

**AYURVEDIC MANAGEMENT OF INBORN ERROR OF
METOBOLISM****Dr. Sundaravadana M.***

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ABSTRACT

Many childhood conditions are caused by gene mutations that encode specific proteins. These mutations can result in the alteration of primary protein structure or the amount of protein synthesized. The functional ability of protein, whether it is an enzyme, receptor, transport vehicle, membrane, or structural element, may be relatively or seriously compromised. These hereditary biochemical disorders are collectively termed inborn errors of metabolism (IBM). IBM can be correlated with *Jatah pramehas*. These metabolic errors in *Dhatus* due to deficiency of certain *Dhathwagnis* (enzymes) leads to an increase in *poorvadhathu* which remains in a incompletely metabolised state. Understanding and integration of modern and ayurvedic concepts of IBM made better management of IBM.

KEYPOINTS: In born error of metabolism (IBM), *Jatah pramehas*.**INTRODUCTION**

Inborn errors of metabolism (IBM) are conditions caused by genetic defects related to synthesis, metabolism, transport or storage of biochemical compounds. The metabolic error usually results in deficiency of one or more enzymes required for the formation or transport of proteins. Worldwide incidence of IBM has been estimated to be about 3-4/1000 live births. More than 300 such defects are known. Most IEMs are inherited in an autosomal recessive manner, some are X-linked.^[1]

Important IBM disorders^[2]

CARBOHYDRATE	PROTIEN	LIPIDS	RBC
Diabetes mellitus Renal glucosuria Mucopolysaccharidosis Galactosaemia Glycogen storage disease Lactose intolerance	Phenyl ketonuria Tyrosinaemia Alkaptonuria Methionaeamia Tryptophanurea	Gauchers disease Niemann pick disease Tay sach's disease Skin xanthomas	Sickle cell anaemia Thalassemia Methemoglobinemia Pigment disorder (Hb): porphyrias

Ayurvedic concepts^[3]

Various metabolic errors in *Dhatus (Doshas)* due to deficiency of certain *Dhaatwagnis* (enzymes) in Ayurveda are described as *Pramehas*. This leads to an increase in *poorvadhatu* which remains in an incompletely metabolized state. There appears to be an increasing incidence of such *pramehas* in a new born (*Jata pramehas*) where they present a picture of sepsis, hypoglycaemia or hyperammonaemia.

Normally the functions of *Vata*, *Pitta* and *Kapha* are effected because of some chemical substances. These substances get synthesized and metabolised with their daily turnover and kept within their physiological quantities (limits). These chemical substances remain in body in a buffer state with such qualities as *Snigdha*, *Seetha*, *Guru* etc of *Kapha*, *Teekshna*, *Ushna*, *Visra*, *Sara* etc of *Pitta*, *Rooksha*, *Laghu*, *Seetha* etc of *Vata*.

When these chemical moieties of *Vata*, *Pitta*, *Kapha* fail to get metabolized properly (formation of *Aparipakwa Dhatu*), their intermediary products get increased (*Prakopa*) with *Purvadhatu vrudhhi* and circulate in larger quantities in *Rasa* and *Raktha* (by gliding gently from their places) in a debilitated body.

Integration of Modern & Ayurvedic concepts of IEM

IBM may be co-related with concept of *Jatha pramehas* as per Ayurveda.

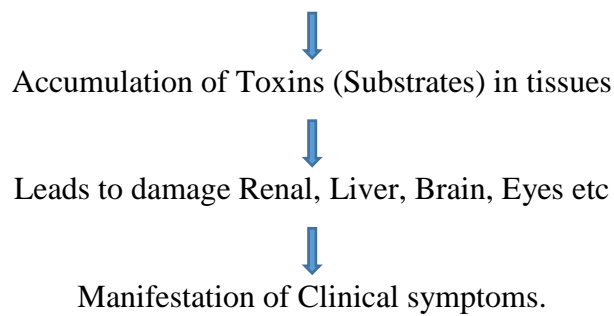
As per modern science liver is the largest grandular organ of the body associated with metabolism processing of enzymes, synthesis, secretion, excretion, protection and clearance.

According to Ayurveda normal *Yakrith* (Liver) is closely associated with balance of *rakta dhatu*, *ranjaka pitta*, *pachaka pitta*, *bhuthagni* and *raktavaha srothas*.

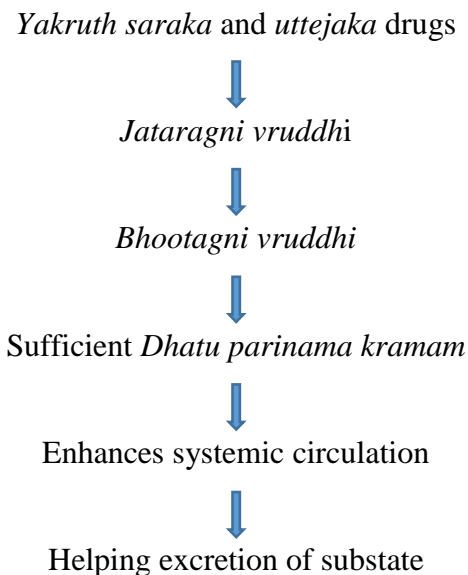
De-arrangement of *jataragni* (Default metabolism)



Defect in *Dathu parinama kramam* (Default Metabolism of Protiens, Lipids etc)



TREATMENT PRINCIPLES



DISCUSSION

Various metabolic errors in *Dhatus* due to deficiency of certain *Dhatvagnis* (enzymes) in Ayurveda are described as *pramehas*. This leads to an increase in *purvadhathu* which remains in an incompletely metabolized state.

Normally the functions of *Vata*, *Pitta*, *Kapha* are effected because of some chemical substances. These substances get synthesized and metabolized with their daily turnover and kept within their physiological quantities (limits). These chemical substances remain in body in a buffer state with such qualities as *Snigdha*, *Seeta*, *Guru* etc of *Kapha*, *Teekshna*, *Ushna*, *Visra*, *Sara* etc of *pitta* and *Ruksha*, *Laghu*, *Seeta* etc of *Vata*.

When these chemical moieties of *Vata*, *Pitta*, *Kapha* fail to get metabolised properly, their intermediary products get increased with *purvadhathu vrudhi* and circulate in larger quantities in *Rasa* and *Rakta*.^[4]

Derrangement of *Jataragni* is main causative factor which leads to derangement of Metabolism results impaired *Dhatu parinama kramam*. By correcting this further accumulation of toxins will be reduced.

CONCLUTION

Integration of Modern medicine and Ayurvedic concepts will make us understanding the pathophysiology of IBM, by *samprapthi vigatana chikista* reduces the accumulation of toxins.

Taking *patya* food also prevents extra substate formation. *Mutra virechaniya* and *Mutra virajaneeya* drugs could be more useful.

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