

Bladder Pain Syndrome/ Interstitial Cystitis and Diet



IC/BPS (Bladder Pain Syndrome/Interstitial cystitis) defined clinically as “an unpleasant sensation (pain, pressure, discomfort) perceived to be related to the urinary bladder, associated with lower urinary tract symptoms (LUTS) of more than six weeks duration, in the absence of infection or other identifiable causes”[1].

It is popular believe that it is incurable however with the medication, lifestyle modification and knowledge of proper diet can be managed to large extent and avoid IC flare- up. The diet plays a very important role to cure IC/BPS.

Diet should be balanced and healthy without upsetting the bladder. Some foods in fresh form can trigger the flare ups but eaten in the cooked form it may cause no trouble at all. Therefore while planning the diet we need to restrict /omit only those food items/forms that trigger the pain or flare-up, for this we can use an “Elimination diet”. But it’s also absolutely essential for these patient to follow a balanced diet otherwise there could be risk of developing malnutrition. Malnutrition develops when one misses out an essential nutrient or

else when there is an imbalance intake of certain foods (even it could be an excess of some food). Researches conducted so far strongly indicate that personalized medicine and personalized nutrition are emerging as the most effective method of prevention from diseases [2].

This strategy requires patients to keep diaries of food intake, voiding, and pain. They begin with a bland diet using foods and beverages often chosen from food lists compiled by prior questionnaire-based evaluation [Fig. 1]. They then slowly add potentially “offensive” items back into their diet and record results. The value of this approach rests with its ability to detect and avoid foods that appear to trigger symptoms. It also prevents patients from eliminating unnecessary food items and in this way, they continue to meet their nutritional requirements [3].

Recent studies suggest that acidic foods, or at the very least, food high in citric acid exacerbate bladder pain [4,5] and ingestion of alkalinizing agents, e.g. sodium bicarbonate, or agents that neutralize acid in food, e.g. calcium glycerophosphate [6,7], might provide



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symptomatic relief. With the exception of cranberries, other acidic foods do not necessarily produce a change in urine pH or a corresponding change in the physiological state of the bladder [8].

With reference to the possibility that alterations in urinary pH leads to alteration of bladder symptoms, one prospective, randomized, double-blinded study was performed [9]. Foods/beverages that were removed or restricted included tomatoes, tomato products, soybean, tofu, spices, excessive potassium, citrus, high-acidity-inducing substances, and others. Statistically significant improvement was identified in the "intensive" group versus the "no intensive" group at all time points up to 1 year [10].

The foods with high acid content trigger the pain. IC triggering foods could be high in benzoic acid (cranberries), tartaric acid (grapes and tamarind), ascorbic acid (vitamin C) and citric acids (eg. tomato and orange) etc. On contrary, many fruits and vegetables (which contain different type of natural acid) do not trigger bladder flares and they contain valuable antioxidants to keep us healthy. Some acids added in the foods at the time of processing to preserve the foods are also responsible for flare- up example phosphoric acid (cola), acetic acid (pickles). (Fig 2)

IC friendly diet should also be balanced for all the essential fatty acids. Trans fats which are often present in processed foods, should be eliminated from the diet [2].

Food processing also alters oxalate values—processed grains and boiled vegetables typically have less oxalate than whole foods. For better outcomes in IC patients, it is suggested to reduce those edibles typically reported to be very high in oxalates, e.g., nuts, spinach, tea, bran, and chocolate as well as to consume adequate amount of fluids to help dilution of urine and prevention of aggregation of crystals [11]. In addition, consuming dietary calcium with oxalates will bind the oxalate, yielding an insoluble complex that is not absorbed in the digestive tract, hence lowering oxalate absorption [12].

Artificial sweeteners (sodium saccharine, acesulfame K, and aspartame) have been shown to affect bladder function in limited animal studies. They have been found to cause bladder irritation in people with IC or chronic bladder inflammation. Additionally, they are known to aggravate symptoms of urinary tract infection as well. But the good news is that stevia, a natural sweetener, does not appear to cause bladder irritation.

Caffeine, alcohol, artificial sweeteners, or spicy food is a regular part of your diet, try eliminating them for a week to see if your symptoms improve. Then gradually, every one to two days, add one food/drink back into your diet, making note of any changes in urinary urgency, frequency, or bladder control loss. There may be individual circumstances that causes an individual's bladder to spasm [13].

