

EMERGENCY CARE - AN AYURVEDIC CEREBRATION**Dr. P. L. Alaekhya*, B.A.M.S**

India.

Article Received on
13 Sept. 2019,Revised on 03 Oct. 2019,
Accepted on 24 Oct. 2019

DOI: 10.20959/wjpr201912-16163

Corresponding Author*Dr. P.L. Alaekhya B.A.M.S**

India.

ABSTRACT

Today's era is all about emergencies & dealing with the necessary quick actions, equipment & medicines. Medical emergency is the state that needs possible immediate care. These activities may include any procedure, drug administration or surgery. It is a generalized preconceived notion that Ayurveda doesn't deal emergency management. Ayurveda, by convention and by contemporary notion, is considered to be a modality apt and helpful for chronic debilities where

active management of a clinical condition is not required. At no point of time, in the modern context, it is either perceived or tried for any possibility of its actions upon acute, critical, or life-threatening conditions. But the fact is that Ayurveda has explained the emergencies of all categories. *Aatyayika chikitsa* is not new to Ayurveda. It covers both treatment and prevention. The traditional texts of Ayurveda have mentioned terms like; *Vegavastha*, *Dhatugata avastha*, *Upadrava*, *Asadhya lakshanas*, *Aagantuja vyadhi*, *Daruna Vyadhi*, *Sadyah*, *Aashu* etc. for emergency conditions which need to be cared immediately. But the references are scattered in different texts under different contexts. Even though we have examples of emergency management in Ayurveda the practice is poor either because of non availability of medicines or the exposure to emergencies in curriculum. The literature needs to be elaborated and understood with respect to current scenario.

KEYWORDS: Ayurveda, Emergency, *Aatyayik avastha*, *Vegavstha*, *Darun*, *Sadya*, *Aashu*.

INTRODUCTION

Emergency in Medicine is an illness or injury that is acute and poses immediate risk to a person's life or long-term Health. It is a sudden un-foreseen crisis (usually involving danger) that requires immediate action and treatment, where the patient is either conscious or unconscious.

Emergency care is the specialty concerned with caring for undifferentiated, unscheduled patients with illnesses or injuries requiring immediate Medical attention and encompasses care involving the acute care of internal medical and surgical conditions.

Emergency Medicine is a field of practice based on the knowledge and skills required for the prevention, diagnosis and management of acute and urgent aspects of illness and injury affecting patients of all age groups with a full spectrum of undifferentiated physical and behavioral disorders. Sub-specializations of emergency medicine include disaster medicine, medical toxicology, ultrasonography, critical care medicine, hyperbaric medicine, sports medicine, palliative care, or aerospace medicine.^[1]

According to American College of Emergency Physicians, Emergency medicine is the medical specialty dedicated to the diagnosis and treatment of unforeseen illness or injury. The practice of emergency medicine includes the initial evaluation, diagnosis, treatment, coordination of care among multiple providers, and disposition of any patient requiring expeditious medical, surgical, or psychiatric care. Emergency medicine encompasses planning, oversight, and medical direction for community emergency medical response, medical control, and disaster preparedness.

Emergency physician requires a broad field of knowledge and advanced procedural skills often including surgical procedures, trauma resuscitation, advanced cardiac life support and advanced airway management.

Conditions Indicative of Emergency

According to American College of Emergency Physicians, the following conditions are indicative of Emergency:

- Bleeding that will not stop
- Breathing problems (Difficulty / Shortness of breath)
- Change in Mental Status (Unusual behaviour, Confusion, difficulty to arouse)
- Chest Pain
- Choking
- Coughing up / vomiting blood
- Fainting/loss of consciousness
- Feeling of committing suicide / Murder
- Head / Spine Injury

- Severe/continuous vomiting
- Sudden injury due to Motor-vehicle accident
- Burns/smoke inhalation
- Near drowning
- Deep / Large wound etc..

Causes

S.No.	CATEGORY	TYPES
1.	True Emergency	<ul style="list-style-type: none"> • Disease Related • Procedure Related
2.	False Emergency	<ul style="list-style-type: none"> • Anxiety • Emotional
3.	Iatrogenic (Doctor Made Condition)	<ul style="list-style-type: none"> • Negligence • Overlook

Classification

There are about 1733 identified emergency conditions and have been broadly classified into following categories.

