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## Concept of Haemorrhagic Shock in *Sushrut Samhita*

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### ABSTRACT

Shock is not an uncommon condition in surgical practice hence its knowledge for early diagnosis is mandatory for early management *Acharya Sushrut* was very well aware of this condition and he explained it in many relevant topic like in *RaktmokshanaVidhdi*, *Vidharadhi*, *ShadyoVarana* and *ShalyaNirharan*. He said it as having bad prognosis, in Ayurvedic text hemorrhagic shock is given special attention but hypovolumic, septic, vesovegal and cardiogenic shock is also being explained in related topics. He explained the relevant clinical features and their management according to the facilities available in ancient times he recommended its early management otherwise it may prove fatal. The modern science even explained it in more systematic way and its prevention and management according to today's facilities which falls very similar and improved version of *Acharya Sushruts* concept.

### KEYWORDS

*Shock, Ayurveda, Haemorrhage, Vesovegal, Septic, Shalya*



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## INTRODUCTION

Shock can refer to a range of related medical conditions in which the victims heart, lungs and blood cannot deliver oxygen to the body properly, its not a diagnosis or condition. It is always a symptom of a larger problem, and is a medical emergency that requires immediate attention. Shock is defined as a state of cellular and tissue hypoxia due to inadequate oxygen utilization, initially shock is reversible but must be recognized and treated immediately to prevent progression to reversible organ dysfunction. Shock is not uncommon condition to deal in surgical practice. It can happen due to trauma and sepsis before during and after pregnancy. Most commonly in surgical practice we face haemorrhagic, hypovolemic, septic and neurogenic shock. The *Ayurvedic* system of medicine is prevalent in India since *Vedic* period as early as the dawn of human civilization the study of *Ayurveda* reveals that they have spread enough thought to care trauma sepsis in term of surgery as well as medicament. The etiology, pathogenesis clinical feature, prognosis and management of different shock is being explained in *Ayurvedic* surgical text which is claimed to be the foremost by *Acharya Sushruta*. He was very much aware of surgical

emergency conditions like shock hence he explained it in context of wound, abscess, burn, intrauterine dead fetus & under certain other medical conditions<sup>1-2-3</sup>.

## PATHOPHYSIOLOGY OF SHOCK

Shock is usually due to sudden loss of blood volume / loss of fluid from the vascular space / inadequate circulation, which will cause decrease filling of right heart this cause decrease of filling of pulmonary vasculature which in turn decrease filling of left heart so left ventricular volume also decreases<sup>4-5</sup>. This cause a drop in arterial blood pressure. Hence many compensatory mechanism occurs in body physiology like-

- A) Adrenergic discharge
- B) Hyperventilation
- C) Release of vasoactive hormones
- D) Collapse
- E) Resorption of fluid from interstitial tissue
- F) Resorption of fluid from the intracellular to extracellular spaces
- G) Renal conservation of body water and electrolyte

If causative factor is progressive body consumption fail if condition of shock is not understand and managed then ultimately patient fall in multiple organ dysfunction syndrome and dies.

According to *Ayurveda Rakta* considered as the *Mool* of body from where all the nutrients get supplied to all over body and



Vridhi, Kshaya of all Dhatus depends on Rakta, hence any small supply of blood due to various cause as in different shock can definitely cause imbalance of total body physiology

To understand the condition of shock its mandatory to understand the clinical features of shock so that it can be diagnosed early and plan of management can be work out.

### CLINICAL FEATURES

Clinical features are due to the causative factors and some are result of body compensatory mechanism to come out from the shock. Appearance of clinical features depend on degree of shock whether, it is mild moderate and severe<sup>1-3-4-5-6</sup>.

MODERN	AYURVEDIC
Cold and pale extremities and face (forehead due to cold sweat)	Sheet paadkaraan and panduvadan
Hyperventilation dyspnea and trachypnoea	Swash
fever	Jwar
Cynosis	Shayav
Convulsion	Aakshepak
Thirst	Trishna
Giddiness	Timira
Oliguria and anuria	Mutrasang
Cardiac pain	Hridyashool
Unconsciousness	Murchha
Anorexia	Abhaktshandh
Tympanitis	Adyamaan

### AYURVEDIC MANAGEMENT

Acharya Sushrut explained such condition as bad prognosis<sup>1</sup> and explains the management of shock as Ashwashaan, Sheet JalShichan<sup>7</sup>, Dhatu Kshaya Chikitsa accordingly (Swayoni Vardhan Chikitsa) as

intake of Rakta can manage RaktaKshaya<sup>6</sup>. to stop blood loss he explains SiraVedha, Skandan, Shandhan, Pachan, Dehan and to restore blood loss as raktapaan of certain animals as deer, buffalo, rabbit etc, Kakolyadi Kwath along with MadhuSarkara and water, he also explains surgical intervention in conditions like haemorrhage (SiraVedha)<sup>6</sup>, Vidharadhi (exploration and drainage)<sup>8-9</sup> to control infection and manage septicemia. Acharya Sushruta also explains the Updravasshould be treated accordingly (symptomatic treatment).

### Modern science explains-

- 1) Resuscitation
- 2) Stop the blood loss
- 3) Fluid\blood replacement
- 4) Certain drugs to maintain vitals and break the vicious cycle of pathology like chronotropics, inotropics, vasodilators, vasoconstrictors, beta-blockers, diuretics, thrombolytics<sup>4-5</sup> etc

### CONCLUSION

Shock is a critical condition in medical practice which should be very well understood to diagnosis and manage in early stage. Our Acharyas were aware of it and they explained the etiology, pathogenesis, clinical features and management of such condition in many



places they said these condition as bad prognosis and should be explained to the patient and attendant about it morbidity and mortality before treatment. Hence they said these condition as *Pratyakheya* and *Asadhya* sometimes, as we already knows if such conditions not being managed soon can even turn in MODS and can cause death. *Ayurveda* gives special consideration to haemorrhagic shock they knew very well about the importance of blood and its role in body physiology. *Ayurvedic* also explained about septic, Hypovolemic, Traumatic, Anaphylactic and Neurogenic shock in different relevant places. Understanding shock can help in surgical practices hence we must be *Bhaushrut* (should refer many text) to diagnose and cure critical condition.



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