marshy animals, those living in holes and snatching birds, excessive intake of curd, sour curd water, vinegars, and other sour fermented liquids, use of antagonistic, stale, and decomposed food items, excessive day sleep, after taking liquid, unctuous and heavy food, excessive intake of food, excessive anger, exposure to sun and wind, suppression of urge of vomiting, avoiding blood-letting in prescribed season (autumn), too much exertion, injury, heat, indigestion and taking meal during indigestion, over-meal, and naturally in the autumn, blood becomes impure¹¹. *Acharya Sushruta* has enumerated causes of vitiation of *Rakta* similar to *Acharya Charaka* with special emphasis over the *Pitta-prakopaka hetus*¹². According to *Acharya Vagbhata*, *Rakta* is vitiated by the intake of substances causing aggravation of *Pitta and Kapha dosha*¹³.

How to diagnose Raktadushti?

Dosha are considered the biological entities of the body on which health or ill-health depends. Unwholesome diet or life style causes disturbance in the normalcy of the *doshas* first and then pathogenesis starts involving the *dhatu* or *mala*. Due to vitiated *Vata*, blood becomes reddish, non-slimy, frothy and thin. Due to vitiation of *Pitta*, it becomes yellow, or blackish, with delayed coagulation because of heat and due to *Kapha*, it is slightly pale, slimy, fibrous and viscous. In combination of *doshas*, it acquires mixed up characters and in *Sannipata*, has symptoms of the three *doshas*¹⁴. *Acharya Sushruta* has enumerated symptoms almost similar to *Acharya Charaka* due to the vitiation of the blood by *Vatadi doshas*. Especially, he has enumerated *krishna* (blackish), *parusha* (rough) and delayed coagulation by *Vata, nila* (blue), *harita* (green), *shyava* (grayish), *visragandhi* (having smell similar to raw meat), disliked by ants and mosquitoes by *Pitta*, similar to *Gerikodaka* in appearance, *snigdha* (unctuous) *shitala* (cold), *bahala* (thick), *chirasravi* and appearance like muscles due to vitiation of *Kapha dosha* and appearance similar to *Kanjika* and specifically foetid due to *Sannipata*¹⁵. The symptoms similar to *Acharya Charaka* and *Sushruta* are described by *Acharya Vagbhata* in *Shiravyadha-vidhi Adhyaya* of *Ashtanga-Hridaya*.

Raktadushti born Diseases

It is the established theory of Ayurveda that *karana* (cause) produces the *Karya* (effect). In this context, *raktadushti* is the cause which produces different diseases depending upon the specific pathogenesis. All the scholars of Ayurveda have described the diseases due to *Raktadushti* in detail. *Brihat-trayi* (*Charaka-Samhita*, *Sushruta-Samhita* and *Ashtanga-Hridaya*) being the major authentic classics of Ayurveda, diseases due to *raktadushti* according to these three authentic classics are being mentioned in the following table-

Serial No.	Name of the disease	Charaka- Samhita ¹⁶	Sushruta- Samhita ¹⁷	Ashtanga- Hridaya ¹⁸
1.	Mukhapaka (stomatitis)/ Mukha-roga	+	+	+
2.	Akshiraga (redness in eyes)	+		
3.	Putighrana (Foetid smell from nose)	+		
4.	Asyagandha (foetid smell from mouth)	+		
5.	Gulma (abdominal lump)	+	+	+
6.	Upakusha (a disease of the gums)	+		
7.	Visarpa (Erysipelas)	+	+	+
8.	Raktapitta	+	+	+
9.	Pramilaka (sleepiness)	+		
10.	Vidradhi (abscess)	+	+	+
11.	Raktameha (haematuria)	+		
12.	Pradara (menorrhagia)/Raktapradara	+	+	
13.	Vatashonita (gout)	+	+	+
14.	Vaivarnya (disorder of complexion)	+		
15.	<i>Agnisada</i> (loss of appetite and digestive power)	+		+
16.	Pipasa (thirst)	+		+
17.	<i>Gurugatrata</i> (heaviness in body)	+		
18.	Santapa/ Jwara	+		+
19.	Atidaurbalya (Extreme debility)	+		
20.	Aruchi (anorexia)	+		
21.	Shiroruk (headache)/Shiroroga	+		+
22.	Vidaha (burning sensation after meal)	+		
23.	Tikta-amla-udgirana (bitter and sour	+		+
	eructation)/ Katu-amla udgirana			
24.	Klama (Exhaustion)	+		
25.	Krodha-prachurata (excessive anger)	+		
26.	Buddhi sammoha (confusion of mind)	+		
27.	Lavanasyata (saline taste in mouth)	+		+
28.	Sweda (sweating)	+		
29.	Sharira-daurgandhya (foetid smell in body)	+		
30.	Mada (Narcosis)	+		+
31.	Kampa (Tremors)	+		
32.	Swara-kshyaya (weakness of voice)	+		
33.	Tandratiyoga (excessive drowsiness)	+		
34.	Nidratiyoga (excessive sleep)	+		
35.	Atitamo-darshana (feeling of darkness)	+		
36.	Kandu (skin disorder like itching)	+		
37.	Aru (Pustules)	+		
38.	Kotha (patches)	+		
39.	Pidaka (boils)	+	+	
40.	Kushtha (skin diseases including leprosy)	+	+	+
41.	Charmadala adi (thick skin etc.)	+		

42.	Mashaka-roga		+	
43.	<i>Nilika-roga</i> (blue or black moles)	+	+	
44.	<i>Tilkalaka-roga</i> (moles)	+	+	
45.	Nyaccha-roga		+	
46.	Vyanga-roga	+	+	
47.	Indralupta-roga (alopecia)		+	
48.	Pliha roga	+	+	+
49.	Arsha-roga		+	
50.	Arbuda (tumour)		+	
51.	Angamarda (malaise)		+	
52.	Gudpak (proctitis)	+	+	
53.	Medhrapaka	+	+	
54.	Netra-roga			+
55.	Dadru-roga	+		
56.	Piplu-roga	+		
57.	Shwitra roga	+		
58.	Pama roga	+		
59.	Raktamandala	+		

Concept of Rakta-Pradoshaja Vikara

Rakta-pradoshaja vikara means diseases due to Rakta vitiated by sharira-doshas Viz. Vata, Pitta and Kapha, mainly due to aggravation of Pitta-dosha. Pitta-prakopaka ahara-vihara, lack of purification of body, improper intake of wines and exposure to toxic substances are main causes of Raktadushti. As per the Ayurvedic theory, whatever we intake, first of all affects doshas and then doshas affects the dhatus (Rasa, Rakta etc.) and Malas (excreta) according to causative factors in the stage of dosha-dushya sammurcchana (mixing up of doshas with dushyas). After dosha-dushya sammurcchana manifestation of disease takes place. Now a question comes that how to diagnose the Rakta-pradoshaja Vikaras? In this regard, we can follow the three dimensional approach i.e. clinical examinations, lab investigations and therapeutics. Ayurveda mainly focuses upon the clinical examination and in this context one can take the help of Raktadushti lakshanas according to dominant dosha, symptoms of Raktakshaya and Raktavriddhi and by having the knowledge of diseases due to Raktadushti mentioned in the classics of Ayurveda. For instance, if a patient is suffering from *twak-parushya* (roughness of the skin), craving for Amla-shita dravya (substances which are sour and cold) and sirashaithilya (looseness or emptiness of the veins) then physician should consider it due to Rakta-kshaya¹⁹.On the other hand, by observing the redness in body as well as eyes, *sirapurnatwa* (fullness of the veins) etc. Raktavriddhi should be diagnosed²⁰. Diagnosis of Rakta-pradoshaja vikaras is given on the base of therapeutic effects also. In this regard, Acharya Charaka says that if the curable disease treated by the application of *shita-ushna*, *snigdha-ruksha* etc. medicines does not get cure, a physician should consider it as *Raktaj-roga*. Further, he says that it should be treated by the application of Raktapitta-shamaka chikitsa, Virechana, Upavasa and Rakta-mokshana²¹.

