

CASE REPORT

Investigating the effect of observing the health triangle on gallstone treatment; a case report

Investigación del efecto de la observación del triángulo de la salud en el tratamiento de los cálculos biliares; informe de un caso

Hassan Akbari^{1,2} , Marjan Shirinkalam³ 

1. Department of Pathology, Tehran University of Medical Sciences, Tehran, Iran

2. Traditional Medicine School, Tehran University of Medical Sciences, Tehran, Iran

3. Iranian Traditional Medicine Doctor, University of Traditional Medicine of Armenia, UTMA

Corresponding author:

Dr. Marjan Shirinkalam

E-mail: ms.shirinkalam@gmail.com

Received: 12 - VI - 2022

Accepted: 24 - VI - 2022

doi: 10.3306/AJHS.2022.37.04.171

Abstract

Introduction: Gallstone disease is a highly prevalent disease in general population and is associated with high costs of treatment and morbidity. The major risk factors to develop gallstone include sedentary lifestyle, and a diet rich in simple. Cholecystectomy is considered the most recommended treatment for symptomatic gallstone by classic medicine. However, complications from cholecystectomy are significant and is not acceptable to many patients. Hence, introducing an alternative treatment for such patients is mandatory.

Methods: In this case report, considering the etiology of gallbladder disease, we presented a 92- years-old woman with gallstone disease treated with nutrition correction in line with the health triangle and also other traditional medicine remedies.

Results: After one year of treatment initiation the symptoms of the patient were resolved and the gallstone size reduced considerably until there was no sign of the gallstone in ultrasonography.

Conclusion: Performing health triangle along with nutrition correction and traditional medicine remedies, with the mechanism of changing the cell metabolism, could be an alternative medication for the treatment of gallstone disease.

Key words: Gallstone, health triangle, full health.

Resumen

Introducción: Los cálculos biliares son una enfermedad de alta prevalencia en la población general y se asocia con altos costes de tratamiento y morbilidad. Los principales factores de riesgo para el desarrollo de cálculos biliares son el estilo de vida sedentario y una dieta rica en grasas. La medicina clásica considera que la colecistectomía es el tratamiento más recomendado para los cálculos biliares sintomáticos. Sin embargo, las complicaciones de la colecistectomía son importantes y no son aceptables para muchos pacientes. Por lo tanto, es obligatorio introducir un tratamiento alternativo para estos pacientes.

Métodos: En este informe de caso, teniendo en cuenta la etiología de la enfermedad de la vesícula biliar, presentamos a una mujer de 92 años con enfermedad de cálculos biliares tratada con corrección nutricional de acuerdo con el triángulo de la salud y también con otros remedios de la medicina tradicional.

Resultados: Después de un año de inicio del tratamiento, los síntomas de la paciente se resolvieron y el tamaño del cálculo biliar se redujo considerablemente hasta que no hubo ningún signo del cálculo biliar en la ecografía.

Conclusión: La realización del triángulo de la salud junto con la corrección nutricional y los remedios de la medicina tradicional, con el mecanismo de cambio del metabolismo celular, podría ser una medicación alternativa para el tratamiento de la enfermedad de cálculos biliares.

Palabras clave: Cálculo biliar, triángulo de salud, salud completa.

Introduction

Gallstone disease is a highly prevalent disease in general population and is associated with high costs of treatment and morbidity. Gallstone disease is also one of the common causes of hospitalization worldwide¹. The major risk factors to develop gallstone include genetic susceptibility, sedentary lifestyle, and a diet rich in simple sugars (monosaccharides, disaccharides). The interplay between numerous environmental factors and physiological intercellular responses to lipids, sugars, diet and hepatic and digestive function can cause the formation of gallstone^{2,3}. In individuals with both a sedentary lifestyle and a diet rich in refined sugars, the risk of gallstone formation is significantly increased⁴. Studies have shown that physical activity and healthy diet is associated with a decreased risk of gallstone formation and cholecystectomy^{5,6}.

Cholecystectomy (surgical removal of the gallbladder) is considered the most recommended treatment for symptomatic gallstone by modern medicine and it is one of the most common elective surgeries in the US. In the recent years, the laparoscopic techniques for cholecystectomy have significantly reduced the hospitalization and patient recovery time⁷. However, complications from laparoscopic cholecystectomy including bile duct injuries, the escape of gallstones into the peritoneum and preoperative symptoms following surgery are significant and is not acceptable to many patients⁸. Besides, for some patients, cholecystectomy does not correct the underlying mechanisms that lead to gallstone formation. Surgery in some patients is associated with high burden (e.g. in old ages) or may be contraindicated for some reasons⁹. Hence, introducing an alternative treatment for such patients is mandatory. In this case report, considering the etiology of gallbladder disease, we presented a case with gallstone disease treated with some alternative approaches.

