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Case Study

Elimination Diet to Reduce Inflammatory Marker (Uric Acid)

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Case Study

A 31-yrs-old male visited with a complaint of high Uric acid and was on steroid Wysolone 20 mg once daily (5days), Tab Zycolchin 0.5mg twice daily, Zyloric 100 and 300 mg on alternate day after 2 weeks, Ancoxib 60mg twice daily on SOS basis. He was having toxic looks and body was swollen. Energy level was very low and stressed as he lost his job. Family had a history of stroke and hypertension. His lifestyle was sedentary but he used to exercise a little 5 days in a week. He used to sleep for 6-7 hours but felt restless while sleeping. His stress levels were very high and couldn't control his anger or irritation.

Laboratory test report at the time of first consult:

Uric acid - 9.30 mg/dl.

Based on his laboratory evaluation and past history he was diagnosed with inflammation in his kidney which was the cause of high uric acid.

With medical history and interaction with the patient, he was treated with an anti-inflammatory elimination diet along with guidelines needed to reduce uric acid. The patient was advised to follow anti-inflammatory elimination diet along with guidelines needed to reduce uric acid. Removing foods from the diet which are inflammatory and irritate the gut lining is is called elimination diet. One by one, food items are reintroduced to the diet while keeping a watch over the symptoms if any appear. In case any symptoms appear it indicates that that food is causing irritation to the gut lining. Elimination diet helps those with inflammation, food intolerance or food allergy, sensitive gut. It is mandatory in cases which suffer from leaky gut.

Elimination diet includes two parts, one is elimination and other is reintroduction.

The elimination diet 1st phase involves removing foods from the diet like dairy, citrus fruits, nuts, seafood, soy, pork, shellfish, nightshade vegetables, corn, wheat, foods containing gluten and eggs for a short period of time, generally 3 weeks.

The next step is the reintroduce gradually the eliminated foods back in your diet. This is done in the 4th week. Each food group should be reintroduced one by one, over a period of 2–3 days, while keeping a watch for the symptoms.

Symptoms needed to be focused are: Changes in bowel habits, Joint pain, Rashes and skin changes, Fatigue, Stomach pain or cramps, Bloating, Headaches or migraines, Difficulty sleeping, Changes in breathing.

If patient does not have any symptoms during the reintroduction of food group, then it is fine to go ahead with the food and we can further on reintroduce the next food group. However, if any negative symptoms as mentioned appears, then we should remove that trigger food from the diet, go back on elimination diet and after 2-3 days introduce new eliminated food. The entire process, inclusive of elimination, takes around 5–6 weeks.

For his Uric Acid, a low purine, low protein, easily digestible diet with liberal fluid intake was advised:

- **Calories:** Body weight should be reduced to normal, not only to prevent recurrence of gout but also to prevent chances in weight bearing joints that occur in obese. A heavy meal having high calories should not be taken, as it tends to activate an attack

- **Proteins and purines:** Meats which are having high purine content such as liver, kidney, fish, kidney and meat extracts and meat soups are excluded to decrease inflammation. Flesh in the form of fish, fowl and meat are excluded during an acute attack period but they are allowed in little quantity helping during quiescent period. About 60g protein a day is adequate, preferable supplied as vegetable or milk proteins.
- **Fat:** Fat consumption is restricted, partly because its ingestion tends to cause retention of urates by the kidney, and partly to help inflamed bodies to lose weight
- **Carbohydrates:** The main source of calori18es should be carbohydrate because of its protein-sparing effect which reduces endogenous protein breakdown.
- **Fluids:** Liberal intake of fluids is advised to the patient to ensure daily excretion of around 2000 ml of urine.
- **Beverages:** Tea and coffee contains methylpurines which does not get converted into uric acid by the body. Around 2-3 cups a day are permitted
- **Alcohol:** Patients usually are able to tolerate a couple of ounces of whisky or white wine, but not able to tolerate beer, stout, or red wines.

Food items excluded for a patient with high uric acid:

- Beans,
- Peas,
- Lentils,
- Spinach,
- Oatmeal,
- Cauliflower,
- Mushrooms
- Fish,
- Meats,
- Poultry or other flesh and organ meats
- Yeast and beer products, beer, alcohol.

Sample diet plan

Exercise recommendations

- Yogic jogging for 12 min twice a day
- Breathing exercise: 2 minutes, 3 times a day
- Take the staircase during the day.

