Role of Sansarjana Krama and various Yavagu in Malnutrition due to Chemotherapy induced Nausea and Vomiting.

Anurag Kushal¹, Ritika Verma², Arvind Singh Guleria²

¹ Department of Panchakarma, SSAMCH Bhikhi Mansa Punjab, India.
² Department of Samhita evum Siddhant, SSAMCH Bhikhi Mansa Punjab, India.

ABSTRACT

Introduction: Chemotherapy agents are the chemical agents. Their systemic administration may cause malnutrition due to gastrointestinal toxicities. Symptoms like nausea and vomiting, anorexia, diarrhea are more common, which leads to malnutrition. In Sansarjana Krama, administration of carbohydrates and proteins in a specific manner enhances the digestive and absorptive capacities.

Method: Ayurveda texts, Medical journals, Articles etc. have been scrutinized to gather the information.

Result: The incidence of nausea and vomiting depends on the emetogenic potential of the specific drugs, dose, combinations and treatment schedules. In SK, food is administered in sequence of carbohydrates, proteins and fat. Introduction of food in this sequence gradually increases the capacity of digestion and absorption. Also, according to different symptoms, Yavagu and Peya can be prescribed.

Conclusion: SK is necessary to level up the digestive power to its normal state. Prescribing SK may help in tackling the malnutrition due to chemotherapy induced nausea and vomiting.

Keywords: Chemotherapy; Peya, Sansarjana Krama; Yavagu.

INTRODUCTION

Chemotherapy agents are the chemical agents. Their systemic administration may cause malnutrition due to gastrointestinal toxicities. Symptoms like nausea and vomiting, anorexia, diarrhea are more common, which leads to malnutrition resulting in higher complication rate and reduced tolerance for treatment. Hospital stays are prolonged, which directly affects the effect of treatment, increase mortality, as well as burden on health care resources. According to Ayurveda, Agnimandya (weak digestive power) occurs due to chronic nature of the disease which further increases due to the use of these chemical agents. Hence it is necessary to improve the Agnibalai (Digestive power) so that appetite is improved and healing can occur. Here comes the role of Sansarjana karma (SK). It is the sequential dietary regimen which is necessary to increase the digestive powers up to its normal state, as well as to provide the needful energy at that time.

Correspondence: Dr. Anurag Kushal. Department of Panchkarma, SSAMCH Bhikhi, Mansa, Punjab, India, P.O.Box:1515044. Email: anuragkushaljgd@gmail.com. Phone No. +91-8219572085.
It is used after the purification therapy, namely in case of 
Vamana (Medicated induced emesis) and Virechana 
(Medicated induced purgation) where the Agnibala 
(Digestive power) decreases, and the person is not able to 
digest normal routine diet.

In our texts, the SK is decided based on Shuddhi(level of 
purification), which is estimated on the number of 
Vega(bouts) and the Matra (quantity of product 
expelled).9 (Table 1) Use of Yavagu and Peya according to 
various conditions is also mentioned in our texts.

Hence an attempt has been made in this review to assess 
the usage of SK in chemotherapy induced malnutrition

<table>
<thead>
<tr>
<th>Purification</th>
<th>Vega(bouts)</th>
<th>Matra(Quantity)</th>
<th>Annakala (Diet schedule)/ Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jaghnya (Low level)</td>
<td>4</td>
<td>10</td>
<td>1 Prastha</td>
</tr>
<tr>
<td>Madhyam (Medium level)</td>
<td>6</td>
<td>20</td>
<td>1½ Prastha</td>
</tr>
<tr>
<td>Pravara (Higher level)</td>
<td>8</td>
<td>30</td>
<td>2 Prastha</td>
</tr>
</tbody>
</table>

Table 1.Number of Vega(bouts) and the Matra (quantity of product expelled)

Note: 1 prastha is equal to 640gm.

METHODS

Ayurveda texts, Medical journals, Articles etc. have been 
scrutinized to gather the information. Keywords: 
Sansarjana Krama and Yavagu were observed through the 
literature review.

RESULTS

Method of Preparation and Administration:

Days of administration of SK depends on the type of 
Shuddhi.9,10 (Table 2.)

For a person taking a diet weighing 200 grams of food 
material per meal in a day, the amount of rice taken 
during SK will be ¼ ,i.e. 50 grams. The methods of 
preparation are done accordingly:

Peya (thin rice gruel)11 –1- part Shastika (Oryza sativa Linn) rice is mixed with 14 parts of water and heated up. If a large amount of water remains while the rice is cooked well, it is called Peya.

