

The Role of Some Foods and Diet Habits in Cholecystitis and Gallstones in Mosul in Iraq

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ABSTRACT

Background: 171 patients were studied 72 male 99 females classified as age group. We found that gall stones were main cause of cholecystitis, females is more than males, most of them consume liquid oil and poked chicken broth .Also we found no significant proof about drinking less or more amount of water daily.

Material and method: questionnaire was used with direct interview, required data obtained from medical reports, then a statistical analysis was performed

Results: Most patients from age group (14-40) years ,gallstones are main cause of disease .Major percentage of patient were usually consume packed food especially chicken broth .More eating of fruits and vegetable is reduce or prevent complications of disease.

Conclusion: cholecystitis is common in society, main cause is gallstones .Bad nutrition life style, obesity are risk factors of disease. Healthy foods are very important to prevent disease.

Keywords: Cholecystitis, gallstones, foods, life's style

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INTRODUCTION

Inflammation and gallstones are the digestive system's most painful diseases. The case increases with aged people, especially diabetics, obesity, females, as well as hormones users. Most of the patients do not show symptoms that are similar to the condition by sonar devices when examining some abdomen's parts [1]. Gallbladder inflammation is divided into acute and chronic. Patient suffering depends on several factors including gender, so acute infection rates in males are more than females, in contrast to chronic cases, which requires a surgical intervention to prevent and reduce Complications of the disease in males [2]. The most common cause of Cholecystitis is the presence of a stone and this case ranges between 3- 10% in patients who suffer from acute abdominal pain. It is also higher in patients over fifty than in younger patients. More than 80% of patients with gallstones have no symptoms and therefore less than 20% of them symptoms appear when the bile duct is closed and then the case develops into Cholecystitis [3]. Inflammation of gall bladder may be occurs without stones , and the main cause is bacterial infection and there is relationship between biliary system and cholecystitis [4]. Presence of gallstones in the gallbladder is a common clinical condition in adults of both sexes. There are various symptoms and signs such as, abdominal pain on the right side, vomiting, high body temperature, obstructive jaundice, poor appetite and weight loss, all of which lead to pathological changes in the gall bladder [5].

Gallstones are formed in the aggregation of small molecules of the pigment in the form of a mass inside the cyst, and they are of two types, either fatty stones resulting from increased cholesterol or pigment stones, that is because the cyst contains a large amount of cholesterol or a pigment in the body or is caused by not completely emptying the cyst, and females over the age of forty are more dangerous to infection than males or females in other age groups.

To control the disease and other symptoms and signs, you must follow a food guide and a lifestyle that includes foods that reduce cholesterol and avoid animal fats, frides,

carbohydrates, and a lot of foods containing fibre, vitamin C and fruit juice, as well as drinking large quantities of water with exercise and all of this will lead to reducing infection by preventing the formation of stones [6,7]. It is known that some foods play an important role in the development of cholecystitis such as high-fat foods, where cholesterol accumulation leads to the formation of gallstones. [8] . Relationship to the type of stones has not been sufficiently studied, although some studies have found a positive relationship between the consumption of beef and animal fats and the formation of fatty stones. A positive relationship between the consumption of carbohydrates and the formation of pigment stones [9,10, 11].Fatty stones were found in anaemic, as well as liquid oil users in daily food and those who have less activities. The risk factor is higher for people with obesity and liver disease, and there are comparative rates of infection for both types of stones (fatty and pigmented) when those who consume meat weekly or consumers for fresh eggs daily [12]. The effect of the type of oils used in food on the composition of bile fat is not clear, but when comparing the effect of two types of oils there was a difference in the composition of the fatty acids produced after metabolism and may be the usual type of oil to be consumed. It has an effect on the components of bile liquid as when using olive oil where it is concentration of bile fluid is more, but this does not mean exactly that it caused the formation of fatty stones. [13]