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	Option 1	Option 2	Option 3
Early morning	1-2 glasses warm water	2 glasses lemon water	2tbsp amla juice in 1 glass plain water
Breakfast	1 cup of of black tea/ Green tea		
	vegetable poha (no peanuts)	whole moong dal cheela with dhania and tomato chutney	Glutein free millet dalia with lots of veggies
Mid morning	1 Fruit (apple/guava/papaya)		
Lunch	Vegetable salad from tomato, cucumber, lettuce and dressing of vinegar, pepper and sour lime		
	Cooked green/ yellow vegetable		
	2 jwar roti/ Brown rice/ Jwar roti		
Mid afternoon	1 cup of black tea / Green tea		
Evening	Spiced cucumber/ carrot sticks	sweet potato chaat/ shakarkandi chaat	Makhana/ Jwar puffs
Dinner	Soup, Salad and vegetables		

Figure 1

Client coaching

The patient was coached on exercise sessions, diaphragm breathing and simple aspects such as maintaining diet journal, watching weight daily. He used to feel dizzy earlier but after a few days only started feeling very good with the elimination diet. He was given simple tricks and tips to stick to the regimen such as;

- Carry detox water and carry nuts, seeds and sprouts with him.
- Drink coconut water or buttermilk with black salt if he feels dizzy.
- Fix an alarm for Last Meal of the Day at 7:00 PM
- Have early dinner and to keep a gap of 12-15 hour between dinner and breakfast.

After elimination patient was introduced milk and wheat in his plan. He was told to introduce one food at a time and three times in a day. Patient was also advised to get back to his previous plan if he feels any discomfort or his weight increases. He didn't feel good with wheat and milk, so he avoided it for the next three months also.

Result

After 4 weeks, his Uric Acid came to 5.90 mg/dl and he also lost 4 kilos. Since then, he is on gluten free diet and doing pretty well.

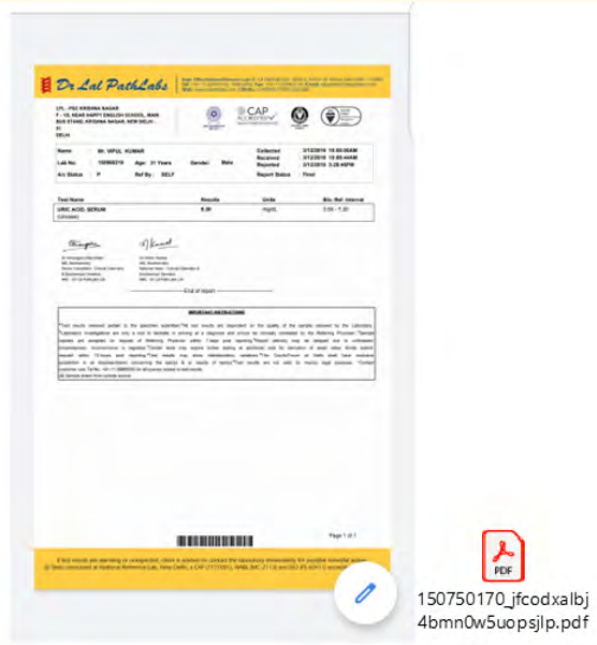

Figure 2

Discussion

The data shows a clear relationship between diet and lifestyle and the development of gout and hyperuricemia. These lifestyle modifications are totally inexpensive and safe and, when combined with drug therapy, may result in better control of this disorder.

One of the big changes in lifestyle recommendations is avoiding foods that irritate the gut lining such as Gluten, Dairy, Soy, Processed foods and sugar consumption. Here, relationship between urate levels and purine-rich foods indicates that restricting purine intake can reduce serum uric acid levels. Therefore, reducing the intake of purine-rich foods, such as red meat, is advised in the prevention and management of gout and hyperuricemia. Red meat can result in insulin resistance which can be a reason for gout.

Studies have suggested that high doses of vitamin C helps to decrease uric acid. A recent trial has indicated that taking 500 mg/day vitamin C for 2 months have helped to reduce serum uric acid by 0.5 mg/dl. As vitamin C is usually considered safe to use, its decreasing uric acid effect provides a very useful option in the prevention and management of gout and hyperuricemia [1-3].

Conclusion

Celiac, Gluten sensitivity can be one of the reasons of high uric acid also. Therefore, it should be ruled out and avoided for such patients.

Data suggests that gout incidences are rising. Advancing age increases the occurrence of gout – including metabolic syndrome, hypertension, and renal disease – that are associated with age.

The increasing cases of gout worldwide indicates that there is an important need for improved efforts which help to identify patients with hyperuricemia early in the disease process and before the clinical manifestations of gout become apparent. Changes in diet may provide adequate control of hyperuricemia in patients, particularly when they are identified early in the course of disease. Prevention is better than cure and it is time to practise it in real sense.

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