Rakta-dushti can affect one or all the parts of the body depending upon the specific pathogenesis. In this context one thing is worth mentioning that all the *Raktaja-vikaras* are not due to *vriddhi* of *Rakta*. These diseases are due to either *vriddhi* or *kshaya* or vitiation of the *Rakta* (blood). *Tamo-darshana, Atidaurbalya, Kampavata rogas* are generally observed in *Rakta-kshaya* where as *Raktapitta, Raktapradara, Akshiraga* are due to *Raktavriddhi* and *Vyanga, Nilika, Piplu, Kushtha, Kandu, Dadru, Pama, Arbuda* etc. are due to vitiation of the *Rakta*. Vitiation of *Rakta* affects other *dhatus* and even *Agni* and *Upadhatus* also. *Daha, raga, paka and vaivarnya* are generally seen in *Raktaja Rogas*. All the four types of *Srotodushti* (*atipravritti, sanga, siragranthi* and *vimargagamana*) are observed in different *Rakta-pradoshaja vikaras*. *Atipravritti* and *vimargagaman* in *Raktapitta, Atipravritti* in *Raktapradara, sanga* type of *srotodushti* in *Arbuda, Vidradhi, Pidaka* and *siragranthi* type of *Vikriti* is seen in *Arsha-roga*.

If we see the diseases caused by *Raktadushti* in *Brihat-trayi* viz. *Charaka-Samhita, Sushruta-Samhita and Ashtanga-Hridaya*, it seems that *Acharya Charaka* has given a long list of diseases in comparison to other scholars. It includes the diseases in which vitiated blood is directly or indirectly involved in the pathology. It predominantly causes the diseases in some conditions where as with association of other entities in many other disease conditions.

How this concept is clinically Significant?

The concept of *Rakta-pradoshaja vikara* is significant in the prevention and promotion of health as well as cure of different diseases. By proper understanding of the concept, one can avoid the causes of *raktadushti* and follow the appropriate seasonal routine for better health on one hand and can manage certain diseases more efficiently considering the involvement of *Rakta* as a *dushya* on the other. According to Ayurvedic principles, treatment of the same *dosha* vary from person to person depending upon the involvement of *dushya, adhishthana, nidana*, body strength, age, homologation and stage of disease. Again only *doshanusara chikitsa* cannot serve the purpose in all the disease conditions, therefore *dushya-anusara chikitsa, adhishthanaanusara chikitsa, nidana-viparita chikitsa* is also advised for the desired effects. Treatment for particular *dhatu* and *mala* is discussed in Ayurveda. Certain drugs and diet act upon specific *dhatu* such as iron supplements for *Rakta-dhatu*, meat for *mamsa-dhatu*, fats for *Medo-dhatu*, calcium and phosphate for *asthi-dhatu* (bones), milk, *Ashvagandha* and *Sapheda Musali* for *Shukra-dhatu*.

This concept of *Rakta-pradoshaja vikara* is useful in developing target oriented medicine. In this regard *Rakta-prasadana* drugs, *Rakta-vardhaka* drugs and *Rakta-stambhana* drugs are discussed in Ayurveda. *Pitta-vardhaka* diet and life style causes vitiation of *Rakta*, therefore *Pittashamaka chikitsa* such as *virechana-karma*, fasting etc. can be administered. Blood-letting can be advised to remove impurities from the *Rakta* (blood).

Conclusions

After thorough study of the concept of *Rakta-pradoshaja vikara*, it can be stated firmly that Brihat-Travi of Ayurveda possesses very vast knowledge in relation to the Rakta and concept of Rakta-pradoshaja vikaras. Each and every Acharya has accepted Rakta as a root cause of life. Almost all the Acharvas have discussed about the etiopathogenesis, signs and symptoms, prognosis and treatment of Raktaja-rogas. Pittavardhak diet and faulty life style mainly causes *Raktaja rogas.* The symptoms of these *rogas* in general, are assessed according to the dominance of dosha as well as kshaya and vriddhi of Rakta. Specific symptoms are disease specific which vary from disease to disease. As per this review, Acharya Charak has given a long list of the Raktaja rogas which may be due to dealing with general diseases of the body. Acharya Sushrut's view is more prone towards the specific part of the body as surgeons mainly deal with the part specific surgery. However, he has given due significance and weight age to this concept keeping in view the minimal invasive surgery just to minimize the blood loss thereby protect the life and body strength. Treatment strategy advised for *Raktaja rogas* includes both the *shaman* and *shodhan-chikitsa*. The application of therapy should be according to need considering the status of dosha, strength of the disease and diseased one. Raktamokshana (blood-letting) is considered the main shodhana-chikitsa for Raktadushti such as Pracchana (incision) in *pindita* (coagulated blood), leech application in deep seated impure blood, Alabu, Ghati and Shringa for impurity located in skin and venepuncture for impurity of blood pervading whole the body²². Rakta and Pittashamak-chikitsa is generally advised in Raktapradoshaja vikaras. It shows that both the dosha and dushya are considered while advising the treatment in Raktaja-rogas.

Nutrition of all the cells and tissues of body depends upon the normalcy of the *Rakta* that's why this Concept is very much vital in clinical practices as well as in the maintenance of health. **References**

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Conceptual study of Vedanā and managment in Ayurveda

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ABSTRACT: Vedana is subjective feeling. There are many words which have been used for vedana e.g. Shoola, Dukha, Ruja, Pida. Being subjective feeling intensity of vedana differs from individual to individual, time to time, site to site. It depends greatly upon susceptibility of mind. Vedana sensation is more prominent in Vataja prakriti patients and other individuals with vitiation of Vata.

Dukha has been divided into three types:

1.Adhyatmik Dukha (psychosomatic pain),2-Adhibhautik Dukha (pain produced by animate and non animate substances), 3-Adhidaivik Dukha (caused by divine and evil sources)

,Further Adhyatmik Dukha has been divided into two types:

Sharirik Dukha (physical suffering), Manasik Dukha (Psychic suffering)

Charaka depict pain as Vedana which is both physical and mental measures. Mana (mind) is responsible for both happening and miseries (pain). In the manifestation of pain mind takes the major role. Vedanāsthāpana (वेदनास्थापन) is the Sanskrit name for a group of medicinal plants, classified as "anodynes (a drug used to lessen pain)", and originally composed by Caraka in his *Carakasamhitā sūtrasthāna* IV. The collection of herbs named Vedanāsthāpana is one of the fifty Mahākaṣāya

KEYWORD: Vedana ,dukh, shool vedanasthapak, mana,mahakasay.

INTRODUCTION: Ayurveda is the science of life and eternal in nature. It covers all the aspects of life either it is individual or social, mental or spiritual, economic or political, cultural or ethical and so on. The one and only aim of Ayurveda is to maintain dhātusāmya which leads to health (happiness). The required hygienic and curative subject matter has been discussed to achieve this goal. After all because of the ignorance or carelessness in use of diet and faulty life style (puruṣakāra) or past deeds (daiva) or both of them, a man suffers from different diseases

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and vedanā takes place. It is one type of vedanā. As the word vedanā has been used in two sense in Ayurveda i.e. sukhātmaka vedanā (feeling of happiness)and duḥkhātmaka vedanā (feeling of unhappiness).