- Cardio – vascular
- Dermatological
- E.N.T. related
- Endocrinal
- Environmental
- Epidemiological
- Immunological & Allergic
- Metabolic

Basic Principles of Management

- Positioning
- Air – way
- Breathing
- Circulation &
- Definitive Therapy

Ayurvedic Perspective

Ayurvedic medicines had an important place in human health care since ancient times. As a Science, Ayurveda has thought of emergencies in general and in diseases also. Dealing with “*Vikara – Vighaata - Bhavaabhava*” i.e. incidence or non incidence or suppression of diseases, Charaka has dealt with emergencies. Ancient Acharyas have used various terms like *Sadyah*, *Aashu* & *Twarita* in conditions of emergencies where quick management is needed.

The traditional texts of Ayurveda have mentioned terms like; *Vegavastha*, *Dhatugata avastha*, *Upadrava*, *Asadhya lakshanas*, *Aagantuja vyadhi*, *Daruna Vyadhi*, *Sadyah*, *Aashu* etc. for emergency conditions which need to be cared immediately. The literature of *daruna* and *ashukari* diseases needs to be elaborated and understood with respect to current scenario.

Ayurveda has explained the emergencies of all categories. These emergencies have been enlisted as *Upadrava* or *Arishta*. *Upadrava* leads the patient into unforeseen troublesome condition, while *Arishta* denotes bad prognosis. Charaka, explaining ‘*Upadrava*’ (complication) says ‘complication is more troublesome than the main disease itself because it appears in the later stages of disease, when the body is already weakened by the previous disease. Hence the physician should be prompt in the treatment of *upadravas* (Complications).^[2]

The disease form which cannot wait for *Kala* is called *Atyayik* or that form of disease which ultimately leads to detriment of a person is *atyayik*.^[3] Acharya Chakrapani in his commentary clearly states that when *Nidana*, *dosha* and *dushya* associate very strongly, vitiate quickly together produce diseases very rapidly or with strong manifestations of diseases or with all the signs and symptoms of the diseases. This condition is called acute diseases or emergency.^[4]

Thus when the etiological factor is powerful, the association or morbiding of doshas is also very strong, both these factors vitiate the body, elements or *Dhatus* rapidly. This rapid morbiding is called emergency or acute condition of disease.

Charaka, in the Chapter ‘*Roganeeka*’ *Viman*, divides diseases in many different ways basing on effect, intensity, seat of affection, cause, seat of origin etc. In these divisions, one of the groups is *Mridu* (mild) and *Daruna* (severe).^[5]

Here *Daruna* means acute condition or emergency. He uses the term *Daruna* where the disease is acute or requires prompt treatment. *Daruna* does not mean incurable. He further stated that the lack of equipment and attendants, patient's incapability, lack in physician's skills, non availability of management and delayed treatment schedules makes the curable disease as incurable and crisis establishes.^[6]

That is why Charaka says 'There are many such diseases which though acute and severe are yet curable. They may kill the patient if they are either not treated at all or wrongfully treated.' This clearly states the condition of emergency requires prompt and accurate treatment.^[7]

CAUSES^[8]

- *Marmaghaat*
- *Ati – Rakta Sraava*
- *Pranavaha Sroto Dushti*
- *Pranoparodha*
- *Atyarthha Udaka kshaya*
- *Ojo – Kshaya*

MAIN CHARACTERISTIC FEATURES^[9]

- *Daruna Marma Ruja*
- *Atyanta Rakat sraava*
- *Kashta Shwasa*
- *Indriya Nasha*
- *Sanjnaa Nasha*
- *Murccha*
- *Hetu sambaddha anya lakshana Samucchaya*

Being minute and having capacity to penetrate into all the channels and tissues, *Vata Dosha* especially *Avruta Vata* is the main culprit in majority of the emergencies.

- ***Prana Vata*** - Corresponds Intellectual, Cognitive & Motor functions
- ***Udana Vata*** - Corresponds Pulmonary, Acid-base & Fluid regulation
- ***Samana Vata*** - Digestive & other functions in abdomen
- ***Vyana Vata*** - Haemodynamics & Cardio-vascular functions
- ***Apana Vata*** – Excretory & Expulsive functions

CLASSIFICATION

- **Basing on the onset** - *Nija & Agantuja*
- **Basing on the management** - *Symptomatic & Life-saving*

