“Role of laja manda in the management of Atisara (diarrhea) from Ayurvedic and modern perspective.”

Poonam Shete-Mapari*1 Archana Kulkarni2

1. Asst. Professor, Department Ras-shashtra and Bhaishajya Kalpana
2. Professor, Rog nidan Dept., archana.arukulkarni@gmail.com, Mob No. :- 9422164367
BSDT’s Ayurved college, Wagholi, Pune. Maharashtra.
*Corresponding author: E-mail: drpoonamshete@gmail.com, Mob. No: 9421080944

ABSTRACT:-
Ayurveda is a holistic life science. It emphasizes more on preventive aspect than curative aspect of the disease. Hence, more importance has been given to appropriate ahara (dietary regimen), vihara (lifestyle regimen) than ausadhi dravya. Ahara is the main pillar of a body so called as mahabhaiṣajya. The ahara and vihara which are beneficial, nutritious and gives happiness to the mind is known as ‘Pathya’ and the opposite is called as ‘Apathya’. Pathya not only advocates intake of wholesome food but it also directs to follow a certain regimen to fasten the process of recovery from the diseased state. ‘Pathya Kalpana’ is one of the unique concepts in Ayurveda in which food recipes are used as medicines. It helps to maintain proper agni (digestive fire) so as to digest food properly and give needed nutrition to tissues of body. Such recipes are prepared by using aushadhi dravyas and food as base. Since pathya kalpana is the combination of medicines as well as food, it is not only useful in treating the disease but it also becomes palatable and pleasing. Laja Manda (scum of parched paddy) is one of the famous and routinely used pathya kalpana in diseases like atisara (diarrhea), chhardi (vomiting), jvara (fever).

The purpose of present study is to understand the role of laja manda in the management of atisara (diarrhea) from both ayurvedic and modern perspective.

KEY WORDS:- Agni Sansakara, Atisara, Diarrhea, Laja manda, Pathya Kalpana.

INTRODUCTION:-
Ayurveda is holistic science which has emphasized more on maintenance of health and prevention of disease rather than treating the disease1. Health of the person can be maintained by following dincharya and
rutucharya described in Ayurveda. Appropriate ahara plays an important role in sustaining and attaining good health. Ahara is main pillar of a body so called as mahabhaisajy.

Pathya Kalpana is one of the unique concepts in Ayurveda one can alter the properties of dravya with the help of kalpana. ‘Pathya kalpana’ comprises of the ways of preparations which will maintain the “patha” i.e. channels or systems of body healthy and will also be comfortable to mind. The things opposite to these are considered as ‘Apathya’.

Acharya Sharangdhara explains about some pathya kalpana like manda, peya, vilepi, yavagu etc. These kalpana are generally used in different diseases according to state of disease and capacity to digest the food in that disease. It also helps to maintain proper agni so as to digest food properly and give needed nutrition to tissues of body. Selection of proper pathya kalpana has significant role for changing the action of a dravya. Pathya kalpana includes selection and preparation of the food according to personalized need.

In pathya kalpana food is processed with the help of aushadhi dravyas (aushadhi siddha ahar). As pathya kalpana is the combination of medicines as well as food, it is not only useful in treating the disease but it also becomes palatable and pleasing. Hence pathya kalpana are easily digestible, quickly absorbable, fast acting and give adequate amount of energy to body.

Atisara (diarrhea) is most commonly encountered disease in clinical practice. ‘Ati’ means excess and ‘saranam’ is gati or flow. Therefore atisara is a condition where watery stools are passed in excess, several times a day, through guda. Most important factor in the pathogenesis of atisara is mandagni. Due to consumption of etiological factors apa dhatu (watery elements) is increased which leads to agnimandya and ajeerana. Vimargagam apdhatu gets mixed with the stool, causes downward movement in annavahasrotas by vata leading to increase in dravata of pureesha in pakwasaya manifesting as atisara.

Laja manda is one of the famous and routinely used Pathya kalpana i.e. dietary medicine in diseases like atisara, chhardi, jvara, etc. Laja manda is prepared by adding laja to Water in the ratio of 1:14 and cooked on low flame till lajas get cooked.

Laja Manda is Laghu, dipan gunatmaka and aap mahabhuta pradhana hence it is easy to digest, ignites the digestive fire and also helps to replenish the drava dhatu like rasa without deranging digestion. Thus, the purpose of present study is to understand the role of laja manda in the management of atisara by ayurvedic and modern perspective.

AIM AND OBJECTIVES:-

To understand the role of laja manda in the management of atisara (diarrhea) by Ayurvedic perspective and from modern point of view.