There is a relationship between nutritional factors and gallbladder stones infection and fatty gallbladder stones. Some foods increase the risk of stones formation, such as cholesterol, saturated fats, saturated fatty acids, processed sugar, as well as obesity, while there are foods that prevent the development of the condition such as monounsaturated fats, multiple and dietary fibre, as well as caffeine and vegetables rich in food, although they do not dissolve stones . Food that has been successful in preventing the formation of stones is a container of vitamin C and soy lecithin and iron [14]. Consume fruit juices is very useful to prevent formation of gallstones especially lemon juice if mixed with olive oil , also

as dietary treatment is intake black seed oil with pure honey[15]. The gallbladder is emptied as a function of digestion of fats. The various contents of the food are not known completely affecting the contraction of the gallbladder, as there are different effects on stimulating the emptying of the gallbladder, according to the contents of the food, such as tea, coffee. Milk has less effect to stimulate than potatoes and volume of gall bladder is different from day to other [16]. In most cases, gallbladder stones are a cause of inflammation of the bile duct and patients who are suspected of infection should go to the hospital immediately to start the first line of treatment including fasting, intravenous fluids and analgesics, and these procedures should be followed by the Cholecystectomy within 24-48 hours [17]. Cholecystectomy is a useful option for the elderly and in critical cases for those with acute inflammation and has a high success rate with minimal complications. It is advised to eradicate patients who do not have effective risk factors [18,19]. After the Cholecystectomy ration patients suffer from post-operation syndrome such as diarrhoea, which has relationship between these symptoms and the type of food. Although, there are no clear details. Some analyses indicated that there was a highly significant between type of food associated with post-eradication syndrome [20].

AIM OF THE STUDY

To identify some types of common foods for the sample as an indication that it is considered a cause of Cholecystitis, leading to a recommendation to reduce consume it and to control the disease.

MATERIAL AND METHOD

A questionnaire was used and direct interview with patients. The required data were taken from the medical reports and the history of each individual of the sample, and then a statistical analysis was performed.

RESULTS

The study has been done upon 171 diagnosed cases with Cholecystitis. 72 males (42.1%), and 99 females (57.9%). According to age groups, "14-40 years", 33 (45.8%) were males and 54 (54.5) females and the total was 87, (50.9%). And the group "41-60 years" is 33 (45.8%) were males and 38 (38.4%) females and the total was 71 (41.5%). while the group "61-80 years" was 6 (8.4%) males and 7 (7.1%) Females and the total was thirteen (7.6%). See (Table No. 1.)

About cause of disease the presence of stones was 139 people, including 22 males and 50 females, in the "14-40years" age group and the total was 72. As for the "41-60 years" group, the number was 26 males and 32 females with a total of 58, and in the "61-80 years" group the number was 4 males and 5 females with a total of 9. While for those suffering from Cholecystitis by different causes, the number in the "14-40 years" group was (15), 11 males and 4 females. The "41-60 years" group was (13), 7 males and 6 females, and the "61-80 years" group was (4), 2 males and 2 females. See (Table No. 2).

Though, 139 patients were treated with Cholecystectomy, 52 males (72.2%) and 87 (87.9%) were females. (81.3%) of the cases treated. Number of patients who treated by medication

was 32,20(27.8%) males and 12(12.1%) females. (Table No. 3).

While (Table No.4) shows the type of oil used in food according to the age groups of consumers. Liquid vegetable oil was the most used among 143 patients (83.7%), of whom 75 were in the (14-40 years) group, 58 in the (41-60 years) group, and 10 in the (61-80 years) group. As for hydrogenated vegetable oil, the number of patients were 17 (9.9%), of whom 7 were in each of the (14-40 and 41-60 years) group and 3 in the (61-80 years) group, and only 11 cases consumed animal fat (6.4%), 5 of them in the (14-40 years) and 6 in the (41-60 years) group.