स्पर्शेन्द्रियसंस्पर्शः स्पर्शो मानस एव च ।द्विविधः सुखदुःखानां वेदनानां प्रवर्तकः ॥ (चरकसंहिता शारीरस्थान-१/१३३)

MYTHOLOGICAL ORIGIN OF SHOOL:

Harita mentioned Mythological origin of shool. According to that once God Shiva became angry on Kamdev who broke his meditation and then God Shiva threw his trishul to him. Kamdev became afraid and escaped in the body of lord Vishnu. Then God Vishnu turned the trishul towards the earth and since then the Shool developed in the human body.

Looking towards the statement of Ācārya Caraka, it becomes clear that area of vedanā is very wide which includes both the healthy and diseased conditions. Here we should discuss the exact meaning of the word 'vedanā' in the light of different dictionaries.

According to Sabdakalpadruma-

वेदनं / वेदना- विद् + ल्युट् । अनुभवः ।तत्पर्य्यायः। संवेदः । इत्यमरः। ज्ञानम्। दुःखम्। इति मेदिनी। (शब्दकल्पद्रुम- चतुर्थ भाग, पृष्ठ संख्या-७००)

So all the types of pains come in the view of vedanā, which are the challenge for physicians in clinical practices. The substratum of all types of vedanā is manas and deha with indriyās as stated by Ācārya Caraka.

The role of physician is to relieve the duḥkhātamak vedanā and to maintain the sukhātmaka vedanā. We will discuss the duḥkhātmaka vedanā or different types of pain in this presentation as per Caraka Samhita. Disequilibrium state of doṣās is the root cause of all the diseases excluding exogenous diseases. Pain takes place in both the endogenous as well as exogenous diseases. Ācārya Caraka says that pravṛtti is responsible for all types of miseries where as nivṛtti leads to complete happiness. According to Ācārya Suśruta rujā or pain is due to vitiation of vāta doṣa.

वातादते नास्ति रुजा न पाकः पितादते नास्ति कफाञ्च पूयः। (स्श्र्तसंहिता सूत्रस्थान-17/12)

There can not be pain (shoola) without involvement of Vata but pitta and kapha influences the nature and intensity of pain. Thus all three doshas (vata, pitta, kapha) as a whole are responsible for the origin, development and perception of pain (Su. Su. 17/12).

SITES OF VEDANA / PAIN

The sense organs are the most important sites for the manifestation of happiness and miseries. In Ayurvedic literature attention has been directed towards origin, nature of pain as well as classification of pain.

The word "Shoola" is also used for painful sensation. Indeed Ayurveda has not only considered shoola as a symptom or as an independent disease entity but they have taken more comprehensive view regarding the etiology, pathology and management of pain. Shoola has been described as outcome of *Vata vyadhi*.

Shoola produces focal symptoms in the body. In Streeroga Shoola in the yoni (reproductive system) has been considered as a symptom of Vatala yoni. Thus it is clear that shoola has been considered as symptom as well as a disease in Ayurveda. Thus Vayu in a particular individual or in some individual at different time might be the guiding factor for the perception of painful stimulus varying from negligible to severe pain depending upon the predominance of Vayu in the individual at that time. Pain from all over the body is felt in manas (brain) except from hairs, small hairs, tip of nails, ingested food, excreta, urine (Cha. Sha. 1/136). Sushruta has described following types of Shoola:

- Parshava shoola Su. U. 42/188-119.
- Kukshi shoola Su. U. 42/124-125.
- Hridh chhula Su. U. 42/132
- Vasti shoola Su. U. 42/134
- Mutra shoola Su. U. 42/135
- Purish shoola Su. U. 42/136-139
- Awipakaja shoola Su. U. 42/142-144
- Prasav pida (labour pain)
- Shiro Ruja (Headache) Su. U. 25/3
- Shoola is also complication of disease Su U. 42/67
- Traumatic pain is also described by Sushruta in Su. Su. 5/42 and Su. Chi 2/82
- Pain due to Burn Su. Su. 12/16
- Pain due to foreign body Su. Su. 27/22
- Pain is commonest symptom of Trauma Su. Chi I/6

Many other descriptions of Shoola, Vedana, Pida, Ruja etc. exist in classical Indian literature

and many methods of preparation drugs have been described for alleviating painful condition.

Manifestation of Vedanā:

Type of vedanā (pain) can be explained in terms of involvement of dosa.

• In Vāta dosaja vikāra-

Bhedana- Nakhabheda, janubheda, dantabheda, vidbheda etc.

Śūla- pādaśūla, karņaśūla, aksiśūla etc.

Sputa- Pādasuptatā

Graha- Gulphagraha, prsthagraha, trikagraha

Udvestana- Piņdikodvestana, udarāvesta

Stambha- Urustambha, Śephastambha, Manyāstambha

In paittika vikāra-

Oṣa-	Heating		
Ploșa-	Scorching		
Dāha-	Burning		
Davathu-	boiling		
Dhūmaka-	fuming		
Vidāha-	Pirosis		
Antardāha-	Burning sensation inside the body		
Uṣmādhikya	- Excessive temperature		
Avadarana-	twagavadarana- cracking of skin		
T <u>ṛ</u> sṇādhikya	- Excessive thirst		
Pāka-	Mukhapāka,gudapāka,akṣipāka		

In Śleșmika vikāra-

Staimitya-	Timidness
Gaurava-	Gurugatratā
Srāva-	Mukhasrāva, Śleșmodgiraņa
Upalepa-	Hrdayopalepa,kanthopalepa

Analysis of pain:

Pain is the commonest complaint which brings a patient to a doctor.Systematic analysis of this symptom is essential in clinical practices. we should analyze any pain under the following considerable issues-

A. Site of pain- local or generalized. specific spot or in whole the affected area.

- B. Radiation of pain- Static or spread
- C. Severity- interfere with daily activities or night sleep
- D. Timing and duration- when did it start? How long it persist?
- E. Character- whether it is pricking, rubbing, burning type of pain.
- F. Occurrence or aggravation- what brings it on? What makes it worse?

G. Relief- What makes it better? Musculoskeletal pain- change in position, Pain of duodenal ulcer- eating and lower gastrointestinal pain- defecation or passage of wind is relieved. cardiac pain- caused by exertion is relieved by rest.

Ultimate relief of vedana-

योगे मोक्षे च सर्वासां वेदनानामवर्तनम्।मोक्षे निवृत्तिर्निःशेषा योगो मोक्षप्रवर्

(चरकसंहिता शारीरस्थान-१/१३७)

सर्वसंन्यासः स्खानाम्।(चरकसंहिता सूत्रस्थान-२५/४०)

- Multidimensional approach-
- शोधन उपक्रम- बस्तिर्वातहराणाम्, विरेचनं पित्तहराणाम्, वमनम् श्लेष्महराणाम्।
- प्रायोगिक स्वरूप- मदनफलं वमनास्थापनानुवासनोपयोगिनाम्, त्रिवृत् सुखविरेचनानाम्,चतुरंगुलो मृदुविरेचनानाम्,स्नुक्पयस्तीक्ष्णविरेचनानाम्, स्वेदो मार्दवकराणाम्।

शमन उपक्रम- सर्पिर्वातपित्तप्रशमनानाम्,तैलम् वातश्लेष्मप्रशमनानाम्, मधु श्लेष्मपित्तप्रशमनानाम्, अन्नं वृत्तिकराणाम्, सुरा श्रमहराणाम्,स्नानं श्रमहराणाम्, रास्ना वातहराणाम्,एरण्डमूलं वृष्यवातहराणाम्, हिन्गुनिर्यासश्छेदनीयदीपनीयानुलोमिकवातकफप्रशमनानाम्, गोक्षुरको मूत्रकृच्छ्रानिलहराणाम्