Also IC is one of the many health conditions linked to histamine intolerance. Research has found that people with interstitial cystitis have elevated mast-cell derived histamine levels and mast cell counts. One study of 33 women with IC has shown elevated histamine levels and the presence of a histamine producing bacteria in its participants. Another study found antihistamine therapy potentially beneficial for IC symptoms, suggesting that histamine intolerance is the root cause of the problem [14,15,16]. Some foods with high histamine content increase the irritation in bladder. These foods are alcohol, aged cheese, pickled, fermented foods, smoked meats, vinegar, yogurt, chocolate and cocoa, citrus fruits, pineapple, strawberry, tomato and chilies. In general as food ages and ferments, the histamine content goes up.

Dietary advice for patients with IC/BPS often includes limiting high potassium foods to avoid increasing bladder symptoms. Potassium levels in the urine typically range from 24 to 133 mmol/L [17]. Alcohol use as a potential trigger for IC/BPS symptoms was evaluated in a survey conducted by the Interstitial Cystitis Network. They found that 94% of 535 patients responding reported that their bladder symptoms worsened when drinking various alcoholic beverages [18].

Some spices and herbs that potentially have a cooling and calming effect for IC patients are fennel seeds (saunf), turmeric (haldi), asafoetida (hing), cumin seeds (zeera), fenugreek seeds (meethi), coriander seeds (dhania), ajwain, basil, mint leaves etc. Aloe Vera is also having anti microbial, anti inflammatory and analgesic properties. Glycosaminoglycans present in aloe stick to the bladder wall lining/mucosa, coating it and preventing the irritants in the urine causing flare up [2].

In a large National Institutes of Health study, patients with newly diagnosed IC/BPS were treated with a focus on four targeted areas: (1) controlling or managing symptoms, (2) controlling fluid intake, (3) changing the diet to one that might improve symptoms, and (4) bladder training and urge suppression. A behavioral approach to stress and pain management was also used to help patients learn skills to reduce stress in their lives. Of 135 patients randomized to this approach without additional medication, 45% were moderately or markedly improved at the 12-week end point [19].

Certain foods affect symptoms of IC/BPS and comorbid conditions more than others, specifically citrus fruits, tomatoes, vitamin C, artificial sweeteners, coffee, tea, carbonated and alcoholic beverages, and spicy foods tend to exacerbate symptoms; while calcium glycerophosphate and sodium bicarbonate tend to improve symptoms. A controlled method to determine dietary sensitivities, such as the elimination diet, could play an important role in defining optimal dietary modifications. Comorbid conditions and the effect of diet must be considered when counseling patients [20].

Fig 1

Code #: _____

The Effects of Foods & Beverages on the Symptoms of Interstitial Cystitis*Please return this questionnaire within one week of receipt.*

Sex: Male/Female _____ Age _____

(Please circle answer)

1. Do you feel that consumption of certain foods and/or beverages has ever caused you to have increased urinary urgency and/or frequency and/or pain or worsening of bladder symptoms*?

Yes No Don't
Know***When we refer to bladder symptoms we are referring to pain, frequency and urgency.**

2. Do you feel that consumption of certain foods and/or beverages has ever caused you to have a reduction in urinary urgency and/or frequency and/or pain or lessening of bladder symptoms?

Yes No Don't
Know

3. If you feel that certain foods and/or beverages and/or supplements trigger bladder symptoms, list the five foods and/or beverages that have ever caused you the worst bladder symptoms.

List five foods and/or beverages and/or supplements that have ever caused a decrease in bladder symptoms.

4. Read through the following lists of foods on the next few pages. Circle the number that relates to the effect the food or beverage has ever had on urinary urgency, frequency and/or bladder pain.

Skip this question if you feel foods never cause urinary urgency, frequency and/or bladder pain.

Food	I Have Never Eaten This	Effect on Symptoms				
		<i>worsens symptoms</i>	<i>slightly worsens symptoms</i>	<i>no effect</i>	<i>slightly improves symptoms</i>	<i>improves symptoms</i>
Fruits						
apples		-2	-1	0	+1	+2
apricots		-2	-1	0	+1	+2
bananas		-2	-1	0	+1	+2

Circle Answer

5. Have you ever eaten any foods, beverages or supplements that you knew would increase your symptoms?

Yes No I don't know

6. Have large meals ever caused more bladder symptoms than small meals?

Yes No I don't know

7. Do you purchase any reduced acid foods such as reduced acid orange juice or reduced acid tomatoes?

Yes No

What do you purchase? _____

8. If you do consume some reduced acid foods do you feel that they cause you less symptoms than the same foods that are not acid reduced?