In the food table for the patients, the packed prepared chicken broth was the most consumed by 97 (59.7%) for more than once a week distributed according to the age group and the number of times weekly consumption, by 20 as rarely consume, 13 for once per week and 54 for more than once in a week for those in the (14-40 years) group, while the (41-60 years) group was 28,9,24 respectively, and in the (61-80 years) group the number was 5,4,4 respectively and the total number of consumers in different ages 14-40 years is 48 (28.1%) and once a week was 26 (15.2%). while fried food comes second, so the number of consumers more than once a week was 87 (50.8%) in the (14-40 years) group 16 as rarely consume and 25 times a week 25 more than once a week and in the (41-60 years) group the number of consumers was 14, 21, 36, respectively, and in the (61-80 years) group was 5, 3, 5, respectively, and the total number with rarely consume was 35 (20.5%) and once a week 49 (28.7%) and more than once a week was 87 (50.8%).

The patients who rarely drink soft drinks from (14-40 years) 27 and once a week 21 and more than once a week 39 and from (41-60 years) the number was 40, 12, and 19 respectively and from the group (61-80 years) was 9, 1, and 3 respectively, and the number of consumers for soft drinks as rarely consume was 76 (44.4%) for all age groups studied and consumers once a week were 34 (19.9%) and more than once a week were 61 (35.7%) by comparing the food item with consumers according to age groups.

As for consuming the high-fat meat, the number of consumers in the (14-40 years) group at separate times was 20 and once a week 36 as; for more than once a week 31. The (41-60 years) group the number was 26, 28, and 17 respectively. The (61-80 years) group the number was 6, 2, and 5 respectively. The total meat consumers as rarely 52 (30.4%) and once a week were 66 (38.6%) while more than once a week was 53 (31%). See (Table No. 5).

The table of nutritional habits shows that the ones accustomed to drinking a cup of water in the morning before breakfast daily are 53 (30.9), of whom 23 were in the (14-40 years) group, 24 in the (41-60 years) group, 6 in the (61-80 years) group, and the number without this habit were also 53 (30.9), of whom 35, 16, and 2 respectively. According to the mentioned age groups, who drink water before breakfast sometimes without their usual 65 (38.2), 29 of them were in the (14-40 years), 31 in the (41-60), and 5 in the (61-80 years). For those accustomed to having a cup of dark tea after the meals are 100 infected (58.5%), of whom 43, 47, and 10 are in the age groups respectively, while the number of those not accustomed to this was 30 (17.5%) Distributed by 1, 5, and

24, according to the age groups, and those who drink sometimes 41 (24%), of whom 20, 19, and 2, according to the groups, respectively. See (Table No. 6).

As for the amount of water drinks daily for the patients, the number of those who drank less than half a liter per day was

34 (19,8%), 18 in the (14-40 years) and 12 in the (41-60 years) and 4 in the (61-80 years) group. While those drinking one liter per day was 77 (45.1%), by 39, 32, and 6 respectively, according to the age groups. As for those who drink more than one liter per day, they were 60 (35.1%) distributed in the number of 30, 27, and 3 respectively. See (Table No. 7).

Table 1: Frequency and Percentage Distribution of Age and Gender

Age(year)	Female		Male		Total	
	Number	%	Number	%	Number	%
40-14	54	54.5	33	45.8	87	50.9
60-41	38	38.4	33	45.8	71	41.5
80-61	7	7.1	6	8.4	13	7.6
Total	99	100	72	100	171	100

Table 2: Type of the reasons

Type	Female Age group			Male Age group			Total			Total	%
	-14	60-41	-61	40-14	60-41	-61	40-14	-41	-61		
Inflammation with stone	50	32	5	22	26	4	72	58	9	139	81.3
Inflammation only	4	6	2	11	7	2	15	13	4	32	18.7
Total	54	38	7	33	33	6	87	71	13	171	100

Table 3: The Treatment

Type of treatment	Female		Male		Total	
	Number	%	Number	%	Number	%
Cholecystectomy	87	87.9	52	72.2	139	81.3
Medication Treatment	12	12.1	20	27.8	32	18.7
Total	99	100	72	100	171	100

Table 4: Type of usual fat used in Food

Type of fat	Age group			Total	
	14-40	41-60	61-80	Number	%
Liquid vegetable oil	75	58	10	143	83.7
Hydrogenated vegetable fat	7	7	3	17	9.9
Animal fat	5	6	-	11	6.4
Total	87	71	13	171	100

