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VIRUDHA IN RELATION TO FOOD ADULTERATION AND POISONING

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Abstract

Introduction: According to Ayurveda, when Trayopasthambha is in balance, one can attain an optimal state of health, or Svastha. The Charaka Samhita asserts that "one who manages these three pillars properly is guaranteed a full life span that will not be cut short by disease" because of how completely these pillars are inverted in tradition. For this reason, a healthy diet, digestion, and elimination are essential to our wellbeing. According to Ayurveda, certain diets and their combinations that disrupt a tissue's metabolism, prevent a tissue from forming, or have the opposite effect of the tissue are referred to as Viruddha ahara. **Methodology:** *Viruddha Ahara* can lead to inflammation at a molecular level. Number of food incompatibilities are mentioned in old Ayurvedic literature. These type of food combinations are not in use in today's era. We have to identify new food incompatibilities, which are used today in day-to-day life as per Ayurvedic perspective. These food incompatibilities can also be categorized into *Karma Viruddha*, *Veerya Viruddha*, and so on. Such food combinations can prove harmful, which may be imparting its untoward effects on immune system, cellular metabolism, growth hormone, DHEAS. Enlisting the 18 type of virudha and list out the examples said in ayurveda and contemporary practice. Then find out the relations with modern concepts. **Result:** The concept of virudha can relate with food adulteration and poisoning. The pathophysiological changes caused virudha explained by different acharya can be correlated with the modern pathology concepts like Free radical theory, food combination, food processing. **Discussion:** Smoked, barbecued food etc contain high level of lipid peroxides which produces free radicals. Key role in the pathogenesis of cancer, atherosclerosis, diabetes etc. Along with the combination of different proteins, carbohydrate and there is harmful effect on our systems. Untimely food that causes fermentation of food inside our GIT is a factor leading to systemic diseases and all are under virudha

Keywords: Ahara, Virudha, Gara visha, Food adulteration, Free radicals

1. Introduction

Ahara (food) is the most important factor for sustenance of life. It is described as foremost pillar among the three pillars of life (Trayopsthambha viz. Ahara, Nidra and Bhramcharya) in Ayurveda.¹ When body is supported by the Trayopstambhasa, it is endowed by growth, strength and complexion. Every living and non-living beings in this universe is composed of five basic elements, the Pancha Mahabhootas, namely Earth (Prithvi), Water (Ap), Fire (Teja), Air (Vayu) and Ether (Akasha) Accordingly, Ahara is also described to be Akashiya, Vayavya, Agneya, Apya and Parthiva, which when consumed in appropriate proportions, helps in providing nourishment to deha dhatus (body tissues), growth, development and enhancement of ojas.²

Ahara is considered as Mahabhaishajya (the superior medicine). Various life style disorders and numerous diseases occur due to faulty dietary habits which may be prevented by proper Ahara and eating habits. Ayurveda insists that Ahara should be chosen in accordance to the Prakriti or constitution of individual. Hitakara/Pathya food (Wholesome food) as per Ayurveda is conducive for the maintenance of good health, longevity, strength, intellect, good voice and complexion. For a disease-free life, Ayurveda emphasizes on the importance of proper nutrition through intake of food by appropriate food choices, food combination, and cooking methods, in right quantity which gets digested as well as metabolized in time. The time, season and place for the food intake are also important. It is advised to refrain from Ahitakar Ahara (unwholesome food).³

Certain diets and their combinations having properties opposite to the Dhatus (body tissues) which thereby inhibit and interrupt to the processes of formation and metabolism of the body tissues are described in Ayurveda as Viruddha Ahara (incompatible diets). The food which is wrong in combination, has undergone wrong processing, consumed in incorrect dose, and/or consumed in incorrect time of the day and in wrong season can lead to Viruddha Ahara.⁴

2. Methodology

Viruddha Ahara (Incompatible Diet)

According to Acharya Charaka all kinds of foods which aggravate (Increase) the doshas but do not expel them out of the body and all of them become unsuitable or unhealthy for body is called as Viruddha. ⁵ According to Acharya Sushruta Viruddha Aahara not only provokes the doshas but that also aggravate the Dhatus.⁶

Classification

Astanga Sangraha has classified Viruddhata into 5 categories as under basing on the cause of incompatibility.⁷

1. VISHAMATWA:(Asadrusya) Combination of substances with opposite qualities and properties E.g: Milk (Madhura Vipaka, Shita Veerya) + Horse-Shoe gram (Amlavipaka, Ushna Virya)
2. SAMATWA:(Sadrusya) Combination of food with similar properties. E.g: Milk (Madhura Rasa, Madhura Vipaka, Sita Virya) + Jack fruit (Madhura Rasa, Madhura Vipaka, Ushna Virya)
3. UBHAYA: Combination foods and substances with certain similar and certain dissimilar qualities and properties. E.g.: Milk (Madhura Rasa, Madhura Vipaka, ShitaVirya) + Jack fruit (Madhura Rasa, Madhura Vipaka, Ushna Virya)
4. SAMSKARA: (Modification/Processing) Hot curds should not be taken.
5. SAHAJA: (Natural) Some substances are in compatible or unwholesome by their very nature.