Yes No I don't know

9. Do you have any allergies such as seasonal (hay fever, ragweed, etc.) or allergies to medications, animals or foods?

Yes No

If yes, What allergy medications do you take? _____

How many times a day do you take the allergy meds? _____

10. Do you feel that certain medications cause a change in your symptoms?

Yes No I don't know

List all meds that increase symptoms: _____

List all meds that decrease symptoms: _____

List any other medications that you take: _____

Fig 2

INTERSTITIAL CYSTITIS (IC) / Bladder Pain Syndrome

Interstitial cystitis (IC) is a chronic health condition that causes pain and pressure in the bladder and pelvic area. Because of this, it is sometimes called painful bladder syndrome. IC can cause an urgent need to urinate, a frequent need to urinate, or both.

DIETARY RECCOMENDATIONS

1. Drink plenty of water, at least 8-10 glasses/day.
2. Include liquids like double toned or skimmed milk, coconut water and soups in your diet with less sugar and salt added.
3. Consume a rich fiber diet:

Food Groups	Allowed /Good Choice	Avoid/ Bad Choice
Cereals	Whole grain: dalia, oats, corn, whole wheat flour, bran, brown rice and millets (bajara, jowar, ragi)	Refined grains: maida, polished rice processes and fortified cereals
Pulses	All whole (sabot) and washed (dhuli) pulses/dals	Soybean and avoid too much of oily gravy or tadka
Vegetables	Broccoli, cauliflower, peas (green), cucumber, eggplant, cabbage, potatoes, sweet potatoes, beans, , carrot, celery, lettuce, mushrooms, radish, squash, zucchini and all green leafy vegetables	Raw onion, hot chili peppers, capsicum , tomato and tomato products
Fruits	Banana, blueberries, honeydew, melons, watermelons, pears, apples, apricots, plums, dates	Grapefruit, lemon, orange, grapes pineapples, kiwi, sour strawberries
Egg/Meat and its products	Chicken, fish and eggs	Canned , cured processed and smoked meat /fish, sausages
Dairy products	Skimmed milk, curd, paneer, cottage, cheddar, feta cheeses	Flavored yogurt, processed and heavily spiced cheeses, chocolate and ice creams
Fats and oil	All allowed	All allowed
Nuts	Almonds, cashews, peanuts, walnuts, raisins	Pistachios
Spices	Ginger, garlic, coriander, cumin	Red chilies, cardamom, clove, Garam masala
Drinks	Fruit and vegetable juices, soup, herbal tea	Caffeine products, alcohol, coffee, tea, soda, citrus fruit juice, Cranberry juice, Carbonated drinks
Others	Honey, smooth jam and marmalades, jelly	Pappads, pickles, chutneys, peanut butter, chocolate with nuts, ketchup, soy sauce, vinegar, spicy foods salad dressings, artificial sweeteners,

4. Sugars: 1-2 tsp /day is preferred. Avoid mithais, chocolates, pastries, confectionaries, ice creams etc.
5. Avoid canned and ready to eat foods and preserved foods.
6. Walk briskly everyday for at least 30 min or any other physical activity.

LIFE STYLE MODIFICATION

1. Do not skip any meals.
2. Take meals at regular timings.
3. Chew food properly.
4. Do not watch TV or Read while eating food.
5. Include plenty of fresh fruits and vegetables in your diet.
6. Include low calorie snacks in your diet.
7. Eat a low calorie snack before dinning out.
8. Follow healthy cooking practices like, steaming, pressure cooking, microwave, sauté avoid deep-frying.
9. Remain physically active.
10. Avoid eating junk food and aerated drinks.
11. Quit smoking.
12. Avoid alcohol intake.

SAMPLE MENU

Morning	Almonds and Walnuts
Breakfast	Milk, Cereal, Fruit
Mid-Morning	Fruit/ coconut water
Lunch	Salad, Vegetable, Pulse/Non veg, Roti/Rice
Evening	Herbal tea, Low calorie snack /fruit
Dinner	Salad, Vegetable, Pulse, Roti/ Rice

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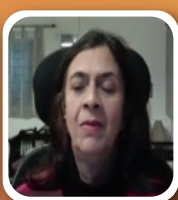
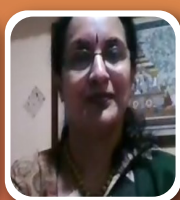
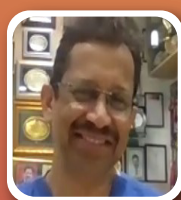
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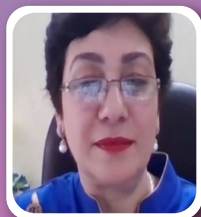
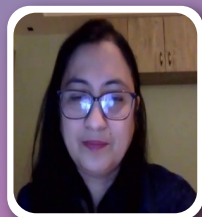
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Theme -
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**GLOBAL INTERSTITIAL CYSTITIS,
BLADDER PAIN SOCIETY**

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NEWSLETTER