

VIRECHANAM- AN ETHICAL FRIEND OF NECESSARY LIPIDS**Dr. Mrudula Sankaramanchi¹ Dr.Ch.Sadanandam² Dr. M. Praveenkumar³**¹PG Scholar, ²Guide, ³Co-Guide;PG Dept. Of Panchakarama, Dr. B.R.K.R.Govt. Ayurvedic College,
Hyderabad, Telangana, India**ABSTRACT**

The defect in the normal physiology happens either 1.because of no production of one of the enzymes needed to metabolise lipids or 2. The cells produce enzymes that fail to work properly. Though the general pathology of any organ-system is the same, the lipid storage disorders are under high alert condition as metabolic disorders have increased their incidence in the near past. As the classical treatises have enumerated, the five subtypes of *pitta* in their own place do the metabolic activities under certain limitations. The main biological functions of lipids include storing energy, signaling, and acting as structural components of cell membranes. lipids may be divided into eight categories: fatty acids, glycerolipids, glycerophospholipids, sphingolipids, saccharolipids, polyketides, sterol lipids and prenol lipids. The cerebroside named sphingolipid accounts to the myelin sheath. sphingolipid synthesis can give a measurement of myelin formation or demyelination. This area of disorders (de-myelination) which can only assure life-style improvement with steroids can be intervened by Ayurveda with *SNEHAPANA* and *VIRECHANAM*. As there seems to be a decline in the triglycerides and Cholesterol levels after *virechanam*, it is understood that *virechanam* is a friend to the normal levels of lipids in the blood. Hence I propose its role in sphingolipidosis or the deranged levels of sphingolipids which I predict are going to be a future health hazard.

Keywords: *pitta*, glycerophospholipids, sphingolipids, saccharolipids, polyketides,**INTRODUCTION**

Lipid storage disorders are a group of inherited metabolic disorders in which harmful amounts of lipids accumulate in some of the body cells and tissues. The defect in the normal physiology happens either 1.because of no production of one of the enzymes needed to metabolise lipids or 2. The cells produce enzymes that fail to work properly. Though the general pathology of any organ-system is the same, the lipid sto-

rage disorders are under high alert condition as metabolic disorders have increased their incidence in the near past.

Over a period of time, excessive storage of fats can cause permanent cellular and tissue damage, particularly in brain, peripheral nervous system, liver, spleen and bone marrow. Lipids are present in membranes found within and between each cell, also in myelin sheath.

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The irony is that this era is holding tightly both the reduced and increased levels of lipids in varied areas of organs. Steatosis is the pioneer, be it to the metabolic syndrome or fatty liver. The functional inability of the liver to expel lipids has reasons right from the the iron expulsion (ex: fredriech's ataxia) to infiltration (fatty liver).

Pancha vidha pitta

As the classical treatises have enumerated, the five subtypes of *pitta* in their own place do the metabolic activities under certain limitations. The *paachaka pitta* takes care of the *mahasrotas* which in turn is responsible for the proper circulation of *rasa* to all the *dhatu*s through *uttarottara dhatu poshana*. Almost all the gut related disorders account to the malfunctioning i.e. hyper or hypo functioning of this variety of *pitta*. *Ranjaka pitta* does the *ranjanam* of *rasa dhatu* hence it is an objective parameter or the index of the well being of *rasa*. Its function can be appreciated in conditions like porphyria, anemias (varied) where the pathology is around the basic element of the blood. *Bhrajaka pitta* in good terms with not only *vaataadi doshas* but also with *ranjaka pitta* is the external indicator of internal *sareera kriya*. As face is the index of the mind, skin speaks about the underlying connective tissues. All the dermatological complaints of both systemic and local origin account to this *pitta*.

Alochaka pitta has imbibed the exact relation of *pancha panchaka* by focusing on the "rupa" with respect to *agni mahabhuta*. Ex: The sub conjunctival haemorrhage or the hyperemia of the venous bed in the sclera indicates the outlet of excess *pittam* in its abode. *Sadhaka pitta* is more functional than being structural, to be appreciated but, estab-

lishes itself through the activities in association with its allies.

Metabolism and pitta

Metabolism on the whole is labeled as the *pitta* function. This co-relation has been proved right earlier in cases where metabolism is altered. Either hypo or hyper functioning of *pitta* deranges the gut. Though altered bowel habits and constipated bowel come under the ill functioning of *vaata*, an underlying role of altered *pitta* has to be accepted.

