



SYNCOPE - AN AYURVEDA PERSPECTIVE

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ABSTRACT

In present era increase of *Manasika Vikara* or mental illness is the matter of paramount concern in today world. In Ayurvedic literature *Murccha* is considered as *Vyadhi* of nervous system which result due to intake of unwholesome diet and with mind covered with *Mansika dosha* ie, *Rajas* and *Tamas* which ultimately blocks *Raktha*, *Rakthavaha srothas*, and *Sanjavaha srotas* and imbalance in three *Dosha* which disturbs the mind and brings unconsciousness. Syncope is a common chief complaint encountered in the emergency department. Syncope is caused by decreased cerebral blood flow leading to transient loss of consciousness and postural tone associated with spontaneous recovery. The cause of syncope ranges from benign to life threatening conditions. The most common causes of syncope seen in the emergency department are due to reflex syncope followed by orthostatic hypotension and cardiac syncope. Hence this paper is an effort to understand syncope and its Ayurveda perspective.

Keywords: *Murccha*, Syncope, Neurally mediated syncope, Orthostatic hypotension, Cardiac syncope

INTRODUCTION

Two *Manasika Dosha* viz. *Rajas* and *Tamas* give rise to *Manas Vikruti* including *Kama*, *Krodha Lobha*, *Moha*, *Irsha*, *Mana*, *Mada*, *Shoka*, *Chittodvega*, *Bhaya*, *Harsha* etc. All these words denote various human emotions. When *Mana* is healthy with the help of its *Karma* it can keep these emotions under control. But *Mana* is occupied with *Raja* or *Tama Dosha* one or more of these emotions get aggravated and give rise to *Manasika Vikara*¹. *Mada*, *Murccha*, *Sanyasa* are because of *Dushti* in *Rasa*, *Raktha*, *Sanjavaha Srotas* due to the vitiation *Raja* and *Tama Guna*. These have been explained in 24th chapter *Charaka Samhita Sutrasthana Vidhi Shoniteeya Adhyaya*. *Mada*, *Murccha*, *Sanyasa* are more powerful than each another in their succeeding order in relation to their etiological factor, signs and symptoms and management². *Murccha* is a disease where we can nearly correlate to the symptoms of syncope. Syncope is defined as a transient loss of consciousness attributable to global cerebral hypo-perfusion further characterized by rapid onset and spontaneous recovery³. Syncope is a symptom described as fainting, blackouts or falling out and represents 1 to 3.5 % of all emergency department visits and 6% of all hospital admission. Syncope is classified as neurally mediated, cardiac and orthostatic hypotension. Neurally mediated syncope is the most common type and has a benign course whereas cardiac syncope is associated with increased morbidity & mortality⁴. It may occur suddenly without warning or may be preceded by symptoms of faintness. This includes light-headedness, dizziness, nausea, visual blurring, and auditory disturbances. Pre syncopal symptoms vary in duration and may increase in severity until loss of consciousness occurs or may resolve prior to loss of consciousness if the cerebral ischemia is corrected. The initial assessment for all patients presenting with syncope includes a detailed history, physical examination and electrocardiograph⁵.

MATERIALS AND METHODS

This article is based on a review of Ayurvedic and modern textbooks. Materials related to syncope and its Ayurvedic perspective is collected to utmost. Reference was taken from *Charaka samhita*, *Sushruta samhita*, *Ashtanga hridaya*, *Madhava nidana* and modern textbook of medicine.

NIRUKTI/ DERIVATION

मूर्च्छा चेतनाच्युति: (Su. Ni 1)

Any kind of च्युति happens to चेतना or distraction to the body movements and mind termed as *Murccha*⁶. Syncope is derived from a Ancient Greek word 'SYNCOPE' that means the consciousness has been cut short⁷.

DEFINITION

Syncope is defined as a transient loss of consciousness with an inability to maintain the postural tone that is followed by spontaneous recovery⁸.

Murccha is *Pitta Tama Pradhana Vegakaliniya Vikara* with the involvement of *Rasa*, *Rakta*, & *Sajnavaha Srotas*. It is an intermediate phase of loss of consciousness explained in Ayurvedic literature⁹.

SYNONYMS

Madhava Nidana has given six synonyms of *Murccha* viz. *Smjnopaghata*, *Murcchaya*, *Murcchana*, *Pralaya*, and *Moha*¹⁰.

