

Rationale of *Sansarjana krama* in terms of Modern Dietetics and Modern Physiology.

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ABSTRACT:

In the *Ayurveda* the prime importance has been given to *shodhana karma* for the complete elimination of the disease which includes *purva karma*, *pradhana karma* and *paschat karma* (post procedural regimen). As the *purva karma* helps to movement of the *doshas* and *pradhana karma* helps to forceful elimination of *doshas*, *paschat karma* has given the equal importance to retain the strength of the agni. The theoretical and practical way of giving *Sansarjana krama*, its importance and its relation with modern physiology and dietetics has been discussed in this paper.

Keywords:

Sansarjana krama, Dietetics, Modern physiology, Role of Agni.

INTRODUCTION

In *Ayurveda*, treatment is not just based on medicines but diet is also having prime important. Diet and regimen has a major supportive role in *chikitsa*. Acharya Vagbhat described two types of diseases i.e. *Sama* and *Nirama* with its line of treatment as *Santarpana* (*Bruhana*) and *Apatarpana* (*Langhana*).^[1] *Langhana* is done by *shodhana* and *shamana*.^[2] Out of which *shodhana* has given the prime importance as it is a complete cure for the disease as there is no possibility of disease recurrence.^[3]

Shodhana is done in three phases' *poorva karma*, *pradhana karma* and *paschat karma*. *Poorva karma* helps to move doshas from *shakha* to *koshtha* for easy elimination while *pradhana karma* helps in forceful elimination of doshas. Due to this vigorous treatment body undergoes *bala hani* and *agni mandya*. To correct this we have to follow *paschyat karma* properly.

The *paschyat karma* like *sansarjana krama*, *parihara kala*, *tarpanadi kramas* are mentioned to be given gradually and in sequential order to retain the strength of agni. *Sansarjana krama* is advocated after *vaman* and *virechaana* and *parihara kala* is advocated after *basti*.^[4] The reason given by *acharya chakrapani* for advocating *Sansarjana krama* after *vaman virechana* and not after *basti* is because *prabhut* elimination of *doshas* which causes *kshobha* on body leading to *agnimandya* and after *basti* there is *stoka* (less) *agnimandya*.^[5]

To restore the strength of *Agni* and *Prana*, *Peyadi Sansarjana krama* should be followed.^[6] A beautiful comparison between external fire and internal fire, so called *Agni* is explained

by *Acharaya Charaka*; as little (external) fire kindled gradually with grass (*trun*), cow dung (*gomaya*) etc. becomes great and stable so as in case of *Agni* after *Vamana Karma* and *Virechana Karma*, *Peyadi Krama* makes the *Agni* to digest all types of food.^[7]

When *Samyaka Shudhi* occurs, *Sansarjana krama* may be started on the same day. If a little vitiation i.e. *Aushadhi* is remained inside the *koshtha*, *Sansarjana krama* should be initiated from the next day.^[8] The planning of *Sansarjana krama* should be based on the type of *Shudhi* i.e. for *Hina Shudhi*, *Madhyama Shudhi* and *Pravara Shudhi*, it is of three *annakala*, two *annakala* and one *annakala* respectively.^[9]

There are four types of *shuddhi* regarding *vamana* and *virechana* in classics. In *Chakarapani vaigiki*, *maniki*, *antiki* and *laingiki*, *shuddhi* has been mentioned.^[10] *Dalhana* mentions three criteria *laingiki*, *vaigiki*, *maniki*, amongst which *laingiki* has best criteria for assessment of *shodhana*.^[11] For *Sansarjana krama* *shushruta* has given importance to the quantity of doshas expelled in *shodhana* which is *maniki* criteria.^[12]

Table No.1: Relations between types of Shudhi and annakala, *Sansarjana krama* days are as follow –

Type of Shudhi	Annakala	days
Pravara	3	7
Madhyama	2	5
Avara	1	3

Table No.2: Sansarjan krama (theoretical approach)

	Annakala	Pravara	Madhyama	Avara or Hina
1	M	-	-	-
	1 st	E	Peya	Peya
2	2 nd	M	Peya	Peya
	3 rd	E	Peya	Vilepi
3	4 th	M	Vilepi	Vilepi
	5 th	E	Vilepi	Krutakruta yusha
4	6 th	M	Vilepi	Kruta yusha
	7 th	E	Akruta yusha	Akruta mansarasa
5	8 th	M	Kruta yusha	Kruta mansarasa
	9 th	E	Kruta yusha	Samanya bhojana
6	10 th	M	Akruta mansarasa	X
	11 th	E	Kruta mansarasa	X
7	12 th	M	Kruta mansarasa	X
	13 th	E	Samanya bhojana	X

Table No.3: Sansarjana krama (practical approach)

Annakala	Day time	Anna	description	grains	anupana
1 2 3	Same day evening or next day morning as per <i>agnibala</i>	Manda or yavagu	sukhoshna	Puranlohitashali tandula	-
4 5 6	Accordingly next <i>annakala</i>	Vilepi	Asnehalavana or alpasnehalavana	Puranlohitashali tandula	ushnodaka
7 8 9	Accordingly next <i>annakala</i>	Yusha	prasuta shali and tanusnehalavans mudhayusha	Puranlohitashali tandula and mudga	ushnodaka
10 11	Accordingly next <i>annakala</i>	Mansa rasa	Prepared by using water and lavana	Lava kapinjaladi	ushnodaka

