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Case Study

COW'S MILK PROTEIN ALLERGY IN CHILDREN - A CASE STUDY

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ABSTRACT

Now days due to lactation failure cow milk is the first choice for an infant and accordingly is one of the first and most common causes of food allergy in early childhood. Cow milk allergy is the allergy to the protein (casein and whey protein) in cow milk. It is the leading cause of food allergy in infants and early childhood (less than 3 years). This review summarizes current evidence and recommendations regarding cow milk protein allergy (CMPA), the most common food allergy in young children, for the parents with incidence estimated as 2% to 7.5% in the first year of life. In classics, it has been mentioned that cow milk should always processed with *Laghupanchmoola* before it is consumed. There is no treatment for this disease in modern science as well as in Ayurveda, so there is a need to find a safe and effective remedy in the management of CMPA. A 1-year old male patient was brought to Out Patient Department of *Kaumarabhritya,* Rishikul campus UAU Haridwar Uttrakhand, with complaints of loose motion and vomiting after cow's milk intake. These complaints were persisting for the past 20 days. After that he gradually developed abdominal pain for 10 days. This condition can be understood as CMPA treatments including *Laghupanchmoola* granules with cow milk, course of 2 months. There were significant improvements in the condition of the patient.

INTRODUCTION

The three basic prerequisites to sustain life are *Vayu*, *Jala* and *Ahara*. First two are available in pure form. *Ahara* is the basic requisite for healthy life, hence our *Acharya* counted it under *Trayopasthambha*. Acharya Sushruta stated that strength, vigor and complexion of a person depend on food.[1] Acharya *Kashyapa* told that there is no medicine like *Ahara* and *Ahara* alone can make people healthy, called it as *Mahabhaishajya*.[2] Food is one of the basic needs of human life. The nutritional problems of the childhood differ from adults. Nutrition provides growth and development of child and also increases immunity. Growth increase in highest rate during childhood period, thus proper nutrition is required during this period.

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Therefore, it is very essential to take proper care of child for nutrition. For proper maintenance of health and to get maximum benefits of diet, one should take it in proper quantity that depends upon the digestive fire. Childhood period can be divided into three types on the basis of their food requirements.[3]

- ***Kshirpa*** (milk is main diet) upto one year
- ***Kshirannada*** (milk and cereals both) from 1-2 years
- ***Annada*** (cereals are main diet) two years onwards.

This indicates the immaturity of their *Annavahashrotas* according to the age. It is well accepted fact that breast milk is complete nutrition for child, but now days due to lactation failure cow milk is the first choice for an infant and is causing allergy in early childhood.

Conceptual Contrive: The disease cow milk protein allergy is highly prevalent disease but there is no explanation in Ayurvedic classics. Acharya *Kashypa* and *Vagbhataa* stated that cow's milk has *Virechaka* and *Saram* properties respectively. *Satmya* is the complete description of allergy in Ayurveda. *Satmya* means what is suitable for a person.

Samprapti Ghatak

Dosha	*Tridosha* (*Kapha Pradhana Vata Pitta Anubandhit*)
Dushya	*Rasa & Rakta Dhatu*
Shrotas	*Rasavaha, Raktavaha Annavaha, Pranavaha, Purishavaha.*
Dusti	*Atipravritti, Vimargagaman*
Agni	*Mandagni*
Adhisthan	*Aamasaya & Pakvashaya*

Case History

A 1-year old male patient was brought to the Out Patient Department of Kaumarabhritya, Rishikul Campus UAU, Haridwar by his parents with complaints of

a) Vomiting 20 days
b) Loose motion 20 days
c) Abdominal pain 10 days

History of Present Illness

The patient was apparently healthy 20 days back. Then their parents introduced cow milk in their diet and he developed vomiting and loose motion 1-2 times in a day. At the outset, the parents have taken the child for consultation in a nearby hospital, where they have given a course of medications, which they have taken, but did not get any satisfactory relief. As days passed, frequency of loose motion and vomiting increased 1-2 times to 5-6 time/day with abdominal pain. The condition got aggravated since last 10 days. Then the parents bring the child to Rishikul Campus UAU Haridwar. After thorough interrogation with the parents regarding the child, *Laghupanchmoola* granules with cow's milk was given to the child.