NIDANA

Persons who are emaciated, in whom the *Dosha*'s become greatly aggravated, ones who consume incompatible foods, suppression of natural urges, who are injured, and those who are mentally inferior¹¹.

CAUSE OF SYNCOPE

Transiently decreased cerebral blood flow is usually due to one of three general mechanisms: disorders of vascular tone or blood volume, cardiovascular disorders including cardiac arrhythmias or cerebrovascular disease. The main cause of syncope are summarized below in Table 1¹².

COMMON CAUSES OF SYNCOPE

- I) Disorders of vascular tone or blood volume
 - a) Vasovagal
 - b) Orthostatic Hypotension
 - c) Carotid sinus hypersensitivity
 - d) Situational
- II) Cardiovascular disorders
 - a) Cardiac arrhythmias
 - b) Structural heart disease
- III) Cerebrovascular disease
 - a) Vertebrobasilar insufficiency
 - b) Basilar artery migraine
- IV) Other causes
 - a) Endocrinological causes.
 - b) Psychiatric causes

PURVARUPA

Pain in the region of chest, excessive yawning, weakness, inability of sense organs to perceive are the general, exhaustion, and loss of strength¹³.

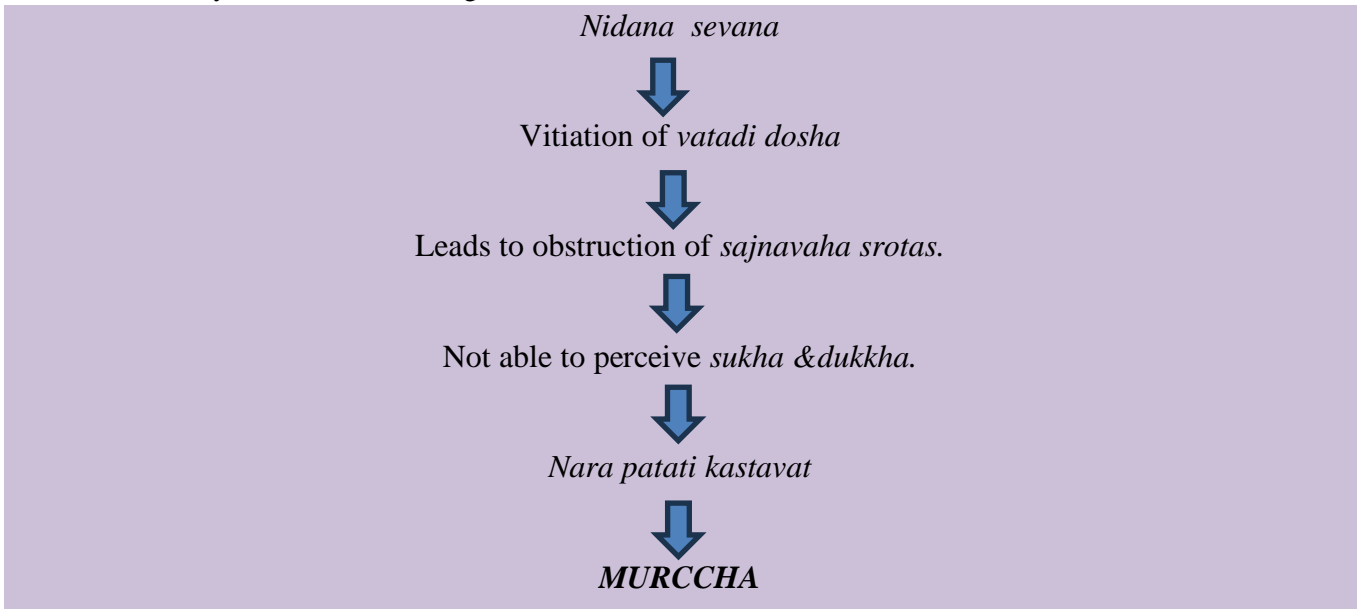
PRESYNCOPE

Presyncopal symptoms vary in duration and may increase in severity. This includes lightheadedness,

dizziness, feeling of warmth, diaphoresis, nausea, faint, yawning, Tachycardia, Bradycardia, Hypotension¹⁴.

SAMPRAPTI

Due to above etiological factors *Dosa*'s become greatly exacerbated and accumulate in both the internal & external sense organ resulting into the development of *Murccha*¹⁵.