To study the standard operating procedure of laja manda thoroughly.
MATERIALS AND METHODS:

Literary references from ayurvedic classics and modern medical text along with journals were collected and analytically reviewed to evaluate role of laja manda in atisara management by ayurvedic and modern point of view.

REVIEW AND DISCUSSION:

Standard operating procedure of laja manda:

Standard operating procedure of manda kalpana by Sharangdhar Samhita has to be taken into consideration. Genuine species of laja should be taken. Laja is prepared by parching the rice in sand bath. The husks open out and the rice swells into light body. Here, sanskara concept of Ayurveda should be taken into consideration. Sanskara means processing, which would result in the transformation of the gunas (inherent qualities) of the substance. Due to agni sanskara, guru (hard to digest) and pittala (vitiating pitta) vrihi (rice) transforms into laja which is laghu (easy to digest) and pittahara (pacifies pitta).

Indications: Jwara (Fever), atisara (Diarrhea), trishna (Excess Thirst).

| Name of the formulation | Proportion of laja | Proportion of water | Siddhi lakshana | Final constitution of prepared formulation | Biological properties | Indication |
|-------------------------|-------------------|---------------------|-----------------|-------------------------------------------|-----------------------|------------|
| Manda                   | 1 part            | 14 parts            | Till the lajas Cooked. completely | Only supernatant Liquid. | Deepana, Pachana, Grahi, Vatanulomaka | Useful in treatment of Jwara (fever) Atisara (diarrhea) |
Pathogenesis of atisara:-

Over-indulgence in foods which are very heavy(hard to digest), very fatty, very dry, very hot, very watery, very hard, very cold; which contains incompatibles, taken in large quantities very frequently; which are not cooked, and taken at unusual times; excess or improper usage of therapies like oleation etc., poisons, fear, grief, drinking of polluted water, excess of alcoholic drinks, changes in accustomed habits and seasonal features, over-indulgence in water sports, suppression of natural urges of the body, and infestation by worms(intestinal parasites) are the etiological factors for atisara\(^1\).

These can be categorised under five broad headings as viz. aharaja, viharaja, manasika, agantuja nidanas and atisara due to some other diseases. These may act as viprakruṣta nidana (Distant causes) or sannikrīṣṭa nidana (Immediate causes) or both.

Due to consumption of etiological factors apa dhatu (watery elements) is increased in excess quantity which brings forth diminution of strength of agni, gets mixed with the feces, causes downward movement in annavahasrotas by vata leading to passage of excess watery stool is known as atisara.

Management of atisara by Ayurvedic view:

There are two different protocols in the management of atisara according to sam and niram avastha. In amavastha, agni is so diminished that it is unable to digest any kind of food. Hence in such condition, langhan i.e. fasting is indicated. In niram avastha or pakvavastha, the dietary medicines like yavagu, manda etc are indicated chronologically according to strength of digestive fire as per Sushruta\(^14\).

Matra (Dose): The matra of manda kalpana is not clearly mentioned in Ayurvedic text. Since laja manda is food based dietary medicine, the dose of it should be according to capacity of digestive fire according to Charaka\(^15\).

Time of Administration: According to Charaka, manda kalpana is ‘pranadharana’\(^16\) i.e. it acts on pran vayu So time of administration should be muhumu i.e. frequently.

Indication: Laja manda is more beneficial in niram avastha of atisara.

Synergetic action: The action of laja manda is increased by adding drugs like pippali, nagara (Sunthi)\(^17\) etc.

Role of laja manda in the management of atisara:

The main event in the pathogenesis of atisara is diminution of strength of agni. The basic treatment in atisara is to increase the strength of diminished digestive fire i.e. jatharagni dipana. In such condition, laghu, dipana (to evoke digestive fire), pachana (to ignite digestive fire) dravyas are indicated.

Laja manda (scum of parched paddy) relieves thirst, diarrhea, improves appetite, agreeable, beneficial in fainting and heartburn. It is especially beneficial for
women, children and weak persons. It helps to correct agnimandya in atisara as it is called ‘agni janana’ (evokes digestive fire). It also gives adequate amount of energy as well as it is good appetizer. Laja manda also does the vatanulomana i.e. it corrects the movement of perturbed vata\textsuperscript{18}. Yog Ratnakara has also mentioned laja manda, as one of the pathya ahaar in atisara\textsuperscript{19}. It also helps to relieve associated symptoms like trishna (thirst), daurbalya (weakness), bhrama (fainting) in atisara. In atisara although the excessively increased apa dhatus is being excreted out of the body in large amount, still trishna is significant symptom which needs attention according to Vagbhata\textsuperscript{20}. In samavastha one cannot advice water intake to patient and if this thirst is not satisfied it may result into death. Here laja manda plays an important role. Laja manda though being apa mahabhut pradhana yet due to its laghu, dipana guna plays a dual role of satisfying the trishna and yet not deranging strength of agni. Laja manda is laghu gunatmaka hence easy to digest, dipangunatmak which ignites the agni. Being easily digestible it helps to replenish the drava dhatus and thus does ‘tarpan karma’.