In addition to the above 5 categories, Astanga Sangraha also described some other incompatibilities.

1. MATRA: (Dose/Proportion) Honey and ghee should not be taken in equal quantities.
2. DESA: (Place): Tusharodaka should not be taken.
3. KALA: (Time): Saktuka should not be taken in the night.
4. SAMYOGA: (Combination). Water should not be taken in the middle of the

saktuka.

Sushruta has classified the incompatibility into four varieties. 8

- 1) SAMYOGA: Milk + Radish.
- 2) SAMSKARA: Pigeon flesh fried in Mustard oil.
- 3) MANA: Honey + Ghee in equal quantities.
- 4) RASA: Sweet + Sour tastes.

Acharya Charaka explain 18 types of virudha 9

Desha Viruddha: A person if consume diet or food which is similar in properties of that particular region can lead to the malformation of the different nutrients required for the proper functioning of the body, leading to the manifestation of various diseases. For example Intake of Ruksha ushna and theekshna Ahara (dry and hot food items) in jangala desa (dry regions) causes vata prakopa and also cause raktha dushti. This cause reduction in the formation of succeeding dhatus. Similarly use of Snigdha, seetha and guru Ahara (unctuous ,cold and heavy food items) in anoopa desa (marshy areas) causes variation in agni level and it leads to some systemic and auto immune diseases. There will be obstruction to the Srotas (channels in body) and can lead to diseases like Premeha (diabetic syndrome), Arsha (hemorrhoids), Bhagandar (fistula), Visarpa (erysipelas), Kushta (skin diseases) etc

Kala Viruddha: Consumption of diet contradictory to time and season. For example the uses of Sheeta (cold), Rooksha (dry) Laghu(light) and Khara (rough) and similar things in winter leads to vata vitiation and diseases due to that. And the uses of Ushna (hot), Teekshna (sharp) and Katu (pungent) and such similar things in summer are leading causes for improper metabolism resulting in damage to the different Dathus.

Agni Viruddha: One should take diet or food after considering the status of Agni. If food has not been taken in accordance to the Jatharagni Bala (digestive power) then it will become Agni Viruddha. e.g. consuming Guru Ahara (heavy food items) when digestion capacity is low (Mandagni) and of Ruksha Ahara (light food) when digestion capacity is high (Teekshnagni).

- a) Mandagni Viruddha (incompatible to low digestive power)– Guru (heavy), Snigdha (unctuous), Madhura (sweet), etc. food substances if taken will not digest properly and can lead to diseases like Grahani (irritable bowel syndrome), Atisar (diarrhea), Visuchika (dysentery), Daurbalya (weakness).
- b) Tiksnagni Viruddha (incompatible to sharp digestive power)- Laghu (light), Tiksana (sharp), Vidhi (heat producing), Ushna (hot) food substances if consumed can cause very fast digestion of the food resulting in the over metabolism of the different Dathus in the body leading to malnutrition and diseases related to that.
- c) Visamagni Viruddha (incompatible to fluctuating digestive power) – Ruksha (dry), Laghu (light), Suksma (), Guru, food substances if taken can cause improper digestion and can lead to the production of Ama. This can cause the blockage of Srotas. This in turn can lead to the malformation of different Dathus in the body.
- d) Samagni Viruddha (incompatible to balanced digestive power)- Excessive quantity of food and taking can cause improper digestion leading in the formation of Ama metabolic toxins). This in turn can cause different diseases like Amavata (rheumatoid arthritis), Alasya (lazziness), Tandra (drowsiness) etc.

Matra Viruddha: Food taken in sufficient quantity is termed as Matravat Ahara (appropriate dose), if one does not take Matravat Ahara than it is called Matra Viruddha. The different Ahara if taken in proper quantity it can work as Rasayana in the body or else it can become Visha or poison. For example intake of honey and ghee in equal quantity.

Satmya Viruddha: Consuming the food according to ones Prakirti (constitution) becomes suitable for the person, while consuming the diet which is opposite to ones Prakriti can lead to damage of the body. This type of Viruddha Ahara is called as Satmya Viruddha..e.g. Intake of Madhura (sweet) and Sheeta (cold) food items by a person accustomed to Katu (pungent) and Ushna (hot) food substance. The wholesome diet will help in the proper nourishment and growth of his body. Unwholesome diet or Satmya Viruddha Ahara will cause manifestation of different metabolic disorders.