PATHOPHYSIOLOGY OF SYNCOPE

Syncope results from a sudden impairment of brain metabolism usually brought about by hypotension with reduction of cerebral blood flow.

Due to upright posture, there is pooling of blood in lower extremities. This pooling of blood leads to a

decrease in ventricular filling and decrease in cardiac output and BP. Now when this decreased BP is perceived by baroreceptor which is present specially in carotid sinus and aortic arch. There is activation of baroreceptors, this leads to increase sympathetic outflow and decrease parasympathetic outflow in the

form of decrease vagal activity. This overall leads to increased peripheral vascular resistance, venous return and increased cardiac output. So, this response is very important for maintaining the BP in the standing position. When this baroreceptor response is damaged this leads to syncope¹⁶.

Baroreceptor reflex is one of the body's homeostatic mechanisms that help to maintain BP at nearly constant level. When the baroreceptor is temporarily impaired it can lead to neurally mediated syncope, when the baroreceptor is chronically impaired it can lead to orthostatic hypotension.

TYPES OF MURCCHA

- 1) *Vataja Murccha*
- 2) *Pittaja Murccha*
- 3) *Kaphaja Murccha*
- 4) *Sannipataja Murccha*
- 5) *Rakataja Murccha*
- 6) *Madhyaja Murccha*
- 7) *Vishaja Murccha*

VATAJA MURCCHA

In *vataja Murccha* the person sees the sky or his surroundings in blue black or crimson colours goes into darkness, falls down unconscious but remain consciousness quickly, tremors, pain all over the body, severe pain in the heart, emaciation, blackish red discolouration of the body are seen¹⁷.

PITTAJA MURCCHA

In *Pittaja Murccha* patients sees the sky appearing as red, green, or yellow colours, loss of consciousness and regaining it after perspiration (thirst, increased body temperature, eyes red or yellow, loss of consciousness & quick regaining) diarrhoea and yellowish discolouration of the body¹⁸.

KAPHAJA MURCCHA

In *Kaphaja Murccha* patients sees the sky full of thick clouds, falls unconscious regains consciousness after long time, feels as though his body is covered with heavy moist leather, salivation and nausea¹⁹.

SANNIPATAJA MURCCHA

In *Sannipataja Murccha* patients develop symptoms of all the three *Dosas*, the person appears as a patient of *Apasmara* but without *Bibhatsa cesta*²⁰.

RAKTAJA MURCCHA

Raktha is composed of *Prthvi* and *Aap Mahabhutas* which have *Tama Guna Pradhan*. So, some people possessing more than *Tamaguna* in constitution become unconscious and fall to the ground at the sight or smell of blood. Some people attribute this to the specific property of blood²¹.

MADYAJA MURCCHA

In *madyaja murccha*, in consistent speech, falling on the ground, with loss of mental activities, in coordinated movements of the body, these symptoms appear in soon after the drinks is digested²².

VISAJA MURCCHA

In *Visaja Murccha* tremors, sleep, thirst, and feeling of darkness and other symptoms specific to the particular poisonous material will be present²³.

CLASSIFICATION OF SYNCOPE

I) NEURALLY MEDIATED SYNCOPE²⁴

Neurally mediated syncope is also known as reflex syncope. It refers to a group of related conditions in which symptomatic hypotension occurs as a result of neural reflex vasodilation or bradycardia. NMS is caused by hypersensitivity of the autonomic nervous system. Most common type of syncope.

FEATURES OF NEURAL SYNCOPE

- Prodrome – dizziness, light headedness, fatigue.
- Autonomic activation – pallor, palpitation, nausea, yawning.
- Myoclonus – myoclonus present. Due to the presence of myoclonus, it should be differentiated from epilepsy which usually have generalized tonic-clonic movement.
- Eyes – opened, during syncope attack & deviated upwards and also rolling eye movement can occur.
- Pupils – pupils are also dilated during syncope episodes.
- Abnormal breathing – can be seen which includes grunting snoring breathing.
- Urine incontinence – may occur during syncopic episodes but faecal incontinence is rare. This is the feature helpful in differentiating epilepsy from syncope where faecal incontinence is very common.