TYPES

S.No.	CATEGORY	CONDITIONS
1.	Medical	<i>Sannipatika Jwara; Atisara; Mutra-Kricchra/ghata; tamaka Shwasa; Hridroga; Pakshaaghata; apasmara; Murccha; Sanyasa; Apatantraka/Apatanaka:</i>
2.	Surgical	<i>Sadyo-vrana; Pranastha Shalya; Udara; Vriddhi; Visarpa; Niruddhaprakasha; Parivartika; Ushna Vata; Indra Vajra Agni dagdha; Sita Varshanila; Asthi-bhagna:</i>
3.	Obstetrical	<i>Ashrikdhara; Garbha-srava/pata; Mudha Garbha; Prana-Pratyagama of Navajata Shishu:</i>
4.	Paediatrics	<i>Un-consciousness; Hypothermia; Rakta-pitta; ParidagdhaChavi:</i>
5.	Panchakarma Related	<i>Wrong administration of procedures of Panchakarma; Shalya & Shalakya kriya kalpa:</i>
6.	Poisoning	<i>All kinds of Poisonings</i>
7.	Environmental	<i>All Epidemics; Endemics; Pandemics:</i>
8.	Medico - Legal	<i>Agni-dagdha Vrana; Sneha-dagdha Vrana; Dhumopaghata; Madatyaya; Visha peeta; Sarpa/Vrischika/Luta Damsha:</i>

MANAGEMENT

There are different types of emergencies; an Ayurvedic Physician may have to treat. Ayurveda gives a detailed trilogy of symptom, description and treatment. Serious disease afflicts the patient with great speed and it manifests and affects simultaneously and instantaneously. Hence the physician should take steps for its treatment immediately.^[10]

Acharya Charaka has said that, it is not always possible to assign a name to a disease. An aggravated dosha may cause different ailments depending upon the causative factors and location of the disease. Understanding the underlying Patho-physiology is utmost importance. Treatment should be initiated basing on the causative factor and the location of disease.^[11]

Acute disease which spreads like forest fire should be treated immediately and carefully keeping in view the time and locality with suitable modalities including diets.^[12] The physician should be well – conversant with the present condition and also the prognosis.

He who conquers such an emergency is really the conqueror of all diseases'. With this expression Bhava-Mishra has not only appreciated the physician but has placed the physician

in the position of God of Health. Ayurveda has, thus, given top priority for treating emergency conditions.^[13]

Concept of Cardiac emergency is dealt by Charaka in *Indriya* 6, *Chikitsa* 26 & *siddhi* 9th chapters. It is described that in *Indriya Sthana*, that patient certainly dies due to *Hrit Shoola*. It is usually presented with symptoms of compression type of chest pain; gastric motility is grossly disturbed due to circulatory disturbances i.e. food remains in undigested form for prolonged period, rapid decrease in physical strength (*Bala* decreases) & excessive thirst (*Trishna*).^[14] This description of *Hrit Shoola* is very much similar to massive cardiac arrest and mostly encountered in Anterior Wall Infarct. Anterior Wall comprises of approximately 70% of heart muscles. Thus if the anterior wall is affected, usually it is having fatal outcome. It is clearly mentioned that physician shouldn't attend the patient as it is certainly leading to death.

PRINCIPLES OF MANAGEMENT

- Identify the *dosha* involved
- Discriminate and differentiate between *Guru* & *Laghu*
- Resuscitate the vitals
- Regulate / Pacify *Vata* first
- Major is attended first and minor is taken care of later
- Emergency is attended first and the disease is managed along with or in due course
- Administer the established treatment for presenting complaint
- Maintain the normal functions of *Dosha*, *Dushya*, *Agni*, *Srotas* & *Mala*.

Ayurveda has its own methods of assessing the prognosis which may differ from that of contemporary medicine. As per Ayurvedic criteria, the condition may be *pratyakhyeya* or *arishta* and chances of survival may be less. But, Ayurvedic texts recommend continuing the treatment till the last breath of the patient.^[15] But this has to be done with knowingly and proper knowledge and the consent of the patient / close relatives / friends.

Ayurveda suggests few routes of drug administration that bypass the digestion and act in Emergency & certain other modalities – *Nasya*, Sublingual, *Vasti*, *Suchi*, *Rakta-Mokshana*, *Lepa* etc.

Sub – Lingual

Sublingual mode is selected as it has profuse network of blood vessels and enters directly into systemic circulation. It is economical as well and the drug absorption is very quick as it avoids first pass of the drug. Honey is mainly used for its *yogavahi* property as it acts as drug vehicle as well as catalyst. *Pottali Kalpa yogas* are the popular dosage forms that are commonly used through this route. It can be used in unconscious patients also comfortably.