Materials and methods

Case presentation

A 92-year-old woman without past medical history presented to our department with a history of abdominal pain in right upper quadrant (RUQ), nausea and vomiting. On examination she had a abdominal tenderness in RUQ but she did not present any signs of intestinal obstruction or peritonitis and her rectal examination was normal. The height and weight of the patient were 150 cm and 45 kg respectively. With gallbladder or bile duct stone as the most probable diagnosis, we ordered some laboratory tests and abdominal ultrasonography. The laboratory findings, including her aspartate aminotransferase (AST), alanine aminotransferase (ALT), alkaline phosphatase (ALP) and bilirubin levels, were elevated and higher than normal range. In ultrasonography, a stone with a diameter of 27

mm was noted in 22.04.2017 (**Table I** and **table II**). With the results blood tests and ultrasonography of we came to definitive diagnosis of gallstone disease. The patient was candidate for cholecystectomy or endoscopic retrograde cholangiopancreatography (ERCP). However, the patient and her family were unwilling to undergo surgery or any classical medicine treatments. Hence, the patient was candidate for use of traditional medicine treatments.

At first visit (April 2017), the treatment approach was to modify the patient's diet and lifestyle according to the health triangle (treatment of food, species, manual procedures) in fact as part of six essentials and keep health (Hefze-el-Sehah) that has been mentioned in The Book of the Law of Wise Abu Ali Sina¹⁰. Also, oral and absorptive treatments were administrated with herbal remedies and nutrition correction including: pain relief by massaging with black seed oil and chamomile oil, using Docin syrup (combination of Fennel flower and honey), a table spoon, after each meal. Quit cold temper foods, cold temperature, replacing yellow bovine animal oil instead of industrial oils, to increase cell metabolism were also in our treatment approach. With mentioned above remedies and full compliance of health triangle, the patient's daily pain, vomiting and nausea were initially reduced to weekly, then once a month, once every two months, then once every nine months after the first visit to the traditional medicine center. Finally, the pain and other complications of the disease were completely resolved. The successive ultrasonography in following months after treatment initiation revealed a reduction in gallstone size until there was no sign of gallbladder stone. The laboratory tests also showed a significant reduction in AST, ALT, ALP and bilirubin (**Table I** and **table II**).

Table I: Ultrasonography results.

Date	Results
April 2017	stone with a diameter of 27mm
September 2017	stone with a diameter of 17mm with sludge around it (overall dimensions 22mm) in the middle of CBC
May 2018	no clear gallstones

Table II: Laboratory tests results.

	Apr. 2017	Sep 2017	Nov 2017	Normal range
AST	600	145	163	up to 40 U/L
ALT	230	72	45	up to 41.0 U/L
ALP	6210	2431	1692	up to 270 U/L
T Bili	3.5	3.4	2.6	Adult: 0.1 -1.2 mg/dl
D Bili	2.1	2.8	1.9	up to 0.3 mg/dl

Discussion

The pathophysiology of gallstone formation consists of three major stages. In the first stage, the composition of bile is altered and saturated with cholesterol, due to genetics, diet and other environmental causes (estrogens, multiple birth, birth control pills, obesity, rapid weight loss and terminal ileum diseases). These changes increase the chances of cholesterol precipitation

and crystallization. In the second stage of gallstone formation, the gallbladder emptying is impaired resulting in bile stasis and the formation of biliary sludge. In this stage the gallbladder shows signs of inflammation. In the final stage, cholesterol crystallizes around a pronucleus forming a gallbladder stone¹¹.

Some alternative strategies for treatment of gallstone may include reducing gallbladder inflammation and restoring normal bile composition and secretion. These objectives could be reached by some traditional medicine remedies which alter the cell metabolism, reduce inflammation of gallbladder and improve bile secretion. One of these treatments include dietary changes based on health triangle (treatment of food, spices, manual procedures)¹⁰. In both classic medicine and traditional medicine, mild cases of gallstone may be treated with a variety of methods, including herbal medicine, dietary changes, and manual procedures¹².