(चरकसंहिता सूत्रस्थान-२५/४०)

• Vedanasthapan dravya

- Śūlapraśamana mahākaṣaya
- Vedanāpraśamana mahākaṣaya-
- Angamardapraśamana mahākaṣaya-
- Śramahara mahākaṣaya
- Vātaśamana gaņa

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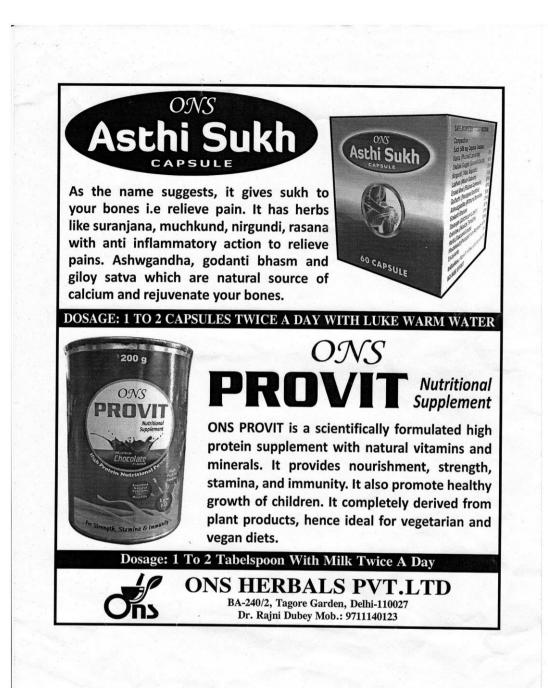
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	Lox	A	nawin	
	LUX	AI	lawin	
	(Lignocaine) (Bupiv	acaine)	
	REGIONAL A	NAESTHETICS		
Fent Supridol	Riddof	Myorelex	Neovec	Neocuron
(Fentanyl) (Tramadol)	(Pentazocine)	(Succinyl)	(Vecuronium)	(Pancuronium)
ANALGE Nex		Μ	USCLE RELAXAN	rs
(Naloxo	ne)		(Neostigmine)	
OPIOID ANTAGONIST		REVERSAL AGENTS		
Thiosol	Aneket	Hypnoth	ane	Sofane
(Thiopentone)	(Ketamine)	(Halotha	ne)	(Isoflurane)
INDUCTION AC	GENTS			
Mezolam			INHALATION	AGENTS
N	leomit	Tropin	e Pyre	olate
(Midazolam) (Onda	nsetron)	(Atropi	ine) (Gly	copyrrolate)
PREMEDICANTS			ANTICHOLINERG	SICS
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Status of Marma Chikitsa in Ayurvedic diagnosis and treatment

Abstract: Marma points, considered "doorways" or "entry points" into our body's inner pathways, when gently pressed on the skin can stimulate a chain of positive events. Marma therapy is the energy healing of **Ayurved**, utilizing 107 points or "doorways" into the body and consciousness. Each point allows for entry into the "chakras"- the vibrational energy centers along the spine in the "subtle" body, releasing blocked energy and stimulating pranic flow.

Key word:-Marma, snayu, kshipra marma, janu marma, urvi marma, kukundar

Introduction: A review of Ayurvedic text clearly indicates that the components namely *Dosha*, *Dhatu*, *Mala*, *Agni*, and *Srotas* often referred as *Samprapati Ghatakas* (components of the pathogenesis) are given prime importance in the treatment of any disease, in general, while the concept of *Marma* is included in the prognostic evaluation of a vyadhi. Sushruta defines *Marma* as a combination of structures like *Mamsa*, *Sira*, *Snayu*, *Asthi*, and *Sandhi*. The subject on *Marma* was well explained in terms of *Prana* and also from medical and surgical perspectives.

The surgical importance of *Marma*, as described in Sushruta Samhita, was presented in various tabular forms.

Evidence-based clinical *Marma*-related data was produced on certain conditions like lumbar pain, radiating leg pain, lumbago, rheumatoid arthritis, *Amavat*, knee joint pain(sandhivat), cervical spondylosis, headache, etc. The role of *Marma* in preventive and promotive health measures was nicely presented and specifically highlighted the application of *Abhyanga* with oil on *Marma* areas. Line of treatment for *Tri-marmas* that is *Shiras*, *Hridaya*, and *Vasti* were described with mere emphasis on *Shirorogas* and tension headaches.

Aim and Objective:-To review Ayurvedic literature for evaluation of marma chikitsa

Therapeutic Use of Marma Points:-Marma points are manipulated with several techniques. Rubbing the Marma, applying pressure, oil massage, herbal paste application and fomentation may be used according to the diseased condition.

Marma Points For Pain Relief:-Instant pain relief is the motive of Marma therapy. Stimulation of Marma can produce analgesia by secreting a number of prostaglandin inhibitors, endorphins, interferon and other opioid-like substances which are a hundred times more potent than opium.¹ Instant pain relief with Marma therapy is possible within no time.

"The Sushruta Samhita states there are 22 marmas on the lower extremities, 22 on the arms, 12 on the abdomen and chest, 14 on the back, and 37 on the neck and head. Marmas range in size from one-half angula to four angula(angula means:the width of the middle finger measured across the medial interphalangeal joint). Smaller marmas can be called points, but the larger marmas correspond to a zone or region. There are major marmas that correlate to the seven spinal chakras, internal organs have marma points, and joints may potentially be marma regions.

In addition to the 107 classical marmas, each individual will also have their own unique marmas relative to their age, build, weight, posture, behavior, and diet. The entire skin surface of the body can be thought of as the 108th marma, conjoining all the other marmas."

Eighteen Yogic Marma Regions and Main Corresponding Marmas

1) The toes are the starting point. Kshipra marma.

2) The ankles: four and a half finger units from the toes. Gulpha marma.

3) The middle of the calf: Indrabasti marma.

4) The root of the knee: eleven finger units from the middle of the calf: Janu Mula Marma.

5) The center of the knee: Janu marma.

6) The middle of the thigh: Urvi marma.

7) The anus: Guda marma.

8) The middle of the hip: Kukundara and Nitamba marmas.

9) The root of the urethra: Vitapa marma.

10) The navel: Nabhi marma.

11) The center of the heart: Hridaya marma.

12) The base of the throat: Nila marma.

13) The root of the tongue: Shringataka marma.

14) The root of the nose. This marma is not one of the classical 107, but control of it can be related to Phana marma by the nostrils at the base of the nose.

15) The center of the eyes: Apanga marma.

16) The middle of the brows: Sthapani marma.

17) The center of the forehead. This marma point here is not one of the classical 107 but is still very useful, Anja marma.

18) The top of the head: Adhipati marma.

These eighteen marma regions include points for seven chakras. The body can be divided into five regions relative to the five elements. We can treat the elements in the body according to the marmas in the portion that relates to them.

1. Marmas in the reasion from the feet belong to the Earth/Prithivi Element. Structures affected are: pelvic bone, skeletal structure, bones, cartilage, muscle, tendons, hair, teeth, flesh, skin and feces. Key marma: Talahridaya on thefeet.

2. Marmas in the reason from the knee to the anus belong to the Water/Apas Element. Structures affected are: peritoneal fluid, urine, sweat, CSF, plasma, blood, saliva, digestive juices, pleural fluid and cytoplasm. Key marma: Urvi marma on the middle of the thighs.

3. Marmas in the reason from the anus to the heart belong to the Fire/Tejas Element. Structures affected are: stomach, digestive enzymes, liver, neurotransmitters, eyes, cellular metabolism, nucleic acids, agni component of each dhatu. Key marma: Nabhi marma on the navel.