Nasya

Olfactory and gustatory nerves are comparatively closer to the higher centers of brain than other nerves. Bioavailability of the drugs is 55-100% as the drug skips first pass metabolism (directly enters into circulation without getting processed in the gut). This route provides rapid delivery of drug across the large surface area of the mucus membrane of respiratory tract. Drug is delivered directly to the site of action and systemic effects are minimized

Vasti

The rectum has a rich source of blood and lymph supply. The substances administered are readily absorbed from rectal mucosa into blood stream of villi through intestinal mucosa by osmosis. The Gastro-intestinal tract has its own nervous system called enteric nervous system lying in the entire wall of the gut. The sigmoidal, rectal and anal regions of large intestine are better supplied with parasympathetic fibers (which are more stimulatory in action) than other portions.

Hence *Vasti*, though administered in the *Pakwashaya* and remains only for shorter duration in the body has a systemic action throughout the body. Hence *vasti* was given a prime place in Ayurveda for its broad spectrum activity and efficacy in controlling *vata Dosha* which is considered to be the chief causative factor in most of the emergencies in one way or other.

Lepa

Application of drugs directly to skin introduces drug into the loose subcutaneous tissues achieves systemic effect. The absorption is reasonably slow, uniform but smooth. The rate of absorption depends on the physical properties of the drug and skin at the site of application. This route is mostly used for sustained delivery of drug. First pass metabolism is avoided and the Gastric factors.

Drugs For Emergencies

When we scan through rich literature of Ayurvedic treatments and drugs, we can observe that 3 drugs viz. *Hemagarbha Pottali Rasa*, *Trailokya Chintamani Rasa* and *Suvarna Sitasekhara Rasa* have been praised to be the drugs of choice in Ayurvedic Critical Care. Their spectrum of activity with the indications has been given hereunder.^[16]

Hemagarbha Pottali	Trailokya Chintamani	Suvarna Sutasekhara
<ul style="list-style-type: none"> • <i>Tamogunavruta Lupta praaya chetana jagruti</i> • <i>Buddhi, Mana, Tama Avarana chedana</i> • <i>Indriya karya samprerana</i> • <i>Kapha chedana</i> • <i>Margavarodhajanya Vataprakopa Shamana</i> • <i>Vatagati avasada nashana</i> • <i>Hridaya, Nadai, Shwasagati avasada nashana</i> • <i>Agni Deepthi</i> • <i>Highly indicated in: Slaishmika sannipata, Shwasanaka sannipata, Tamaka shwasa, Urdhwa shwasa, Maha shwasa and Sanyasa:</i> 	<ul style="list-style-type: none"> • <i>Vikruta kapha avarana chedana</i> • <i>Vatagati avasada nashana</i> • <i>Agni, Dhatwagni deepana</i> • <i>Hridaya, Indriya rakshaka</i> • <i>Twarita Ojo vardhaka</i> • <i>Sendriya visha nashana</i> • <i>Slaishmika sannipata</i> • <i>Shwasanaka sannipata</i> • <i>Kapha, Ama sroto avarodhajanya Hridroga</i> • <i>Hridaya, Puppusa karya niyantrana</i> • <i>Ojo Kshaya</i> • <i>Twarita Hricchula nivarana</i> • <i>Manasika ahaata janya Hridroga</i> • <i>Indriya avasada nashana</i> • <i>Peshi niyantrana</i> • <i>Highly useful in: Pakshaghata, Vata vyadhi, atyanta Kshinavastha:</i> 	<ul style="list-style-type: none"> • <i>Utkrushta Tridosha shamaka</i> • <i>Panchavidha Vata gati niyamana</i> • <i>Pranagati niyamana</i> • <i>Indriya, Mano, Buddhi karya niyantrana</i> • <i>Shwasa Niyantrana</i> • <i>Samanagni niyantrana</i> • <i>Agni, Dhatwagni deepana</i> • <i>Pitta srava niyamana</i> • <i>Anna purassarana kriya niyantrana</i> • <i>Sara – kitta vibhajana</i> • <i>Shoshana kriya niyantrana</i> • <i>Swedotpatti niyantrana</i> • <i>Ras samvahana niyantrana</i> • <i>Mala pravartna niyantrana</i> • <i>Peshi and anya sharira bhavakriya niyantrana</i> • <i>Saama, Amla, Drava, Visru ganayukta pitta niyantrana</i> • <i>Kapha shaman</i> • <i>Visha nashana</i>