Studies have shown that some foods including eggs, red meat, onion, fowl, milk, coffee, oranges, corn, beans, nuts, apples, and tomatoes can cause the recurrence of gallstone even after surgery with the mechanism of allergy formation¹³. Eliminating these types of foods can halt the saturation of bile with cholesterol and reduce gallstone formation. Consuming more fruits and vegetables, less refined carbohydrates, yellow animal derived oil instead of industrial oil and eliminating cold tempered foods may also lower the formation of bile stone through correction of cell metabolism¹². Physical activity is also have been

shown to reduce and prevent gallstone in both men and women. The underlying mechanism is mostly due to changes in glucose metabolism. Following an exercise training program, fasting plasma insulin levels are significantly reduced and it is suggested to explain the protective effect of physical activity¹².

This approach not only treat gallbladder disease but also it can prevent it, therefore significantly reduced the medical, economic, psychological, physical and psychological costs due to this disease. However, further clinical studies on the impact of this traditional medicine approach and the health triangle guidelines on the treatment of gallstone is needed.

Conclusion

According to this case report, performing health triangle in fact part of six essentials and keep health (Hefze-el-Sehah) of Abu ALI Sina along with dietary changes and lifestyle modification and traditional medicine remedies, with the mechanism of changing the cell metabolism, could be an alternative medication for the treatment of gallstone disease. Further clinical studies on the impact of the health triangle guidelines on the treatment of gallstone is needed.

Conflict of interest

Authors do not have any conflict of interest to declare.

References

1. Peery AF, Crockett SD, Barritt AS, Dellon ES, Eluri S, Gangarosa LM, et al. Burden of gastrointestinal, liver, and pancreatic diseases in the United States. *Gastroenterology*. 2015 ;149(7):1731-41.
2. Heaton KW, Braddon FE, Emmett PM, Mountford RA, Hughes AO, Bolton CH, et al. Why do men get gallstones? Roles of abdominal fat and hyperinsulinaemia. *European Journal Of gastroenterology and hepatology*. 1991;3:745-51.
3. Moerman CJ, Smeets FW, Kromhout D. Dietary risk factors for clinically diagnosed gallstones in middle-aged men A 25-year follow-up study (The Zutphen study). *Annals of epidemiology*. 1994 ;4(3):248-54.
4. Misciagna G, Centonze S, Leoci G, Guerra V, Cisternino AM, Ceo R, et al. Diet, physical activity, and gallstones—a population-based, case-control study in southern Italy. *The American journal of clinical nutrition*. 1999 ;69(1):120-6.
5. Leitzmann MF, Giovannucci EL, Rimm EB, Stampfer MJ, Spiegelman D, Wing AL, et al. The relation of physical activity to risk for symptomatic gallstone disease in men. *Annals of internal medicine*. 1998 ;128(6):417-25.
6. Leitzmann MF, Rimm EB, Willett WC, Spiegelman D, Grodstein F, Stampfer MJ, et al. Recreational physical activity and the risk of cholecystectomy in women. *New England Journal of Medicine*. 1999 ;341(11):777-84.
7. Greenberger NJ, Paumgartner G. Diseases of the gallbladder and bile ducts. In: Braunwald E., Fauci AS, Kasper DL, Hauser SL, Longo DL, Jameson JL. (eds). *Harrison's Principles of Internal Medicine*, 15th Edn. New York: McGraw-Hill, 2001: 1776–1788.
8. Memon MA, Deeik RK, Maffi TR, Fitzgibbons Jr RJ. The outcome of unretrieved gallstones in the peritoneal cavity during laparoscopic cholecystectomy. *Surgical endoscopy*. 1999 ;13(9):848-57.
9. Walsh RM, Henderson JM, Vogt DP, Mayes JT, Grundfest-Broniatowski S, Gagner M, et al. Trends in bile duct injuries from laparoscopic cholecystectomy. *Journal of Gastrointestinal Surgery*. 1998 ;2(5):458-62.
10. Avicenna TbSA. *Canon of Medicine (Qanun dar Tib)*. Soroosh Publisher, 1991(51 edition).
11. Cecil Essentials of Medicine the edituin. Ivor J. Benyamin, Robert C. Griygs, Edward J. wing, Grey Fite.
12. Moga MM. Alternative treatment of gallbladder disease. *Medical hypotheses*. 2003 ;60(1):143-7.
13. Breneman JC. Allergy elimination diet as the most effective gallbladder diet. *Annals of Allergy*. 1968 ;26(2):83-7.