CAUSES OF NEURALLY MEDIATED SYNCOPE

a) Vasovagal syncope

which is due to increased vagal activation, which can occur in provoked fear, pain, anxiety, intense emotion, sight of blood, unpleasant sights & odour, stress.

b) Situational syncope

Happens only during certain situations such as coughing, micturition, defecation that effects our nervous system and leads to syncope.

c) Carotid sinus hypersensitivity

This type of fainting happens when pressure is placed on the carotid artery, located in the neck. Fainting can occur due to certain neck motions, wearing shirts with tight collars or shaving.

II) ORTHOSTATIC SYNCOPE²⁵

Syncope resulting from a postural decrease in blood pressure (systolic BP – 20mmHg & diastolic BP 10mmHg). This is due to sympathetic vasoconstrictor autonomic failure.

CAUSES OF ORTHOSTATIC SYNCOPE

a) Primary autonomic failure – due to idiopathic central and peripheral neurodegenerative diseases known as synucleinopathies. These are characterised by the presence of alpha-synuclein and it is a small protein that aggregates in the cytoplasm of neuron in these disorders such as Par-

kinson’s disease, multiple system atrophy (shy-dragger syndrome).

b) Secondary autonomic failure – due to autonomic peripheral neuropathies such diabetes, vitamin B12 deficiency etc.

c) Drug induced – due to drug which decrease the peripheral vascular resistance like beta-blockers, nitrate tricyclic antidepressants.

d) Volume depletion – this can also lead to orthostatic hypotension which can be due to either vomiting, haemorrhage.

III) CARDIAC SYNCOPE²⁶

Cardiovascular causes of syncope are often the result of abnormalities in the heart rhythm (arrhythmias) causing a heartbeat that is too slow (bradycardia) or too fast (tachycardia). Any form of heart disease can cause arrhythmias, including inherited abnormalities that affect the electric activity of the heart. Syncope may also be attributable to abnormalities in the structure of the heart, including valves, arteries, or the actual muscle itself. Cardiovascular causes of syncope are particularly important to diagnose and treat because they can cause sudden death.

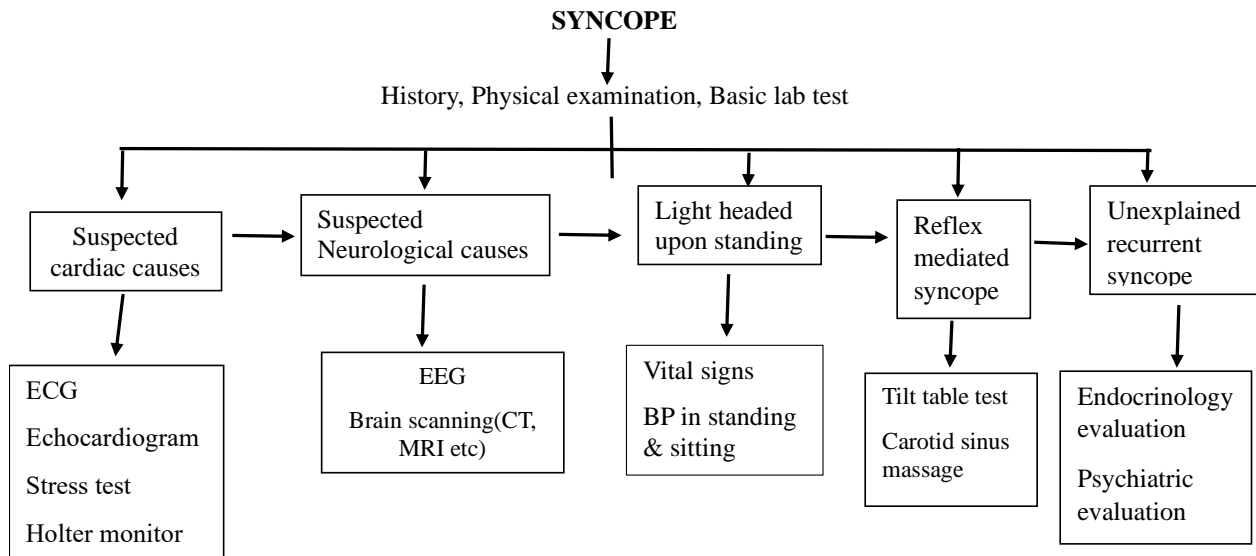
DIFFERENTIAL DIAGNOSIS²⁷

a) METABOLIC - Hypoxia, Anaemia, Diminished carbon dioxide due to hyperventilation, Hypoglycaemia.

b) PSYCHOGENIC- Anxiety attack

c) SEIZURES

INVESTIGATION



A thorough history and physical examination alone may yield a diagnosis in up to 50% of patients presenting with syncope. The history of syncope should focus on duration, preceding events or precipitating events, and post event findings. The position of the patient at the time of the event is important. Syncope in standing position can suggest vasovagal and in a supine position can be due to neurocardiac causes. A detailed history of the patient's medical problems and medications must be included.