Selected Acute Conditions and Drugs of Choice^[17]

S.No.	CONDITION	DRUGS OF CHOICE
1.	Unconsciousness	Hemagarbha Pottali; Trailokyachintamani; Suvarna Sutasekhara ras; Brihat-kasturibharava ras; Trinakantamani; Siddha Makaradhwaja; Sahasraputi Abhraka:
2.	Cardiac Vascular	Trailokyachintamani; Hemagarbha Pottali; Suvarna Sutasekhara ras; Lakshmi vilasa ras; Mahalakshmi Vilasa ras; Siddha Makaradhwaja; Prabhakara vati; Hridayarnav ras; Sahasraputi Abhraka: Jaharmohar pishti; Akeeka; Karpura; Hingkarpara; Ajamodadi vati; Agni tundi vati; Navajiavana ras; Shringa bhasma; Pushkaramula; Ghamasa; Katuki:
3.	Cerebro-vascular	Brihadvata Chintamani; Rasaraja Ras; Rasa Sindura; Yogendra ras; Ksheerabala avarita; Vata Vidhwamsini; Trailokya chintamani; Suvarna Sutasekhara: Kasturibhairav ras; Dhanwantaram avarita;
4.	Respiratory	Malla; Malla sindura; Samirapannaga ras; Shwasakuthara; Swarna Sindur; Sahasraputi Abhraka; Lakshmilivilas ras; Hemagarbha Pottali; Kanakasava; Somasava; Hingukarpura; Siddha Makaradhwaj; Trailokyachintamani:
5.	Acute Fevers	Mrityumjaya ras; Mrita Sanjivani Sura; Godanti; Gorochan vati:
6.	Acute Abdomen	Shankha Dravaka:
7.	Diarrhoeas	Karpooora Rasa; Piccha vasti:
8.	Acute inflammatory	Marma guti; Vedanantak ras; Vata Vidhwamsini; Kanchanara Guggulu; Saptavimshati Guggulu; Maha Vataraja ras; Sameera Gajakesari ras:
9.	Peripheral Circulatory Failure	Siddha Makaradhwaj; Hemagarbha Pottali; Trailokya chintamani; Suvarna Suta sekhara ras: Rasa Sindur:
10.	Status Epilepticus	Dhanadanayanadi kashayam, Kasturyadi gulika, Mahakalyanaka kashayam, Mahapanchagavya ghrita, Smritisagara rasa, Vatakulantaka Rasa, rasaraja rasa, Saraswatharishta, Mahakalyanaka ghrita, Ashwagandharishta:
11.	Poisoning ^[18]	Arishta/Venikabandhana, Utkartana, Nishpeedanam, Chushana, Agnikarma, Parisheka, Avagahana, Raktamokshana, Vamana, Virechana, Upadhana, Anjana, Prativisha:

DISCUSSION

Ayurveda, by convention and by contemporary notion, is considered to be a modality apt and helpful for chronic debilities where active management of a clinical condition is not required. At no point of time, in the modern context, it is either perceived or tried for any possibility of its actions upon acute, critical, or life-threatening conditions.

Acharya Charaka gives a code of action for these conditions by saying 'akriyaat *dhruvo mrityuh* – *kriyaat samshayo*' - if you don't intervene, one is certain to die, if you intervene however, it may be otherwise. Unfortunately, in lack of good scientific evidence or documentation, most of such claims remain anecdotal and therefore does not generate a scientific concern. It is for this notion; Ayurvedic therapies have never been approached in any critical care conditions that require active management.

The physician should be well - conversant with the present condition and also for the prognosis; he should explain everything to the satisfaction of the patient and his relatives and start treatment with courage and confidence.

In surgical and gynecological emergencies, it is the duty of the physician to diagnose the disease, refer to proper surgeon or gynecologist. But he should give preliminary treatment that the condition may not be deteriorated and the patient may feel relief.

CONCLUSION

Aatyayika chikitsa is not new to Ayurveda. It covers both treatment and prevention. But the references are scattered in different texts under different contexts. Even though we have examples of emergency management in Ayurveda the practice is poor either because of non availability of medicines or the exposure to emergencies in curriculum. Any emergency tackling depends upon the skill of the Physician, The Equipment and the Medicine. Hence the emergency drug data base of Ayurveda should be carefully collected from different source material and should be arranged in an organized and scientific manner. It can be practiced through Knowledge, *Aapta* (Teacher), Clinical exposure and Self confidence.