Examination

Assessment of general condition of child

Bowel	Irregular
Appetite	Reduced
Micturition	Regular
Sleep	Disturbed

On Local Examination of Abdomen (Clinical Findings)

Inspection: Normal in shape, no scar present**.**

Palpation: Tenderness present.

Auscultation: Increase bowel sound heard.

Diagnosis: CMPA

Date of attending OPD: 30/5/2019

Criteria for Assessment of Treatment

Assessment of treatment were made before and after the treatment based on symptoms

Symptoms	**Grade 3**	**Grade 2**	**Grade 1**	**Grade 0**
Diarrhea	Watery stool passes 8-10 times/day activities severely affected	Watery stool passes 5-7 times/day activities moderately affected	Watery stool passes 3-4 time/day activities mildly affected	No symptoms/ Complaints
Abdominal pain	Severe & very severe pain	Quiet severe pain	No severe pain	No pain
Anemia	Hb% <7 gm/dl	Hb% 8-9gm/dl	Hb% 10-11gm/dl	Hb% 12gm/dl
Vomiting	Vomit 8-10 times/day	Vomit 5-7 times/day	Vomit 3-4 times/day	No symptoms/ complaints

Method of Granules Preparation

Laghupanchmoola– 1 part

Seeta- 1 part

Subjected to as per *Avalehakalpana*

For the successful assessment of effects of a treatment, it becomes of prime importance that the selected mode of drug dosage is more acceptable in children, this depend upon appearance, smell and taste of the drug. Keeping all these points in mind, granules form of drug dosage was selected for this work. Granules make the dose fixation easier and it will easily accept with milk. Drug dose calculated by piloted study and depended on age.

RESULT

This is used before and after treatment to determine the effectiveness of the treatment.

Criteria	**B.T.**	**A.T.**	**D**	**% of Relief**
Diarrhea	2	0	2	100
Abdominal pain	2	0	2	100
Vomiting	2	0	2	100
Anemia	2	1	1	50

Investigation

- Hb %
- The gold standard for diagnosis of food allergy is elimination and challenge test.

DISCUSSION

Incidence of the disease is more in male then female because of genetic predisposition. Prevalence is more between the 0-3 years of age groups because of immature immune system. More occur in urban area because urbanization directly affect our immune system and cause allergic diseases. A child who can't digest cow milk protein means that cow milk is *Asatmya* for that children and lead to *Aam* production by *Agnimandhyata*. Then this *Aam* travels to different *Shrotas* and cause different symptoms like diarrhea, vomiting, abdominal pain etc. In present study we found that CMPA is a *Tridoshaj vyadhi* (*Kaphapradhana vata pitta anubandhit*), *Dushya* are *Rasa* and *Rakta dhatu. Raktavaha, Purishavaha, Prannavaha, Annavaha srotas dushi* occur in cow milk protein allergy. CMPA is *Doshabala* and *Mandagnijanya vyadhi* so its management is done by *Deepana, Paachana* and *Doshashaman*. It has been suggested that infant have milk allergies because milk is usually the first source of foreign antigen that they ingest in large quantity and the infant intestinal system is insufficiently developed to digest and immunologically react to milk protein. So, we give infant to drug which improve baby digestion as well as immunity. *Laghupanchmoola* is *Deepana* as well as *Brahmnana* and *Vrisya* (immunomodulator). Region of improvement in CMPA symptoms, because it is *Mandagnijanya Vyadi* and *Laghupanchmoola* being *Laghu Guna,* so enhances the *Jatharagni* as well as *Dhatwagni*. *Tikta rasa* of that drug play *Aamdosha-nasaka* role, *Tridoshashamaka* property pacifies *Tridosha*. *Brimhanna* and *Rasayana* properties of *Laghupanchmoola* nourish all *Dhatu* and improve failure to thrive condition in children. Another reason is that, *Laghupanchmoola* contains anti-inflammatory, analgesic, anti-diarrheal, and immunomodulator properties that they work against inflammation and improve immunity.

CONCLUSION

Cow milk protein allergy causing nutritional problems, suppress growth and development as well as immunity, it can be managed through Ayurvedic intervention. The effectiveness of Ayurvedic treatment has proved and there is good result in this case. It was concluded that *Laghupanchmoola Sadhit* cow's milk is useful in the management of cow milk protein allergy and there was no side effect seen in patient.

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