Example-50 gms of rice+ 700ml water

Vilepi (thick rice gruel)12 -1- part of Shastika rice (Oryza sativa Linn) is mixed with 4 parts of water and heated up. If less water remains while the rice is cooked well, it is called a Vilepi.

Example-50 gms of rice+ 200ml water

Yusha (black gram pulse soup)13 - 1- part Moonga Daal (Vigna radiate) and 16- part water is heated until half of the water remains. 50 gms of pulses+800ml water

Mansarasa (meat soup) Nirmana vidhi14 There are 3 types of Mansarasa (Meat soup) given according to their viscosity-

1. For thick viscosity- 8 Pala Mansa is cooked with 1 Prastha water (320 gms meat+640ml water)
2. For medium viscosity -6 Pala Mansa is cooked with 1 Prastha water (240 gms meat+640ml water)
3. For thin viscosity -4 Pala Mansa is cooked with 1 Prastha water (160 gms meat+640 ml water)

Nutritional Analysis:
The products contain their nutritional values.15 Carbohydrates- Peya contains 92.3%, Vilepi contains 88.05%, Akritush contains 60.89% , Krityush contains 77.2%, while carbohydrate content is negligible in case of Mansarasa.

Proteins- Peya contains 2.70%, Vilepi contains 8.12%, Akritush contains 21.24%, Krityush contains 18.22%, Akrithmansarasa contains 41.43% and Kritmansarasa contains 44.82% proteins.

On roasting, rice starch changes to resistant starch which escapes from the small intestine of healthy individual and get fermented by colonic bacteria.16 The study done to assess nutritional composition and digestibility of puffed grains shows that total sugar content increases along with raise in gelatinization degree which helps in easy hydrolysis. Digestibility of starch and protein in grains is also improved after puffing.17 Hence, studies shows that processed rice is preferable in the nutritional aspect.18

Note: 1 prastha is equal to 640gm.
Table 2. Types of Shuddhi and days of administration of SK.

<table>
<thead>
<tr>
<th>Day</th>
<th>Pravara Shudhi</th>
<th>Madhyam Shudhi</th>
<th>Avara Shudhi</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Evening</td>
<td>Evening</td>
<td>Evening</td>
</tr>
<tr>
<td></td>
<td>Peya (thin rice gruel)</td>
<td>Peya (thin rice gruel)</td>
<td>Peya (thin rice gruel)</td>
</tr>
<tr>
<td>2</td>
<td>Morning</td>
<td>Morning</td>
<td>Morning</td>
</tr>
<tr>
<td></td>
<td>Peya (thin rice gruel)</td>
<td>Peya (thin rice gruel)</td>
<td>Vilepi (thick rice gruel)</td>
</tr>
<tr>
<td></td>
<td>Evenings</td>
<td>Evening</td>
<td>Evening</td>
</tr>
<tr>
<td></td>
<td>Peya (thin rice gruel)</td>
<td>Vilepi (thick rice gruel)</td>
<td>Krita yusha (black gram pulse soup with salt and ghee)</td>
</tr>
<tr>
<td>3</td>
<td>Morning</td>
<td>Morning</td>
<td>Morning</td>
</tr>
<tr>
<td></td>
<td>Vilepi (thick rice gruel)</td>
<td>Vilepi (thick rice gruel)</td>
<td>Krita mansa rasa (meat soup with salt and ghee)</td>
</tr>
<tr>
<td></td>
<td>Evenings</td>
<td>Evening</td>
<td>Evening</td>
</tr>
<tr>
<td></td>
<td>Vilepi (thick rice gruel)</td>
<td>Akrita yusha (black gram pulse soup without salt and ghee)</td>
<td>Normal Diet</td>
</tr>
<tr>
<td>4</td>
<td>Morning</td>
<td>Morning</td>
<td>Morning</td>
</tr>
<tr>
<td></td>
<td>Vilepi (thick rice gruel)</td>
<td>Krita yusha (black gram pulse soup with salt and ghee)</td>
<td>Krita mansa rasa (meat soup without salt and ghee)</td>
</tr>
<tr>
<td></td>
<td>Evenings</td>
<td>Evening</td>
<td>Evening</td>
</tr>
<tr>
<td></td>
<td>Akrita yusha (black gram pulse soup without salt and ghee)</td>
<td>Akrita mansa rasa (meat soup with salt and ghee)</td>
<td>Normal Diet</td>
</tr>
<tr>
<td>5</td>
<td>Morning</td>
<td>Morning</td>
<td>Morning</td>
</tr>
<tr>
<td></td>
<td>Krita yusha (black gram pulse soup with salt and ghee)</td>
<td>Krita mansa rasa (meat soup with salt and ghee)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Evenings</td>
<td>Evening</td>
<td>Evening</td>
</tr>
<tr>
<td></td>
<td>Krita yusha (black gram pulse soup with salt and ghee)</td>
<td>Normal Diet</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Morning</td>
<td>Akrita mansa rasa (meat soup without salt and ghee)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Evenings</td>
<td>Krita mansa rasa (meat soup with salt and ghee)</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Morning</td>
<td>Krita mansa rasa (meat soup with salt and ghee)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Evenings</td>
<td>Normal Diet</td>
<td></td>
</tr>
</tbody>
</table>
DISCUSSION