Dosha Viruddha: Intake of food having similar qualities to Doshas but incompatible to the individual. Consuming the Ahara or diet, drugs and procedure which is similar to the aggravated Doshas in the body can lead to the further aggravation of the Doshas in body leading to different disorders. For example ushna theekshna katu ahara in case of pithadosha aggravated and it cause again increase of pitha.

Sanskar Viruddha: The change in the properties of a Dravya (substances) due to processing is called Samskara. But if improper processing is done it can lead to the formation of toxins which in turn can lead to the damage of the bodily tissues. e.g. meat of peacock cooked in castor fire, heated honey.

Virya Viruddha: The Ahara or diet, drugs and procedure which are opposite to the Potency if consumed or practiced can lead to Veerya Viruddha condition. This type of incompatibility in diet can lead to different physical diseases such as Kushta (skin diseases) etc, psychological disorders like Apasmara (epilepsy), Unmada (insanity), Bhrama (giddiness) etc.

Koshtha Viruddha: Consumption of those foods which are contradictory to one's Koshtha (nature of digestive tracts) e.g. intake of Guru (heavy), Bahu (more in quantity) and Bhedaniya (mild purgative) by a person having Mridu Koshtha (soft bowel).

Avastha Viruddha: Intake of food in contrast to one's state of health. Incompatibility with reference to state of person is known as Avastha Viruddha. For example intake of Vata aggravating diet after physical exertion or intake of Kapha aggravating diet by a sleepy person, Guru Bhojan (heavy food) in fever etc.

Krama Viruddha: When a person takes his meal without relieving himself from natural urge of defecation, micturition etc. or eats without feeling of hunger or does not eat in spite of severe hunger then it turns out to be Krama Viruddha.

Parihar Viruddha: This is incompatibility of the rule of prohibition, when a person takes hot substance after a meal of the flesh of a boar and similar animals. The flesh of boar is Ushna Veerya (hot potency), consumption of hot substance after consumption of boar flesh

can lead to increase in the Ushna Guna in the body leading to Dathu Kshaya. This type of Viruddha Ahara is called Parihar Viruddha.

Upachar (treatment)Viruddha : That is incompatibility of the rules of ingestion is called as Upachara Viruddha. For example after the consumption of Ghee intake of cold water or cold food items is called as Upachar Viruddha. A person suffering from Rakta Pitta (hemorrhagic disorders) if administered Ushna and Rakta Prakopaka Ahara (diet aggravating vitiation of blood tissue) can lead to further aggravation of the condition.

Paak Viruddha : If food substance is prepared with bad and rotten firewood or is undercooked or burnt it is called Paka Viruddha.

Samyoga Viruddha : When two or more Dravyas are combined appropriately by considering their similar properties, they help in the development of the body. But if the properties of the combining Dravyas are opposite it can lead to depletion of body elements. Such type of incompatibility of combination is called as Samyoga Viruddha. For example intake of sour things with milk.

Hriday Viruddha: The consumption of food which is unpleasant to person is called as Hridya Viruddha. This can lead to physiological disturbances leading to poor digestion. The indigested food accumulates to produce toxins in body, leading to different psychosomatic disorders like IBS.

Sampad Viruddha : This is incompatibility with reference to richness of quality of food taken. For example the juice is obtained from unripe over ripe or unpurified food, intake of such food article, which are not having edible qualities can be considered as Sampada Viruddha.

Vidhi Viruddha : It is incompatibility of the rules of eating where food is not taken in a solitary place. Here solitary place is only an example. One should consider all the rules and regulations of dietetics, or else it can cause depletion of bodily tissues leading to physiological and psychological imbalance.

Food adulteration

Food adulteration refers to the act of intentionally debasing the quality of food by either adding or replacing the food substances with undeclared alternative components, or by the removal of some valuable components. This is usually done to lower the cost or increase the bulk of a given food product¹⁰

Adulteration can be intentional. In this case, one or more substances are removed or added, changing their natural composition knowingly. Unintentional food adulteration ascribes to one's ignorance, carelessness, or lack of infrastructure to maintain food's quality. Incidental contamination during growth, harvesting, transportation or distribution is also considered adulteration.¹¹

Types of Food Adulterants¹²

Table no. 1- Types of Food Adulterants used extensively in food adulteration methods are:

Type of Food Adulterants	Substances added
Intentional Adulterants	Sand, marble chips, stones, mud, talc, chalk powder, mineral oil, water, harmful color, etc.
Metallic Contaminants	Arsenic, lead, or other heavy metals from pesticides, effluent from chemical industries, tin from cans.
Incidental Adulterants	Residues of pesticides, droppings of rodents, larvae, etc.

Poisonous Substances in Food Adulteration

If a food item contains some poisonous or deleterious materials in excess of a regulatory limit it may render harmful effects upon consumption. For instance, **Brie cheese** adulterated with **Listeria monocytogenes** is considered adulterated.