The physical examination in syncope should centre around vital sign abnormalities sign as these can suggest underlying disease such as orthostatic hypotension or cardiovascular compromise.

ECG is the gold standard diagnosis test for cardiac syncope. It is important to identify possible underlying cardiac causes. The Echo is also essential to rule out structural heart diseases and cardiac syncope. Holter monitors to rule out cardiac arrhythmia's.

EEG may be useful where the diagnosis of syncope is uncertain & spontaneous epileptic seizure is suspected. Brain imaging like CT and MRI is useful in the presence of head trauma or neurological defects.

Tilt table test attempt to determine the cause of syncope by creating changes in position from lying to standing. Carotid sinus massage is a major diagnostic test for carotid sinus hypersensitivity which may manifested with syncope.

DISCUSSION

The Ayurveda literature explains variety of *Vegakaliniya Vikara* like *Unmada*, *Apasmara*, and *Murcha* is one among them. *Murcha* is the condition in which the person loses his consciousness and fell on the ground like a wooden log with inability to experience feeling of happiness or sorrow is called *Murcha* which is comparable with modern disease syncope on the parameter of etiology, premonitory symptoms, and clinical manifestation.

NIDANA

Nidana which is mentioned in *Murcha* can be linked to the etiological factor of syncope. *Ksheenasya* which can be related to debility and hypotension. *Vegaghata* which can be related to Valsal-

va maneuver, in strenuous coughing, straining during defecation, urination that can leads to defecation syncope and micturition syncope. *Abhighata* can be linked to injury to the any vital organs that can lead to syncope. *Heena Satwa* can be related to emotional stress, anxiety, fear which may lead to syncope.

PURVARUPA

Hritpeeda can be related to bradycardia and tachycardia which is mentioned in presyncope. *Jrimbha* is yawning, *Glani* which can be related to hypotension and *Sanjananasha* faint which is mentioned in the early symptoms of presyncope.

NEURALLY MEDIATED SYNCOPE

One of the causes of neurally mediated syncope is vasovagal syncope which is due increased vagal activation which can occur even in the sight of blood. *Rakthaja Murcha* can be included in the vasovagal syncope. The reference we get in the context of *Pakshaghata*, *Shiro Marma Abhighata* and *Apatanaka* can be linked to neurally mediated syncope.

ORTHOSTATIC SYNCOPE

Acharaya Charaka has mentioned in *Indriya Sthana* 7th chapter that the person who faints every time when raised from the bed will not survive even for a week. This can be related to orthostatic hypotension because there is a postural decrease in BP.

Acute alcohol consumption may be linked to syncopal events. Short-term alcohol intake causes orthostatic hypotension because of the impairment in the vasoconstrictor response to orthostatic stress. So, we conclude that *Madyaja Murcha* can be included in the orthostatic hypotension.

CARDIAC SYNCOPE

The reference *Murcha* we get in the context of *Apatantraka* & *Hidroga* can be related to cardiac syncope.

CONCLUSION

Syncope is a transient loss of consciousness due to acute global impairment of blood flow with loss of postural tone with spontaneous recovery. *Murcha* is *Pitta Tama Pradhana Vegakaliniya Vikara* with the involvement of *Rasa*, *Rakta*, & *Sajnavaha Srotas*. It

is an intermediate phase of loss of consciousness explained in ayurvedic literature. *Murccha* may manifest as separate *Vyadhi* or it may present as *Purvarupa*, *Rupa*, *Upadrava*, or *Arishta Lakshana*. Syncope may be caused by a trivial vasovagal attack to that of catastrophic cardiogenic causes. Different set of investigation has to be employed to rule out different causes of syncope. For initiating the prompt treatment diagnosing the type of syncope is crucial.

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