4. Marmas in the reason from the heart to the middle of the eyebrows belong to the Air/Vayu Element. Structures affected are: lungs, colon, respiration, circulation, cytoplasmic movement, movement of chromosomes, RNA/DNA molecules, all voluntary and involuntary actions, movement of neurons and skin. Key marma: Phana marma on the nostrils.

5. Marmas in the reason from the middle of the brow to the top of the head belong to the Akasha element. Structures affected are: cranial space, sinus space, nasal space, ventricular space, thoracic space, abdominal cavity, oral cavity, intracranial space, respiratory tract, GI tract, veins, ligaments, synaptic space, intercellular space, cell channels, tubes, pores, ears. Key marma: Adhipati marma on thehead.

An Ayurvedic practitioner can obtain information for use in a client's treatment plan by observing an individual's constitution, diet, daily habits, relationships, age, season, and stress level. Observation via the interview of the client and during the treatment itself can lend to the diagnosis and treatment plan. Overtime, patterns become present to the practitioner.

Shalya Karma and Abhighat to Marma

The *Sushruta* was a surgeon as well as the author of the ancient Sanskrit text *Sushruta Samhita*. He mentioned the importance of the knowledge of Marma in surgical practice. He stated that in any surgical procedure, the knowledge of Marma and other structures like ligament, nerves, muscles, bones, veins and arteries is essential.

An injury to an area adjacent to a Marma, whether incidental or not, exhibits the same series of symptoms as an actually affected Marma. A cut, incision, blow (*Abhighata*), burn, puncture, or injury by any other cause will affect the Marma. A direct injury to a Marma, whether it severe or slight, is sure to bring deformity or death if not treated.²

While performing *kshara karma* (the application of plant alkalis) the knowledge of marma is essential. *Kshara* can act like a surgical instrument hence one should be cautious. The area of Marma is very sensitive hence a surgeon should take precaution while performing any surgery. One should also take precaution while applying anything onto the Marma areas or near these vital points.

Marma Stimulation:-

Marma points are stimulated by massage. Massaging the Marma will give the healing effects to specific areas of the mind-body system. Marmas are sensitive areas so massage should be done carefully. Apply steady pressure on the Marma point for approximately 1-2 minutes.For toning and strengthening the internal organs, massage should be done in a clockwise direction. This pacifies Vata and Kapha but may stimulate Pitta dosha. Counterclockwise movement is calming and pacifying. It soothes Pitta dosha but may stimulate vata and kapha dosha. Linear movement balances vata dosha.

For Vāta prakriti, use sesame oil in large quantity. For Pitta prakriti, use coconut oil, ghee or sandalwood oil. For Kapha prakriti use mustard oil or sunflower oil.

Anatomical and applied physiological information about Marma is essential for a panchakarma therapist as it helps to avoid the possibility of any kind of injury or trauma to these vital spots during therapy. It also helps in the selection of appropriate therapeutic interventions through Marma points.

Conclusion: Marma can actually alter consciousness, and change one's awareness. From that place a person can move forward with self care, creativity, and renewed energy. I witness this in my practice with patient again and again.

This is profound!

So Marma Chikitsa is also a spiritual therapy as it can affect one's spirit.

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Conceptual study of vedanā and managment in Ayurveda

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ABSTRACT

vedana is subjective feeling. There are many words which have been used for vedana e.g. Shoola, Dukha, Ruja, Pida. Being subjective feeling intensity of vedana differs from individual to individual, time to time, site to site. It depends greatly upon susceptibility of mind. Vedana sensation is more prominent in Vataja prakriti patients and other individuals with vitiation of Vata.

Dukha has been divided into three types:

1. Adhyatmik Dukha (psychosomatic pain),2-Adhibhautik Dukha (pain produced by animate and non animate substances), 3-Adhidaivik Dukha (caused by divine and evil sources)

,Further Adhyatmik Dukha has been divided into two types:

Sharirik Dukha (physical suffering), Manasik Dukha (Psychic suffering)

Charaka depict pain as Vedana which is both physical and mental measures. Mana (mind) is responsible for both happening and miseries (pain). In the manifestation of pain mind takes the major role. Vedanāsthāpana (वेदनास्थापन) is the Sanskrit name for a group of medicinal plants, classified as "anodynes (a drug used to lessen pain)", and originally composed by Caraka in his *Carakasaṃhitā sūtrasthāna* IV. The collection of herbs named Vedanāsthāpana is one of the fifty Mahākaṣāya

KEYWORD-vedana ,dukh, shool vedanasthapak, mana,mahakasay.

INTRODUCTION

Ayurveda is the science of life and eternal in nature. It covers all the aspects of life either it is individual or social, mental or spiritual, economic or political, cultural or ethical and so on. The one and only aim of Ayurveda is to maintain dhātusāmya which leads to health (happiness). The required hygienic and curative subject matter has been discussed to achieve this goal. After all because of the ignorance or carelessness in use of diet and faulty life style (puruṣakāra) or past deeds (daiva) or both of them , a man suffers from different diseases and vedanā takes place. It is one type of vedanā. As the word vedanā has been used in two sense in Ayurveda i.e. sukhātmaka vedanā (feeling of happiness)and duḥkhātmaka vedanā (feeling of unhappiness).

> स्पर्शे न्द्रियसंस्पर्शः स्पर्शा मानस एव च ।

दविवि

धः सुखदुःखानां वेदनानां प्रवर्तकः ॥

(चरकसंहिता शारीरस्थान-१/१३३)

MYTHOLOGICAL ORIGIN OF SHOOL

Harita mentioned Mythological origin of shool.Acording to that once God Shiva became angry on Kamdev who broke his meditation and then God Shiva threw his trishul to him. Kamdev became afraid and escaped in the body of lord Vishnu.Then God Vishnu turned the trishul towards the earth and since then the Shool developed in the human body.

Looking towards the statement of Ācārya Caraka, it becomes clear that area of vedanā is very wide which includes both the healthy and diseased conditions. Here we should discuss the exact meaning of the word 'vedanā' in the light of different dictionaries.

According to Sabdakalpadruma-

वेदनं / वेदना-विद् + ल्युट् ।

अनुभवः ।तत्पर्य्यायः। संवेदः । इत्यमरः। ज्ञानम्। दुःखम्।

इति मेदिनी। (शब्दकल्पद्रुम-चतुर्थ भाग, पृष्ठ संख्या-५००)

So all the types of pains come in the view of vedanā, which are the challenge for physicians in clinical practices. The substratum of all types of vedanā is manas and deha with indriyās as stated by Ācārya Caraka.

The role of physician is to relieve the duḥkhātamak vedanā and to maintain the sukhātmaka vedanā.We will discuss the duḥkhātmaka vedanā or different types of pain in this presentation as per Caraka Samhita.Disequilibrium state of doṣās is the root cause of all the diseases excluding exogenous diseases. Pain takes place in both the endogenous as well as exogenous diseases. Ācārya Caraka says that pravṛtti is responsible for all types of miseries where as nivṛtti leads to complete happiness.According to Ācārya Suśruta rujā or pain is due to vitiation of vāta doṣa.

वातादते नास्ति रुजा न पाकः पितादते नास्ति कफाञ्च प्यः।

(स्श्र्तसंहिता सूत्रस्थान-17/12)

There can not be pain (shoola) without involvement of Vata but pitta and kapha influences the nature and intensity of pain. Thus all three doshas (vata, pitta, kapha) as a whole are responsible for the origin, development and perception of pain (Su. Su. 17/12).

SITES OF VEDANA / PAIN

The sense organs are the most important sites for the manifestation of happiness and miseries. In Ayurvedic literature attention has been directed towards origin, nature of pain as well as classification of pain.