Rationale in terms of modern physiology and Dietetic -

1. Digestion and absorption of carbohydrates-

Digestion of carbohydrate starts in mouth, mostly the starch which is monosaccharide get digested in mouth by saliva and get converted into α -limiting dextrin and maltose(to some extent). It can only digest starch after the natural plant granules have been burst e.g. by cooking. In duodenum all *dextrins* and starch get digested and converted into maltose. Further digestion of maltose is done in jejunum and proximal ileum. Carbohydrates are completely absorbed at 100 cm from the duodenum i.e. before the remains of a meal reach the terminal ileum. Rate of absorption of glucose is the fastest one.

2. Digestion and absorption of fat-

Some hydrolysis of neutral fats takes place during cooking. Digestion of fat starts in small intestine. However salivary lipase is active in the stomach can digest 30% of dietary triglycerides (simple fats/neutral fats). Fat absorption is greatest in the upper part of the small intestine but appreciable amounts are also absorbed from the ileum.

3. Digestion and absorption of protein-

Protein digestion starts from the stomach then in duodenum and lastly in small intestine. Absorption of amino acids is rapid in the duodenum and jejunum.

DISCUSSION

In *Snehapana* bile salts are used up for the emulsification of large amount of fat in the form of *achha snehapana*.

In *Vaman* procedure, chest, back, diaphragm, neck muscles goes into

contractions and therefore more energy is consumed in upper GI tract. Anti-peristaltic movement also causes more energy consumption. It contains 8-12 *vegas* which ends up in more energy loss. Electrolytes are also lost. Gastrointestinal muscles are in state of laxity due to fatigue cause due to electrolytes loss.

Samyak Virechan have 6-12 *vegas* which are in normal peristaltic direction but tone of intestinal muscles get increased and more interstitial fluids are drag into lumen. Some intestinal fluid also get diffused into lumen of gut. So almost small and large intestine gets wash and intestinal contents get expelled out of the body in stool. This causes electrolytes loss and also muscles get laxity due to over stimulated effect of *Virechan* (purgatory effect).

Now in this state no bile salts available for fat to get metabolized. Electrolytes are lost, loss of more interstitial fluid, state of dehydration and fatigue due to above physiological conditions.

So if we look at the *Sansarjana krama*, it is started with Rice kanji which is easily absorbed at first level and electrolytes are replenished that should be first step in *nourishment*. Salts are added which is important for cells normal functioning Action potential of cell get restored on primary basis.

Then carbohydrates added in rice form in *krama* which contain high *glycemic* index and due to easy absorbability by cells that gets sugar for their action or to generate ATPs for cell functions to get normalize.

If you added fats at primary level, bile salts are not available due to *snehapana* so there may be indigestion, heaviness, flatulence or colicky pain due to non

emulsification of fat. To avoid this fats are added after three days in the form of *snehyukt vilepi* or rice etc.

Till fourth to fifth day no proteins are added. If you add protein in your diet at first level, presence of proteins triggers strong contractions due to secretion of *gastrin* in stomach and *secretin* in small intestine which further triggers strong contractions. By 4 days intestinal muscles gets relax due to salt and glucose derived from digestion of *mand peya vilepi*.

Then partial incomplete protein in the form of *dal* pulses in *Yush Kalpana* were added consecutively which helps in regaining the lost amino acids. Then added complete animal proteins which take longer period to get digested but amino acids derived from them help in improving enzymes and hormones which have chief ingredient as amino acids.

Small intestine plays more *secretory* and absorptive role in process of digestion. More secretions are secreted viz. mucus, digestive juices, enzymes hormones etc. they are more in fluids. Almost 10-14 liters of fluids get secreted which are reabsorbed mostly in process of digestion and metabolism in small and large intestine. While doing *virechan*, large portion of secretions are also expelled in stool. Even gut *microbiome* is also reduced or cleared. By giving *sansarjan krama* stepwise, we help to increase absorption capacity of villi in small intestine and mucosal epithelium in large intestine. Which improves digestion and metabolism in long term. Even new sets of *microbiome* also get chance to flourish in new environ of gut which are symbiotic in nature with our microbial flora which have many beneficial effects on our health in Toto.

MATERIAL AND METHODS

- *Laghutrayi*
- *Brihatrayi*
- *Supshastra*
- *Modern dietetic*
- Internet

CONCLUSION:

As per all available literature and modern dietetic arrangement of *sansarjan krama* has similarity on principles of digestion process and *agni* status. *Sansarjan krama* derived in such manner that lost energy get replenish slowly steadily without giving any burden on the digestion (Agni). But giving optimum nutrition as per bodily capacity this is the beauty of ancient wisdom. Dietary inclusion of carbohydrates, fats, proteins in a stepwise manner in *Sansarjana krama* thus proven scientifically on the basis of modern dietetic and physiological bodily functions.

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