Management of dehydration in diarrhea:

Fluid and electrolyte replacement are of central importance to all forms of acute diarrhea. Fluid replacement alone may suffice for mild cases. Oral solution should be administered promptly with severe diarrhea to limit dehydration, which is the major cause of death. Massive diarrhea with watery stools results in marked depletion of sodium, potassium and bicarbonate ions.

Role of Oral Rehydration Therapy (ORT):

It has been demonstrated that sodium and water absorption by the small bowel is very much enhanced by the addition of glucose to oral fluid. Dehydration can therefore be successfully treated with oral fluids containing glucose, once the initial hypovolemia is corrected by 2–4 liters of IV fluid replacement. Moderate dehydration and acidosis due to diarrhea can be corrected in 3–6 hours by oral therapy alone. One teaspoonful given to a child every minute can provide 200-300 ml per hour. Adults can take 750–1000 ml. per hour for several hours until signs of dehydration disappear and abundant pale urine is produced.

| Ingredients               | Quantity (Wt. in gm.) |
|---------------------------|------------------------|
| Sodium Chloride           | 3.5                    |
| Potassium Chloride        | 1.5                    |
| Sodium Bicarbonate*       | 2.5                    |
| Glucose                   | 20                     |
| Water                     | 1000 ml                |

*Trisodium Citrate dehydrate 2.9gm can replace sodium bicarbonate. Citrate in ORS has been found to diminish stool output in high output diarrhea.

Proper institution of ORT would avoid shock from continuing dehydration cholera and other diarrheas.

Role of laja manda in diarrhea management as Oral Rehydration Solution (ORS):
The correct concentration of Na+ and glucose in the ORS is critical for optimal effect and safety. The ORS administrated can’t greatly exceed plasma in osmolality without the risk of increased diarrhea and hypernatremia. Fortunately, nature has provided foods containing starches which have low osmolality in solution.

**Tab. 2. Composition of Laja manda**

| Ingredients  | Weight       |
|--------------|--------------|
| Fat          | 0.14 g/100g  |
| Proteins     | 0.33 g/100g  |
| Carbohydrates| 0.74 g/100g  |
| Energy Value | 5.54 Kcal/100g|
| Iron         | < 0.005 mg/100g|
| Calcium      | 0.84 mg/100g |
| Sodium       | 2.34 mg/100g |
| Potassium    | 1.73 mg/100g |

Studies have indicated that ORS in which food sources of starch are substituted for glucose effectively replaced lost fluids, decrease vomiting and reduce severity of diarrhea. Several studies have now shown that cereal (rice) based solutions are equally effective in reducing volume losses and may also shorten the duration of illness. Physiologically, cereal based ORS are identical to their glucose based counterparts. The dominant component in the cereal is starch. Starch is a large polymer of glucose that, on exposure to amylase in the intestine is digested into smaller polymers that are then split by maltase into glucose molecules with which to transfer sodium ions from lumen into the blood, while generating less luminal osmotic “back drag” that would the direct ingestion of an equivalent amount of glucose. The cereal proteins also provide small peptides and amino acids which also facilitate the absorption of additional sodium ions.

The traditionally used *laja manda* is also the cereal (rice) based solution. Since it is prepared from *laja* i.e. parched paddy. So it is also good source of starch, proteins and minerals. Hence the above actions of cereal based ORS can be effectively achieved by *laja manda*. *Laja manda* is less expensive. No expert is needed to prepare and to administrate it. So from the above discussion it can be concluded that *laja manda* would be ideal ORS in correcting dehydration in diarrhea.

**CONCLUSION:**

- *Agni sanskara* has very important role in preparation of *laja manda* which make it *laghu* (easily digestable)
- *Laja manda* is *laghu gunatmaka* hence easy to digest, *dipana gunatmaka* which ignites the digestive fire.
- *Laja manda* is *apa mahabhuta pradhana* dietary medicine helps to replenish the *drava dhatu* like *rasa* without deranging digestion.
- *Laja manda* also helps to relieve associated symptoms like *trishna, daurbalya, chhar di, bhrama* etc.
- *Laja manda* is cereal based solution so it is good source of starch protein and minerals which replenish the electrolyte loss in diarrhea.
- *Laja manda* would be the ideal oral rehydration solution in correcting dehydration in diarrhea.
• *Laja manda* is easy to prepare and less expensive also no expert is required for its administration.

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