The word "Shoola" is also used for painful sensation. Indeed Ayurveda has not only considered shoola as a symptom or as an independent disease entity but they have taken more comprehensive view regarding the etiology, pathology and management of pain. Shoola has been described as outcome of *Vata vyadhi*.

Shoola produces focal symptoms in the body. In Streeroga Shoola in the yoni (reproductive system) has been considered as a symptom of Vatala yoni. Thus it is clear that shoola has been considered as symptom as well as a disease in Ayurveda. Thus Vayu in a particular individual or in some individual at different time might be the guiding factor for the perception of painful stimulus varying from negligible to severe pain depending upon the predominance of Vayu in the individual at that time. Pain from all over the body is felt in manas (brain) except from hairs, small hairs, tip of nails, ingested food, excreta, urine (Cha. Sha. 1/136). Sushruta has described following types of Shoola:

- Parshava shoola Su. U. 42/188-119.
- Kukshi shoola Su. U. 42/124-125.
- Hridh chhula Su. U. 42/132
- Vasti shoola Su. U. 42/134
- Mutra shoola Su. U. 42/135
- Purish shoola Su. U. 42/136-139
- Awipakaja shoola Su. U. 42/142-144
- Prasav pida (labour pain)
- Shiro Ruja (Headache) Su. U. 25/3
- Shoola is also complication of disease Su U. 42/67
- Traumatic pain is also described by Sushruta in Su. Su. 5/42 and Su. Chi 2/82
- Pain due to Burn Su. Su. 12/16
- Pain due to foreign body Su. Su. 27/22
- Pain is commonest symptom of Trauma Su. Chi I/6

Many other descriptions of Shoola, Vedana, Pida, Ruja etc. exist in classical Indian literature and many methods of preparation drugs have been described for alleviating painful condition

Manifestation of vedanā

Type of vedanā (pain) can be explained in terms of involvement of doṣa.

• In Vāta dosaja vikāra-

Bhedana- Nakhabheda, janubheda, dantabheda, vidbheda etc.

Śūla- pādaśūla, karņaśūla, aksiśūla etc.

Sputa- Pādasuptatā

Graha- Gulphagraha, pṛṣṭhagraha, trikagraha

Udvestana- Piņdikodvestana, udarāvesta

Stambha- Urustambha, Śephastambha, Manyāstambha

In paittika vikāra-

Oșa-	Heating			
Ploșa-	Scorching			
Dāha-	Burning			
Davathu-	boiling			
Dhūmaka-	fuming			
Vidāha-	Vidāha- Pirosis			
Antardāha-	Antardāha- Burning sensation inside the body			
Ușmādhikya- Excessive temperature				
Avadaraṇa-	twagavadarana- cracking of skin			
Tṛṣṇādhikya- Excessive thirst				
Pāka-	Pāka- Mukhapāka,gudapāka,akṣipāka			
In Śleșmika vikāra-				
Staimitya-	ya- Timidness			
Gaurava-	Gurugatratā			
Srāva-	Mukhasrāva, Śleșmodgiraņa			

Upalepa- Hrdayopalepa,kanthopalepa

Analysis of pain

Pain is the commonest complaint which brings a patient to a doctor.Systematic analysis of this symptom is essential in clinical practices. we should analyze any pain under the following considerable issues-

- A. Site of pain- local or generalized. specific spot or in whole the affected area.
- B. Radiation of pain- Static or spread
- C. Severity- interfere with daily activities or night sleep
- D. Timing and duration-

when did it start? How long it persist?

E. Character- whether it is pricking, rubbing, burning type of pain.

F. Occurrence or aggravation- what brings it on? What makes it worse?

G. Relief- What makes it better? Musculoskeletal pain- change in position, Pain of duodenal ulcer- eating and lower gastrointestinal pain- defecation or passage of wind is relieved. cardiac pain- caused by exertion is relieved by rest.

• Ultimate relief of vedana-

योगे मोक्षे च सर्वासां वेदनानामवर्तनम्।मोक्षे निवृत्तिर्निःशेषा योगो मोक्षप्रवर्

(चरकसंहिता शारीरस्थान-१/१३७)

सर्वसंन्यासः स्खानाम्।

(चरकसंहिता सूत्रस्थान-२५/४०)

- Multidimensional approach-
- शोधन उपक्रम- बस्तिर्वातहराणाम्, विरेचनं पित्तहराणाम्, वमनम् श्लेष्महराणाम्।
- प्रायोगिक स्वरूप- मदनफलं वमनास्थापनानुवासनोपयोगिनाम्, त्रिवृत् सुखविरेचनानाम्, चतुरंगुलो मृदुविरेचनानाम्, स्नुक्पयस्तीक्ष्णविरेचनानाम्, स्वेदो मार्दवकराणाम्।

शमन उपक्रम- सर्पिर्वातपित्तप्रशमनानाम्,तैलम् वातश्लेष्मप्रशमनानाम्, मधु श्लेष्मपित्तप्रशमनानाम्, अन्नं वृत्तिकराणाम्, सुरा श्रमहराणाम्,स्नानं श्रमहराणाम्, रास्ना वातहराणाम्,एरण्डमूलं वृष्यवातहराणाम्,

हिन्गुनिर्यासश्छेदनीयदीपनीयानुलोमिकवातकफप्रशमनानाम्, गोक्षुरको मूत्रकृच्छ्रानिलहराणाम्

(चरकसंहिता सूत्रस्थान-२५/४०)

• Vedanasthapan dravya

- Śūlapraśamana mahākaṣaya
- Vedanāprašamana mahākasaya-
- Angamardapraśamana mahākasaya-
- Śramahara mahākaṣaya-
- Vātašamana gaņa

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CONCEPT OF CHRONIC SUPPURATIVE OTITIS MEDIA IN AYURVEDA: A REVIEW

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Chronic suppurative otitis media is long-standing infection of a part or whole of the middle ear cleft and its mucoperiosteal lining resulting in discharge in ear, deafness, and perforation of tympanic membrane. It is the single most important cause of hearing impairment in rural population. Incidence of chronic suppurative otitis media is higher in developing countries and in children. It affects both the sexes and all age groups. In India, the overall prevalence rate is 46 and 16 subjects per thousand in rural and urban population respectively.

Karna srava is one among the 28 diseases of the karna rogas mentioned in ayurveda classics. The term karna srava is self explanatory which means discharge from the ear. Classical feature of karnasrava is puya srava which refers to different nature of discharge like jalasrava, rasasrava which can be considered as watery, mucopurulent and purulent discharge and can be compared to chronic suppurative otitis media. As per Ayurveda, ear disorders can be caused by one of four imbalances. *Vata:* thin discharge, dried ear wax, severe pain, tinnitus and deafness. Pitta: Yellow discharge, swelling, redness, tearing, and burning. *Kapha*: White and slimy discharge, abnormal hearing, itching.

AYURVEDIC VIEWS

Nidanas, Samprapti And Lakshana, of Karnasrava :

Due to injury to the head, immersing in cold water, ripening of vidradi (abscess inside the ear) and samanya nidanas of karnarogas ear gets vitiated by vata and exudes pus; this is called karna srava.ⁱ

Chikitsa:

In karna srava, pootikarna, and krimi karna both general and special treatments are to be done.Shirovirechana (purgation of the head), dhoopana (fumigation of the ear) and poorana (filling the ear) pramarjana (washing) and dhavana (cleaning) should be done considering the condition of the dosha.ⁱⁱ

When the ears are discharging pus after ripening, therapies such as inhalation, mouth gargle and nasal medication should be administered. The treatment prescribed for dushta naadi vrana and those treatments which cure foul ulcers should be adopted here. The orifices of the ear should be cleared (of the pus etc.) at both times of the day with swabs, then exposed to the fumes of the pura (guggulu) and filled with honey.ⁱⁱⁱ

MODERN VIEWS

Chronic suppurative otitis media is defined as long standing chronic suppuration of the middle ear cleft and its mucoperiosteal lining resulting in discharging ear and deafness. The discharge has its origin in following ways.