REFERENCES

1. Sakr, M. "Casualty, accident and emergency, or emergency medicine, the evolution". *Emergency Medicine Journal*, 2000; 17(5): 314–9. doi:10.1136/emj.17.5.314. PMC 1725462. PMID 11005398
2. Agnivesha, Charaka, Dridhabala, Pt. Kasinatha Sastri, Dr. Gorakhanatha Chaturvedi(editor) Charaka samhita with elaborated Vidyotini Hindi commentary, Chikitsa Sthan, 21, Reprint 1998 edition. Varansi: Chaukhambha Bharti Academy, 1998.
3. Agnivesha, Charaka, Dridhabala, Pt. Kasinatha Sastri, Dr. Gorakhanatha Chaturvedi(editor) Charaka samhita with elaborated Vidyotini Hindi commentary, Nidana Sthan-2, Reprint 1998 edition. Varansi: Chaukhambha Bharti Academy, 1998.

4. Chakrapani, Charaka Samhita, Nidana Sthan – 2, Niryan sagar press, Mumbai, 1939.
5. Agnivesha, Charaka, Dridhabala, Pt. Kasinatha Sastri, Dr. Gorakhanatha Chaturvedi(editor) Charaka samhita with elaborated Vidyotini Hindi commentary, Vimana Sthan-6, Reprint 1998 edition. Varansi: Chaukhambha Bharti Academy, 1998.
6. Agnivesha, Charaka, Dridhabala, Pt. Kasinatha Sastri, Dr. Gorakhanatha Chaturvedi(editor) Charaka samhita with elaborated Vidyotini Hindi commentary, Nidana Sthan-2/22 - 23, Reprint 1998 edition. Varansi: Chaukhambha Bharti Academy, 1998.
7. Agnivesha, Charaka, Dridhabala, Pt. Kasinatha Sastri, Dr. Gorakhanatha Chaturvedi(editor) Charaka samhita with elaborated Vidyotini Hindi commentary, Vimana Sthan-6, Reprint 1998 edition. Varansi: Chaukhambha Bharti Academy, 1998.
8. Vaidyaraja V.B. Mheskar – atyayika chikitsana mula tatwa.
9. Vaidyaraja V.B. Mheskar – atyayika chikitsana mula tatwa.
10. Agnivesha, Charaka, Dridhabala, Pt. Kasinatha Sastri, Dr. Gorakhanatha Chaturvedi(editor) Charaka samhita with elaborated Vidyotini Hindi commentary, Chikitsa Sthan, 4, Reprint 1998 edition. Varansi: Chaukhambha Bharti Academy, 1998.
11. Agnivesha, Charaka, Dridhabala, Pt. Kasinatha Sastri, Dr. Gorakhanatha Chaturvedi(editor) Charaka samhita with elaborated Vidyotini Hindi commentary, Sutra Sthan, 18/44 – 47, Reprint 1998 edition. Varansi: Chaukhambha Bharti Academy, 1998.
12. Agnivesha, Charaka, Dridhabala, Pt. Kasinatha Sastri, Dr. Gorakhanatha Chaturvedi(editor) Charaka samhita with elaborated Vidyotini Hindi commentary, Nidana Sthan-2/11, Reprint 1998 edition. Varansi: Chaukhambha Bharti Academy, 1998.
13. Bhavmishra, Bhavprakash, Pu/5 Chaukhambha Sanskrit Series, Mumbai, 1939.
14. Agnivesha, Charaka, Dridhabala, Pt. Kasinatha Sastri, Dr. Gorakhanatha Chaturvedi(editor) Charaka samhita with elaborated Vidyotini Hindi commentary, Reprint 1998 edition. Varansi: Chaukhambha Bharti Academy, 1998.
15. Agnivesha, Charaka, Dridhabala, Pt. Kasinatha Sastri, Dr. Gorakhanatha Chaturvedi(editor) Charaka samhita with elaborated Vidyotini Hindi commentary, Reprint 1998 edition. Varansi: Chaukhambha Bharti Academy, 1998.
16. Hari Prapannaji, Rasa Yoga Sagara, 2nd Volume, Krishnadas Academy, Varanasi, 1998.
Hari Prapannaji, Rasa Yoga Sagara, 2nd Volume, Krishnadas Academy, Varanasi, 1998.
17. Dr. P.V.N.R. Prasad, Illustrated Agada Tantra, Chowkhamba Sanskrit Series Office, Varanasi, U.P., India, 2009.