Filth and Foreign Matter in Food Adulteration

This includes any **objectionable substance** in food material, such as **foreign matters** (plastic particles, glass, metals, wood, stones, sand, etc.), undesirable parts of raw plants

(parts of stems, roots, twigs, etc.) and filth (such as insects, rodent parts, rotten items, mould, etc.)

Microbiological Contamination in Food Adulteration

Food can be adulterated when it gets contaminated by microbial pathogens such as **bacteria**, fungi, protozoa or viruses. For example, the presence of **Salmonella** in fruits, vegetables, or poultry products makes them adulterated. This kind of adulteration can be extremely harmful and may even cause death.

Food poisoning

Food poisoning, also called food borne illness, is illness caused by eating contaminated food with Infectious organisms including bacteria, viruses and parasites or their toxins are the most common causes. Infectious organisms or their toxins can contaminate food at any point of processing or production. Contamination can also occur at home if food is incorrectly handled or cooked.¹³

Type of Food Poisoning¹⁴

1. Bacterial food poisoning.

These can be sub-classified on the basis of cause.

- Infection Type – Ingestion of viable organism with food e.g. Salmonella typhi.
- Toxin type- Ingestion of bacterial toxin with food e.g. Staphylococcus A. & Clostridium P.
- Botulism.

Again they can be classified into sub-type on the basis of Pathology:

- a) Non-Inflammatory b) Inflammatory c) Penetrating

2. Non-bacterial food poisoning.

- Toxic Plant Food.
- Toxic Animal Food.

- Chemical Contaminated

Result

- These Modern pathogenesis can relate to virudha are Antagonism, free radical formation, allergic food, alter mechanism, food poisoning, food incompatibility, micro nutrient deficiency. The virudha explained by most of the acharyas are related to these theories and the food poisoning and food adulteration are very close to this.
- Acharya vagbhata said virudha can consider as Gara and these theory is most important in the case of food adulteration and poisoning.

Discussion

Viruddha Ahara can lead to inflammation at a molecular level. These type of food combinations are not in use in today's era. Such food combinations can prove harmful, which may be imparting its untoward effects on immune system, cellular metabolism, growth hormone, and Dehydroepiandrosterone sulfate (DHEAS).

A new branch called topography (a science related to combination of food) is emerging, which tells about the combination of basic categories of the food. As per this science proteins must not get combined with starch and carbohydrates and may be consumed differently. This is because starches require an alkali medium and the amylase in saliva contains ptyalin, an enzyme that breaks down starch into maltose. The process continues in the small intestine, where more amylase further breaks down the maltose into simple glucose, fructose, and galactose. These are absorbed into the bloodstream, and taken to the liver, which dispenses the energy to whatever cells in the body need it. If there is no immediate requirement, glucose will be converted to glycogen and stored in the liver, or into fat to be stored in adipose tissue. These factors can relate with the molecular mechanism in the types of virudha such as samyoga virudha , desa virudha , kala virudha and agni virudha ¹⁵. Consuming proteins and starches together will result in absorption of one being delayed by the other. Similarly, eating sugars and acid fruits hinder the action of ptyalin and pepsin, reducing the secretion of saliva, and delaying digestion. If insufficient amylase is present in

the mouth, starch will not be digested at all in the stomach, instead clogging up the works until amylase in the small intestine can get to work on it. Fats impede the secretion of digestive juices, and reduce the amount of pepsin and hydrochloric acid, so they should be avoided or used sparingly with protein- rich foods. The unwanted effect of wrong combinations of food is not limited up to gastrointestinal tract only but may hamper the major systems of the body. It is the mechanism behind samyoga virudha and agni virudha.¹⁶

Samskara virudha, paka virudha etc are nowadays comes in the modern lifestyle by burned and chard foods such as grilled meat, broasted meat, tikka, kabab etc. Possessing with reheating oils in bakery items also come under these categories. Reheated oils create more oxidation and if consumed more quantity it causes more oxidative stress.

The toxicogenesis of food, milk and drink additive is near about similar to that of Virudha-Ahara which reduces Jatharagni (Digestion) and absorption in gastrointestinal tract.

3. Conclusion

Most of Agantuja Vyadhis are caused also due to Viruddha Aahara Vihara along with food poisoning. Food borne illnesses including food can be prevented by properly storing, cooking, cleaning and handling of edible foods. It is need to take fresh always in dinner, lunch or breakfast. Due to the changing life style people are exposed to one or other kind of poisons in their day to day life. The exposure in the foods form of food, drink drugs. If this type of toxication in food it led to food poisoning and it can cause Serious health hazards. Such as allergy, asthma, Skin disorders, neurological changes etc. This article aims to understanding concept of Viruddha-AaharaVihara and relation between food poisoning and Viruddha. Its health hazards and its Ayurvedic management by detoxification.¹⁴

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