1. Few attacks of acute middle ear infection which has failed to resolve completely.

- 2. Some cases are traceable to acute infectious disease of childhood such as measles, influenza, and diphtheria.
- 3. Incidious chronic keratinizing process seen in attic and postero-superior part of the tympanic membrane.
- 4. Disorders of ventilation and retraction pocket formation.
- 5. Long standing secretary otitis media.
- 6. Bacteriology: both aerobes and anaerobes may be present.
- 7. Discharge may be watery, mucoid or mucopurulant.

Types: It is of two types

- 1. Tubo- tympanic: safe variety, part involved in this type is lined by ciliated columnar epithelium.
- 2. Attico –antral or tympano–mastoid: unsafe variety , the part above the corda tympani is involved and lined by pavement epithelium.^{iv}

Pathology:

The pathological changes seen in tubotympanic type of CSOM are

- 1) Perforation of the pars tensa
- 2) Middle ear mucosa- normal when disease is inactive and oedematous and velvety when disease is active.
- 3) Polyp
- Ossicular chain usually intact and mobile but may show some degree of necrosis.
- 5) Tympanosclerosis
- 6) Fibrosis and adhesions

<u>Clinical features</u>:

- Ear discharge non offensive, mucoid or mucopurulent, constant or intermittent. Appears mostly at the time of upper respiratory tract infection or on accidental entry of water into the ear.
- 2. Hearing loss- it is conductive type, severity varies.
- 3. Perforation- always central it may lie anterior, posterior or inferior to the handle of malleus. May be small medium or large.

4. Middle ear mucosa- seen when the perforation is large. Normally it is pale pink and moist when inflamed it looks red oedematous and swollen.

Treatment:

Conservative -

- Aural toilet performed with dry clean swab.
- Antiseptic ear drops.
- Systemic antibiotics.
- Precautions.
- Treatment of the contributing causes.

Surgical -

With conservative measures perforation becomes dry and may heal, if perforation does not heal tympanoplasty is recommended.^v

Discussion :

The disease Karnasrava(CSOM) occur due to several Nija Nidana such as Avashyaya, Pratishyaya etc. Due to these etiological factors, vitiated Doshas get accumulated (Sthanasamsraya) in the ear, and causes twak, rakta, mamsa dhatu dusti, which leads to Karnasrava. Due to several aagantuja karana such as karnkandu by unsterile instrument, mithyayogen of shastra karma,polluted water entry in to the ear canal (Nimajjate Jale) may cause Karnasrava. The disease Karnasrava is most common in young age especially in children because of Kapha predominance in this age. Vata and Kapha Doshas are mainly involved in Karna Srava while in karna paka and pooti karna pitta dosha plays a role in its samprapti.

Conclusion :

The prevalence of Karnasrava (CSOM) is found to be more in 5-10 years age group. Vata kaphaja Prakriti people are more prone for this disease. Middle class and lower middle class people are mostly affected by this disease. During the treatment period, pathya and apathya should strictly follow. Water entry into the ear, hot & humid atmosphere, scratching of the ear by unsterile instrument such as, matchstick, hair pin, key & finger nail etc. are the main causes and should be avoided.

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COCETPT OF CANCER- A VISION IN AYURVEDA WITH RESPECT TO ARBUDA

ABSTRACT

Cancer is one of the most dreaded diseases of the 20th century and spreading further with continuance and increasing incidence in 21st century. In the United States, cancer is one of the leading cause of death, it accounts for 25% of all the deaths in humans presently. The word Arbuda is also a numeral for one hundred million, which may be interpreted as reflection of uncontrolled multiplication of cells. The other meaning of Arbuda denotes the creature 'crab' which at present, is the universal symbol of cancer.

According to Acharaya Sushruta, Shopha can be used as term in the progression of Arbuda due to involvement of vitiated Doshas. This results into Vidradhi that suppurates due to vitiated Doshas. Vidradhi is parallel term for the abscess. If it suppurates than forms Arbuda and when it does not suppurates it forms Gulma which can be preceded to Granthi.

KEYWORD-arbuda, stanya arbuda, granthi, shoph, swedan.

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INTRODUCTION-

Our great trio has already mentioned that human body is based on Dosha, Dhatu, and Mala. Whenever there are any psychological and pathological changes in our body occurs it causes imbalance of above said. As a result it leads to inflammation i.e. Shopha. Charak and Sushruta Samhita have described cancer as a Granthi (minor neoplasm) or Arbuda (major neoplasm) which can be stated as inflammatory or non inflammatory swellings. When there is involvement of 1 or 2 Doshas i.e. Vata, Pitta, Kapha they produce benign neoplasm which is not harmful whereas when there is Sannipatja i.e. involvement of all three Doshas it produces malignant neoplasm which is dangerous. Granthi is nothing but a pathological condition of vitiated Doshas in muscular tissues, blood, fat and structure of vessels which results into gland like abnormal growth or neoplasm. It looks like bubble of water, round erect and knotted.

Historical Review-

Vedic period (4000-6000 B.C.) – While going through ayurvedic literature, the direct description of the word stanarbuda as a disease or symptom is not available, but acharyas were aware about the term.

The disease was even prevalent during the Vedic period. In Rigveda, it has been mentioned that arbuda is just like a danava & is destroyed by Indra. Rigved tikakar Sayan says that arbuda is ambu (water) to destroy it use Agni (agnikarma).

Atharvaveda

In the ancient classics, Arbuda has not mentioned directly but the diseases like Apachi, Gulma, Granthi & Gandamala which resembles the clinical features of Arbuda . Atharvaveda has mentioned some charm for curing tumours called arbuda.

2) Samhita period (1500 B.C. - 4th A.D.) – In samhitas, acharya does not mention the separate disease stanarbuda and it's nidan panchak separately as like other disease.

A&B) Ashtang Hridaya and Ashtang Sangraha – Acharya Vagabhata has classified the disease as same as Acharya Sushruta. They has given the types according to doshas and dushya.

C) Bhavprakasha-Acharya Bhavmishra and Sharangdhara are in agree with Madhukara regarding definition of arbuda. One more interesting theory given by Acharyas is that the cause of nonsuppuration of arbuda is kapha and meda bahulya and their doshas are chronic in nature.

D) **Charaka samhita** – Acharya charak has not given any detailed description in his grantha but while dealing with treatment of shavathu, he says that the line of treatment to be followed in arbuda is like granthi. He also states that samanya hetu and manaspradoshaja vyadhi and shotha can be considered as samanya hetu of arbuda.

E) Harit samhita – In Harit samhita, tritiya sthan and in arbuda rog chikitsa adhayaya the references were given about type of arbuda as well as samprapti and treatment of it. But he has mentioned samprapti and type of arbuda.

F) Madhav Nidan – Regarding the classification of disease arbuda acharya Madhav is in agreement with Sushruta. But he has mentioned one another doshik variety as dwidoshaja which is sadhya entity.

G) **Sharangdhar samhita -** Acharya Sharangdhar only devoted the types and arbuda in his prathan khand, arbuda prakara adhyaya. The types were mentioned vataja, pittaja, khaphaja, raktaja, mansaj and medoj.

H) **Sushruta samhita** – Acharya Sushruta describes in nidansthan adhyaya- Granthi apachi arbuda and samprapti in detail. He also focuses on sign and symptoms of granthi and says that, these signs and symptoms were granted for arbuda.

