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Role of Ayurvedic Diet in Patients of Gall Bladder Cancer

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ABSTRACT

Cancers are an abnormal cell growth with the potential to invade or spread to other parts of the body. Almost all types of gallbladder cancer are adenocarcinomas, papillary adenocarcinoma, adenosquamous carcinomas, squamous cell carcinomas, small cell carcinomas and sarcomas. *Arbuda, gulma, granthi, vidhradhi* are some diseases in Ayurveda that can be compared with tumors. *Ayurveda* is ancient medical science which has been giving the health solutions to the human race since ancient times by its abundance of medicines and diet that has been said to be followed. Diet plays an important role in management of all the diseases. Also in cancer there is need to modify the diet, various do's and don'ts should be followed according to the type of cancer. Fruits like apple, peach, papaya, pomegranate etc and vegetables like *methi, palak, choulai, shubhanjan* etc should be given to the patient. In pulses green gram is said to be the best amongst all the pulses and provides rich protein. Non creamy cow's milk provides adequate nutrients. Wheat, brown rice can be given to provide healthy carbohydrates. Tobacco smoking, alcohol, drugs, salty and spicy rich food should be strictly avoided. Thus gallbladder cancer can be managed by proper diet.

KEYWORDS

Pathya, Apathya, Cancer, Gallbladder, Diet



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INTRODUCTION

An abnormal growth of cells which tend to proliferate in an uncontrolled way and, in some cases, to metastasize and spread¹ to different parts of the body. Gallbladder is a pear shaped organ that lies under the surface of the liver. As per *Ayurveda*, *Pitta Pradhan sannipataj gulma* is what which resemble the clinical manifestations of gallbladder disease²⁻⁴. Diet plays an important role in healthy as well as in diseased. Balanced and proper diet in both healthy and diseased is essential to provide basic energy and nutrition that is required for day to day activities. The centre for science in public interest reports that 4 of the top 10 leading causes of deaths are directly influenced by diet namely Heart diseases, Cancer, Stroke and Diabetes⁵.

Cancer being one of the disease that is influenced by diet, thus a proper diet plan must be followed by patients of cancer. There are *Pathya* and *Apathya* that has been described for every disease said in *Ayurveda*. Thus, making essential and non-essential diet as an important factor for the management of the disease, which includes various kinds of cancers also.

AIMS AND OBJECTIVES

To prepare balanced diet chart for patients of gallbladder cancer as per *Ayurveda*.

MATERIALS AND METHODS

This research article is based on the personal clinical experience in cancer patients. *Ayurveda* and modern concerned literature also referred for this research article.

Physiological functions of gallbladder

The main purpose of the gallbladder is to store bile, also called gall, needed for the digestion of fats in food. Produced by the liver, bile flows through small vessels into the larger hepatic ducts and ultimately through the cystic duct into the gallbladder, where it is stored. At any one time, 30 to 60 millilitres of bile is stored within the gallbladder. In cancer of gallbladder the basic physiological functions are disturbed partially or completely depending upon the stage and spread of the disease.

Clinical manifestations of gallbladder cancer

The patients of gallbladder cancer represent with upper-right abdomen pain, **jaundice**, nausea, vomiting, loss of appetite, weight loss, severe itching and black, tarry stools.

Diet in gallbladder cancer

In gallbladder cancer the dietary items given to the patients should be balanced and nutritious along with anti-cancer properties. It should also have the potential to relieve the clinical manifestations of the disease. The diet in patients of gallbladder cancer



should be planned according to the lifestyles, and gender of the patients. The calories required by males and females per day⁶; Calories recommended according to increase and decrease in weight in males and females respectively in Sedentary, Moderate, and Heavy lifestyles; Calories

required in males and females respectively in Sedentary, Moderate, Heavy lifestyles in their breakfast, lunch, snacks and dinner as well as calories per 100gm of food items that are recommended for gallbladder cancer patients are explained in table number 1, 2, 3 and 4 respectively.

Table 1 (The calories required by males and females per day)

Male – 60kg		Female – 55kg	
Sedentary	2320cal/day	Sedentary	1990cal/day
Moderate	2730cal/day	Moderate	2230cal/day
Heavy	3490cal/day	Heavy	2850cal/day

Table 2 (Calories recommended according to increase and decrease in weight in males and females respectively in Sedentary, Moderate, and Heavy lifestyles)

Male		Female	
Sedentary	38.67 calories per kg	Sedentary	34.54 calories per kg
Moderate	45.5 calories per kg	Moderate	40.54 calories per kg
Heavy	58.17 calories per kg	Heavy	51.81 calories per day

Table 3 (Calories required in males and females respectively in Sedentary, Moderate, Heavy lifestyles in Breakfast, lunch, snacks and dinner)

Lifestyle :		Breakfast (7Am)	Lunch (12Pm)	Snacks (5pm)	Dinner (8pm)	Total calories/day
Sedentary	Male	378 cal	932 cal	378 cal	696 cal	2320cal/day
	Female	298.5 cal	796.5 cal	298.5 cal	597 cal	1990cal/day
Moderate	Male	409.5 cal	1092 cal	409.5 cal	819 cal	2730cal/day
	Female	334.5 cal	892 cal	334.5 cal	669 cal	2230cal/day
Heavy	Male	523.5 cal	1396 cal	523.5 cal	1047 cal	3490cal/day
	Female	427.5 cal	1140 cal	427.5 cal	855 cal	2850cal/day

Table 4 (Calorie per 100gm of food items that are recommended for gallbladder cancer patients)