Table 5: The Type of Food

Type of Food	Age group									Total					
	14-40			41-60			61-80			Rare	%	once /week	%	More than once /week	%
Fried food	16	25	46	14	21	36	5	3	5	35	20.5	49	28.7	87	50.8
Soft drinks	27	21	39	40	12	19	9	1	3	76	44.4	34	19.9	61	35.7
Artificial chicken broth	20	13	54	24	9	38	4	4	5	48	28.1	26	15.2	97	56.7
Highly fat meat	20	36	31	26	28	17	6	2	5	52	30.4	66	38.6	53	31

Table 6: The Eating Habits

Eating habits	Age group									Total					
	14-40			41-60			61-80			Yes	%	No	%	Somet ime	%
	Yes	No	Somet ime	Yes	No	Somet ime	Yes	No	Somet ime						
Drink a cup of water	23	35	29	24	16	31	6	2	5	53	30.9	53	30.9	65	38.2
Drink a cup of dark tea	43	24	20	47	5	19	10	1	2	100	58.5	30	17.5	41	24

Table 7: The Amount of Drinking Water

Amount of drinking water	Age group			Total	
	14-40	41-60	61-80	Number	%
1/2 liter	18	12	4	34	19.8%
1/2 – 1 Liter	39	32	6	77	45.1%
More than 1 Liter	30	27	3	60	35.1%
Total	87	71	13	171	100%

DISCUSSION

Cholecystitis has become a common and recurrent disease in society, and the recent years have witnessed qualitative changes among the patients, and the eating habits and eating fast foods have affected a large number of young females, as shown in our current study and other similar studies [10].

Gallstones are usually caused by a defect in the metabolism of cholesterol and bile acids that make up stones in the Bile Duct or inside the Gallbladder. This disease is one of the most common gastrointestinal disorders and complications associated with health care systems. We believe that this disease also can be a result of some acute cases. The incidence rate varies significantly, according to residential areas, the cultural level, and academic achievement influencing in one way or another the change in the lifestyle represented by the lack of activity and physical effort in general as well as the type of food, how to cook and the quantities consumed as in similar studies [21].

Gallbladder stones cause a complex pathological disease associated with metabolic syndrome in which the regulation of fats and insulin resistance is disturbed, which has a major role in infection. Insulin resistance increases cholesterol secretion in the Bile Duct and affects the gall bladder movement. The process of fat metabolism and energy production is a complex process and affects the body in general. In fact, gallbladder stones do not affect the absorption of food and do not affect the nature and continuity of life normally. The function of the gallbladder is to circulate the bile salts in the liver cycle. These salts and the mucous membrane lining the intestine are rich in the hormone FGF15/19 as well as the TGR5 receptor that regulates metabolism [22].

According to the current study's results, we believe that the lack of real interest in the diet is a major cause of Cholecystitis, where gallstones, which are usually two types (fat or pigment), are the most common causes of Cholecystitis, as they accounted for 81.3% of all patients, they were 18.7% includes the rest of the causes leading to Cholecystitis, such as hereditary causes or complications of other digestive system infections. Also we believe that the media concerned with health has been guiding general guidance and advice, for instance, to preserve the freshness of

the skin in order to appear healthy. Some media outlets recommend the need to drink 6-8 cups of water per day, as the amount of water drunk daily exceeds 1.5 liters. This will prevent a large number of diseases, but the current study showed that drinking water in moderate or few quantities has no negative effect on health in general. Another similar study concluded the same results [23].

CONCLUSIONS

Cholecystitis is a common disease in the society that have been studied, and the main cause of infection is the presence of gallstones. Females are more likely to have an infection than males, and the age group of (14-40 years) is more than the other age groups. Cholecystectomy is the most successful treatment worldwide for the purpose of the current study. Changing the lifestyle, relying on fast food, lack of activities and absence of a diet system are the most common causes of stones and gallbladder inflammation. Moreover, drinking moderate or small quantities of water per day does not have a positive or negative scientific evidence for health in general, most foods with a negative effect, according to the current study, are packed chicken broth, followed by fried food, then high-fat meat, and soft drinks.

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