I) **Yogratnakar** – Acharya Yogratnakar also mentioned same information as like sushruta nidansathan in galaganda-gandmala-apachi-granthi-arbuda nidan adhyaya.

J) Ashtang Hridaya and Ashtang Sangraha – Acharya Vagabhata has classified the disease as same as acharya sushruta. They has given the types according to doshas and dushya.

Vyutpatti –

"Arbuda" is constituted of the root word "Arba" and the verb "Udeti".

The word arbuda has been derived from the root "Arb" with suffix "Ena" along with augmentation of "Nd," which means "to destroy", "to kill" or to "hurt". The verb "Udeti" means to elevate, to rise. Grammatically, it denotes the fleshy outgrowths.

Arbuda Nirukti –

1) Mansapindakara Rogabhede (a fleshy mass)

2) Tatsankhyateshu Dashakotisankhya (number of 10 billion-may be interpreted as uncontrolled multiplication of cells)

3) Parvatbhede (a mountain)

4) Asurabhede (a demon)

5) Kadrabhede Sarpabhede a demon (i.e., a serpent)

6) Megha (Clouds)

7) Mansapindabhide (a swelling)

During the Vedic period, arbuda was considered as a serpent like demon that was conquered by "Lord Indra".

Definition of Arbud -

Vata, Pitta Kapha dosha having got aggravated in any part of the body and afflicting the Mansa dhatu, produce a circular, fixed, slightly painful, big, broad based slow growing non-suppurating and dense elevation (swelling) of mansa. The same is called as "arbuda" by the scholars. Aggrevation of these doshas and vitiation of rasa-raktamansa-meda dhatus in stana can lead to causation of dushta stanarbuda.

Nidan Panchak -

Dosha – Vata, Pitta, Kapha . Dushya – Rasa, Rakta, Mansa, Meda.

Agni – Dhatvagni dushti Srotasa – Rasavaha, Raktavaha, Mansavaha srotasa , Medovaha

Marg –Bahya roga marga.

Sthana – Anywhere in the body.

Nidana -

As per the description available with the texts, hetu or causes of arbuda can be classified into Samanya hetu and Vishesh hetu.

Samanya Hetu- Abhishyandi ahar means deliquescent diet, sthula bhojya means gross diet, Guru bhojya mis diet heavy to digest, Sleep immediately after lunch, these are the general causes of which are responsible for Arbuda, considered as a Manspradoshaj vyadhi.

Vishesh hetu- Acharya Sushrut, Madhav, Bhavmishra had explained that, when the body part is inflicted with blow of flesh the vitiation of muscles takes place, and it gives rise to growth which is swollen. As well as the characteristics they given, that the growth is painless, glossy of the same colour, non-suppurating stone like and immovable. While studied the Samprapti all the acharyas said that when Prakupit doshas in the raktnadi and obstruct the way, due to this obstruction an extra large growth appears called Arbuda develops.

Characteristics of Arbud -

- Arbud is bigger than granthi
- Has the predominance of kapha dosha and meda dhatu ,is sthira (fixed/hard) hence does not suppurate
- Elevated swelling.

Other features of Arbud:

- Gatra Pradesh (anywhere in the body)
- Vritta (round)
- Sthir (fixed)
- Mandruja (Slightly painful)
- Mahat (big)
- Analpamoola (which is deep seated
- Chirvruddhi (which grows slowly)
- Apaka (which does not suppurate)

This characteristic is seen because of the dominance of Kapha dosha & meda dhatu & also because of the immobilization & binding of doshas in them. Tumours do not undergo suppuration because predominance of Kapha dosha & meda dhatu.

Purvarupa of Arbuda -

Purvarupa of arbud has not been mentioned in the ancient texts. But Achrya Vagbhat mentioned that the swelling of Granthi which is smaller in comparision to that Arbuda should be considered as purvrupa of Arbuda

Rupa of Arbuda (signs and symptoms) there are six types of arbud mentioned in the texts.

Dependin	On The	On The Basis	According To	According	On The	Modern
g On	Basis Of	Of	Site	То	Basis Of	Classificatio
Dosha	Dhatu	Metastasis		Pathogenes	Treatme	n
				is	nt	
1. Vataj	1.Raktarbuda	1. Raktarbuda	1.	1.Sadhya	1.Naveen	1.Benign
			Vartmarbuda			
2. Pittaj	2.Mamsa	2.Adhyarbuda	2. Karnarbuda	2. Asadhya	2.Jeerna	2. Malignant
3. Kaphaj	3.Medoja	3. Dviarbuda	3. Nasarbuda			
4.			4. Taluarbuda			
Tridoshaj						
			5. Jalarbuda			
			6. Galarbuda			
			7. Mukharbuda			
			8. Sira arbuda			
			9. Shukrarbuda			

Ayurvedic & Modern classification of Arbuda-

Samprapti

Dosha prakop (Aggrevation of dosha in any part of the body)

 \downarrow

Dhatu dushti - especially Mansa dushti(vitiation of dhatu)

\downarrow

Vitiation of Mansa dhatu causes Mansa elevation (swelling)

\downarrow

Formation of Arbud

Upadrava –

When there is occurrence of arbud at the same site of prevailing arbud or after the excision of earlier arbud it is called Adhyarbud.

Dwirarbud can be defined as arbud occurring at the same or other site, at the same time or after sometime of occurrence of the earlier arbud.

Sadhyasadhyata of Arbud – (Curability of Arbud)

Kashtasadhya Arbud (Difficult to cure)	Asadhya Arbud (incurable)
Vata	Raktarbud
Pitta	Mansarbud
Kapha	Adhyarbud
Meda	Dwirarbud

Arbud becomes asadhya

- \checkmark If there is oozing of secretions from the arbud
- ✓ If it is affecting marmsthana(vital points)
- \checkmark If the arbud is affecting the srotasa
- \checkmark If it is fixed
- ✓ If it develops adhyarbud or dwirarbud.

Chikitsa - Sutra of Arbuda :-

There is similarity between Granthi and Arbuda with respect to pradesha (site), akruti, Dosha and Dushya. Hence, the physician should apply the treatment mentioned for granthi.

Shodhana- Vaman and Virechana

Swedana- Hot fomentation at the site of Arbuda

Vilayana- Causing ripening in the apakva granthi using ashma, wood, thumb pressing etc.

Agni Karma- If the Granthi is ripe or fully matured it should be cauterized.

Vrana Karma- Performing the treatment advised in wounds

Shastrkarma- If the Granthi cannot be cauterized or if it is cauterized partially i.e. if it is deep rooted it can grow again. Hence, it is advisable to excise it totally.

Conclusion

The identification and description of malignant diseases (Tumour) are available in the ancient literature. Classical Ayurvedic texts have several references to cancer. Arbuda is the most specific term for malignant cancer and Dwirarbuda indicates the metastasis or spread of cancer from one part to other part of the body. Vata is responsible for faulty division of cells and Kapha for their uncontrolled growth. Benign tumours are generally predominant of Kapha. But in malignancies, Pitta is also vitiated and the condition becomes Sannipatika in nature.In Granthi, Kapha plays the pre-dominant role as it enters the affected Dhatus. The most common Dhatus affected are Medas, Mamsa and Rakta. The result is slow growing cancer of benign in nature. Arbudas are gradually increasing mass of big size, globular in shape, fixed with deeper structure, usually do not suppurate, giving occasional pain and can occur in an part of the body. It can involve Mamsa and Rakta.

Dhatus involved in Arbuda are Rakta, Mamsa and Meda having Pitta, Vata and Kapha predominance respectively. The description of "Adhyarbuda" or Dwirarbuda' suggests the recur-rence and metastasis of tumours to distal places. Cancer is an abnormal excessive, uncoordinated, autonomous and purposeless proliferation of cells.

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