Sr.		Food Item	Calories per 100 gm
1.	Dairy products	Milk	65
2.		Whole wheat flour	339
3.		Brown rice	111
4.	Pulses	Green gram	105
5.		Vegetables	Cabbage (Boiled)
6.		Carrot (Boiled)	20
7.		Cauliflower (Boiled)	10
8.		Cucumber (Raw)	10
9.		Bottle gourd	12
10.		Tomatoes	15
11.		Broccoli	32
12.		Onion (boiled)	18
13.		One red Onion	33
14.	Fruits	Apples	45
15.		Dates	235
16.		Kiwi	50
17.		Pear	38
18.		Pineapple	40
19.		Papaya Diced (small handful)	17
20.		Pomegranate	83



As the patients coming to the cancer consultation and treatment unit NIA-Jaipur are mostly who are living sedentary lifestyle thus hereby showing sample meal

plan for Males and females with sedentary lifestyle in table number 5 and 6 respectively.

Table 5 Sample Meal Plan for Adult Man (Sedentary)

Meal Time	Food Group	Raw	Recipe	Servings Amounts
Breakfast	Cow's Milk	100 ml	<i>Haridra siddha</i> Milk	1 Cup
	Cereals	70 g	Wheat dalia	1/2 Cup
Lunch	Cereals	120 g	<i>Chapatti</i>	3 no.
			Brown Rice	1 cup
	Pulses	20 g	<i>Green gram dal</i>	1/2 cup
	Vegetables	150 g	<i>Mix Veg. curry</i>	3/4 cup
	<i>vegetables</i>	50 g	<i>Salad</i>	1/4 cup
	<i>Buttermilk</i>	100ml	<i>Buttermilk with sarjikshar</i>	1/2 cup
<i>Snacks</i>	<i>Fruits</i>	100g	<i>Seasonal fruit</i>	1 cup
<i>Dinner</i>	<i>Cereals</i>	120g	<i>Brown rice</i>	2 cups
			<i>Chapatti</i>	2 no.
	<i>Pulses</i>	20g	<i>Green gram dal</i>	1/2 cup
	<i>Vegetables</i>	150g	<i>Seasonal vegetables</i>	3/4 cup

Table 6 Sample Meal Plan for Adult Woman (Sedentary)

Meal Time	Food Group	Raw	Recipe	Servings Amounts
Breakfast	Cow's Milk	100 ml	<i>Haridra siddha</i> Milk	1 Cup
	Cereals	50 g	Wheat dalia	1/2 Cup
Lunch	Cereals	100 g	<i>Chapatti</i>	2 no.
			Brown Rice	1 cup
	Pulses	20 g	<i>Green gram dal</i>	1/2 cup
	Vegetables	100 g	<i>Mix Veg. curry</i>	3/4 cup
	<i>Vegetables</i>	50 g	<i>Salad</i>	1/4 cup
	<i>buttermilk</i>	70ml	<i>Buttermilk with sarjikshar</i>	1/2 cup
<i>Snacks</i>	<i>Fruits</i>	100g	<i>Seasonal fruit</i>	1 cup
<i>Dinner</i>	<i>Cereals</i>	100g	<i>Brown rice</i>	1 cups
			<i>Chapatti</i>	1 no.
	<i>Pulses</i>	20g	<i>Green gram dal</i>	1/2 cup
	<i>Vegetables</i>	100g	<i>Seasonal vegetables</i>	3/4 cup

Method for detoxification of raw vegetables and fruits

Double wash method for vegetables: take one teaspoon of turmeric powder (*Haridra*) and mix well in bowl full of water. Soak the vegetables in this *Haridra* water for 10-15 mins and then wash the vegetables under running clean water⁷.

Double wash method for fruits: take one teaspoon of powder of *Rubia cardifolia*

(*manjishtha*) in bowl full of water. Soak the fruits in this for 10-15 minutes and then wash these fruits under clean running water⁸.

DISCUSSION & CONCLUSION

Aahar is equally important as medicine in *Ayurveda* for any patient including cancer as it is the part of *tri-upstambh*⁹. *Ayurveda*



also mentioned the diet as the causative as well as the curative factors. Before cook and/or use, the detoxification of vegetables and fruits is necessary as the percentage of pesticides on surface is in high level nowadays and pesticides adherent on the surface of the fruits and vegetables cannot be removed by simple water. *Haridra* and *Manjistha* are antitoxic in nature having astringent property which help to remove out the adherent pesticides on the surface of vegetable and fruits. *Haridra* and *manjishtha* are antitoxic in nature, having astringent property which help to remove out the adherent pesticides from the surface. In daily diet food item like cow's milk, green gram dal should be used as source of proteins. The carbohydrates diet should be used in form of whole wheat grain, brown rice and some fruits. The vegetables and fruits gives the plenty of vitamins and minerals necessary for patients. The lycopene from tomato, anthocyanin from berries and grapes, carotene from carrot, zeaxanthin from spinach, sulforaphanes from broccoli, cabbage, allylsulphides from onions, garlic and curcumin from turmeric, these phytochemicals help to prevent the further growth of cancer¹⁰. One study suggests that low fibre, sugar, staple diet increase the gallbladder cancer¹¹. *Medical science has described the calories per day and calories per body weight but Ayurveda*

recommended the diet which is Pathya in nature and must be given according to Abhyavaran, Jaranshakti and Jeernaajeernaavastha of the patients. Thus the balanced, laghu, santarpak diet will be helpful to control the further growth and improve the quality of life of the patient.



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