The incidence of nausea and vomiting depends on emetogenic potential of the specific drugs, dose, combinations and treatment schedules which ranges up to 90%. In some cases, delayed symptoms may appear. It is believed that entero-endocrine cells in the GI mucosa are stimulated by the chemotherapeutic agent which leads to release mediators (prostaglandins, 5-hydroxytryptamine (5-HT), cholecystokinin and substance P) which stimulate vagal afferents resulting in nausea and emetic reflex. Digestion and absorption decreases, appetite reduces.

In SK, food is administered in sequence of carbohydrates, proteins and fat. Peya contains more liquid along with carbohydrates which are absorbed easily by the intestinal lumen in this form. Manda and Vilepi contain less liquid with higher amounts of carbohydrates. In the case of Yusaha, it is prepared from cereals and pulses. Cereals and pulses are the simplest form of protein derived from plants. Finally, complex proteins are given in the form of meat soup. In this way all forms of food are introduced which gradually increases the capacity of digestion and absorption.

In the context of different conditions Deepniya Yavagu may help in enhancing the intake capacity while Pachani peya may increase the digestive capacity. Pipasahara yavagu might help in curing the excessive thirst. Sangrali yavagu may be used in case of diarrhea. Vata anulomani yavagu may help in proper regulation of peristaltic movements. Once the digestion improves, we can use Snehani yavagu and Brimhanti yavagu to improve the nutritional status of the patient.

CONCLUSIONS

Sansarjana karma is necessary to level up the digestive power to its normal state after Sanshodhana (Purification) is done. So, it can help in improving malnutrition due to chemotherapy. With the enhancement in the technology, various new techniques are to be used for planning as the ultimate goal of every treatment plan is providing best care and treatment to the patients.

REFERENCES

   https://doi.org/10.1007/s00520-008-0472-7

   https://doi.org/10.1016/j.clnut.2006.10.005

   https://doi.org/10.1111/j.1747-0080.2009.01372.x

   https://doi.org/10.1093/annonc/mdh110

   https://doi.org/10.1188/02.ONF.517-532

   https://doi.org/10.1111/j.1524-733X.2006.00141.x

7. Gregory A. Plotnikoff et al, Forum: What to eat when you can't eat, Global advances in health and medicine, November 2014, Volume 3, Number 6, Pg no. 56-72  
   https://doi.org/10.7453/gahmj.2014.063


9. Pt. Kashinath Pandey, Dr. Gorakhnath Cahturvedi Charaka Samhita Vidyotni teeka, Chaukamba Bharti Academy, Varanasi, Reprint 2014, Siddhi Sthana; Chapter 1 Verse 11-12 Pg no 961.

10. Pt. Kashinath Pandey, Dr. Gorakhnath Cahturvedi Charaka Samhita Vidyotni teeka, Chaukamba Bharti Academy, Varanasi, Reprint 2014, Siddhi Sthana; Chapter 1 Verse 16 Pg no 313.

11. Dr. Shailaja Srivastava, Sharangdhara Jiwanpradaa teeka, Chaukamba Orientaliya, Varanasi, 2015, Madhya khandh, Chapter 2 Verse 169, Pg No 161

12. Dr. Shailaja Srivastava, Sharangdhara Jiwanpradaa teeka, Chaukamba Orientaliya, Varanasi, 2015, Madhya khandh, Chapter 2 Verse 168, Pg No 161

13. Dr. Shailaja Srivastava, Sharangdhara Jiwanpradaa teeka, Chaukamba Orientaliya, Varanasi, 2015, Madhya khandh, Chapter 2 Verse 170, Pg No 161


This work is licensed under a Creative Commons Attribution 4.0 International License. The images or other third party material in this article are included in the article’s Creative Commons license, unless indicated otherwise in the credit line; if the material is not included under the Creative Commons license, users will need to obtain permission from the license holder to reproduce the material. To view a copy of this license, visit http://creativecommons.org/licenses/by/4.0/