Lipids in the body

The main biological functions of lipids include storing energy, signaling, and acting as structural components of cell membranes. lipids may be divided into eight categories: fatty acids, glycerolipids, glycerophospholipids, sphingolipids, saccharolipids, polyketides, sterol lipids and prenol lipids. Lipids are actually the extension of triglycerides whose excess levels cause many hazardous disorders.

Triglycerides which are excessively out of range have been brought back to normalcy through virechanam in many cases of hyperlipidemia.

Sphingolipids and their mechanism

Sphingolipids are commonly believed to protect the cell surface against harmful environmental factors by forming a mechanically stable and chemically resistant outer leaflet of the plasma membrane lipid bilayer. Certain complex glycosphingolipids were found to be involved in specific functions, such as cell recognition and signaling. Cell recognition depends mainly on the physical properties of the sphingolipids, whereas signaling involves specific interactions of the glycan structures of glycosphingolipids with similar lipids present on neighbouring cells or with proteins.

Recently, simple sphingolipid metabolites, such as ceramide and sphingosine-1-phosphate, have been shown to be important mediators in the signaling cascades involved in apoptosis, proliferation, stress responses, necrosis, inflammation, autophagy, senescence, and differentiation. Ceramide-based lipids self-aggregate in cell membranes and form separate phases less fluid than the bulk phospholipids. These sphingolipid-based microdomains, or "lipidrafts" were originally proposed to sort membrane proteins along the cellular pathways of membrane transport. At present, most researches focus on the organizing function during signal transduction.

Sphingolipids are synthesized in a pathway that begins in the ER and is completed in the Golgi apparatus, but these lipids are enriched in the plasma membrane and in endosomes, where they perform many of their functions. Transport occurs via vesicles and monomeric transport in the cytosol. Sphingolipids are virtually absent from mitochondria and the ER, but constitute a 20-35 molar fraction of plasma membrane lipids. In experimental animals, feeding sphingolipids inhibits carcinogenesis of colon, reduces LDL (bad) cholesterol and elevates HDL (good) cholesterol

Why sphingolipids?

There is a shoot up in the number of demyelination and progressive disorders nowadays. Basically glycosphingolipid which is a polysaccharide is divided into glycosylceramide (the skin related lipid) while galactosylceramide or cerebroside (the neuron related lipid.) It forms major constituent of the oligodendrocytes. This cerebroside synthesis can give a measurement of myelin formation or demyelination. This area of disorders (de-myelination) which can only

assure lifestyle improvement with steroids can be intervened by Ayurveda with *SNEHAPANA* and *VIRECHAN*. The presence of lipid content in myelin sheath leaves a scope of research where the pathologies which do not affect the progressive demyelination but have attained a stage of loss of myelin can be considered under *vata kopam*. In turn, test the efficacy of *ghrita* preparations which might arrest the progression of demyelination, just as the drugs used in the case of multiple sclerosis where even the postponement of episodes also adds on to the increased quality of life in the patient. There are many instances in the classical treatises where *mastishka kshaya* or indeed any *kshaya* is counteracted with *tarpanam* or *brimhanam*. In the same lines, if such conditions are considered and classified, there is a wide spectrum of disorders yet which can be answered.

VIRECHANAM – RASAYANAM

The criteria of *virechanam* are to re-establish *agni*, regulate *pittam*, most importantly rasayana property. It is subject friendly and less complicated. There have been noted cases where endocrinological disorders were successfully corrected with *virechanam*. The *snehapana* plays a real important role in the series of events. *Samyak snigdha lakshanas* attained speak about the levels of lipids which are available in the blood. *Abhyanga* which is stipulated for three days does the preparation of the subject physically and psychologically for the *pradhana karma*. The order of expulsion follows the physiology of *apana vata* there by establishing normalcy through *anulomana*. After the evacuation, the exhaustion expressed by the patient indicates the loss of energy . *Indriya dourbalyam* means the need for *tarpanam*. This becomes the right

juncture for *samsarjana krama* where the villi absorb *laghu ahara* and satiate the *agni*. This in turn commences the conversion of fats into energy and that is normally called "burning calories". At various levels of metabolic activities, *virechanam* does the expulsion of *malas*. As the lipids which are excessive are considered *malas*, they are expelled through *virechanam*.

CONCLUSION

As there is a decline in the triglycerides and Cholesterol levels after *virechanam*, it is understood that *virechanam* is a friend to the normal levels of lipids in the blood. Hence *virechanam* has a probable role in sphingolipidosis or the deranged levels of sphingolipids. This hypothesis would be prevent a future health hazard.

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