

**A CASE STUDY ON AYURVEDIC MANAGEMENT OF GALL STONES
(CHOLELITHIASIS)**

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ABSTRACT

The disease Gall Stone has not been described directly in *Ayurvedic* classics. The word *Ashmari* in *Ayurveda* stands for stone which is described only in the context of *Bastigat Ashmari* (urinary calculi).^[1] Gall bladder stores Pitta, hence the organ gall bladder is considered as *Pittashaya* in *Ayurveda* and the stone formed in it can be considered as *Pittashmari*.^[2] After analyzing the *Ayurvedic* texts it was found that the bile secreted from gall bladder can be correlated with *Accha Pitta* mentioned in *Ayurveda* due to the similarity in location and function. Symptoms include severe pain in right upper quadrant and radiating pain in sub scapular area. It is more common in female and its incidence is more now days. As a matter of fact, surgery (cholecystectomy or gall bladder removal) is the most common form of

treatment for gallstones (cholelithiasis) in modern healing system. Good non-surgical measures(ursodiol or chenodiol in the form of oral bile acid pills, extracorporeal shock-wave lithotripsy (ESWL), contact dissolution therapy [injecting a solvent known as methyl tertiary-butyl ether (MTBE) into the gallbladder to dissolve the gallstones, Percutaneous Cholecystostomy) are also available But their roles are either limited or these are not free from adverse effects. In the present case *Ayurvedic* formulations were used in the treatment of gall stones.

KEYWORDS: Gallstones (cholelithiasis), Cholecystostomy, *Ayurvedic* management, A case study.

INTRODUCTION

Cholelithiasis is one of the most prevalent and costly digestive diseases in Western countries. At least 20 million Americans ($\approx 12\%$ of adults) have gallstones. The prevalence of gallstones appears to be rising due to the epidemic of obesity, associated with insulin resistance and the metabolic syndrome. Each year, roughly 1 million new cases are discovered. Although many gallstones are “silent,” about one third eventually cause symptoms and complications. An estimated 700,000 cholecystectomies are performed for gallstone disease. The stones are formed when the concentrations of various constituents in the gall bladder are not in the desired proportions.

The composition of gallstones is affected by age, diet and ethnicity.^[3] On the basis of their composition, gallstones can be divided into the following types.

Cholesterol stones

Cholesterol stones vary from light yellow to dark green or brown or chalk white and are oval, usually solitary, between 2 and 3 cm long, each often having a tiny, dark, central spot. To be classified as such, they must be at least 80% cholesterol by weight (or 70%, according to the Japanese- classification system).^[4]

Bilirubin stones

Bilirubin ("Pigment", "Black Pigment") stones are small, dark (often appearing black), and usually numerous. They are composed primarily of bilirubin (insoluble bilirubin pigment polymer) and calcium (calcium phosphate) salts that are found in bile. They contain less than 20% of cholesterol (or 30%, according to the Japanese-classification system).^[4]

Mixed stones Mixed ("Brown Pigment") stones typically contain 20–80% cholesterol (or 30–70%, according to the Japanese- classification system).^[4] Other common constituents are calcium carbonate, palmitate phosphate, bilirubin and other bile pigments (calcium bilirubinate, calcium palmitate and calcium stearate). Because of their calcium content, they are often radiographically visible. They typically arise secondary to infection of the biliary tract which results in the release of β -glucuronidase (by injured hepatocytes and bacteria) which hydrolyzes bilirubin glucuronides and increases the amount of unconjugated bilirubin in bile.

A characteristic symptom of gallstones is a "gallstone attack", in which a person may experience intense pain in the upper-right side of the abdomen, often accompanied by nausea and vomiting, that steadily increases for approximately 30 minutes to several hours. A patient may also experience referred pain between the shoulder blades or below the right shoulder. These symptoms may resemble those of a "kidney stone attack". Often, attacks occur after a particularly fatty meal and almost always happen at night, and after drink.

Risk factors

Gallstone risk increases for females (especially before menopause) and for people near or above 40 years;^[5] the condition is more prevalent among both North and South Americans and among those of European descent than among other ethnicities. A lack of melatonin could significantly contribute to gallbladder stones, as melatonin inhibits cholesterol secretion from the gallbladder, enhances the conversion of cholesterol to bile and is an antioxidant, which is able to reduce oxidative stress to the gallbladder.^[6]

Nutritional factors that may increase risk of gallstones include constipation; eating fewer meals per day; low intake of the nutrients folate, magnesium, calcium and vitamin C;^[7] and at least for men, a high intake of carbohydrate, a high glycemic load and high glycemic index diet.^[8] Wine and whole-grained bread may decrease the risk of gallstones.^[9]

Rapid weight loss increases risk of gallstones.^[10]

Pigment gallstones are most commonly seen in the developing world. Risk factors for pigment stones include hemolytic anemias (such as sickle-cell disease and hereditary spherocytosis), cirrhosis and biliary tract infections.^[11] People with erythropoietic protoporphyria (EPP) are at increased risk to develop gallstones. Additionally, prolonged use of proton pump inhibitors has been shown to decrease gallbladder function, potentially leading to gallstone formation.^[12]

PATHOPHYSIOLOGY

Cholesterol gallstones develop when bile contains too much cholesterol and not enough bile salts. Besides a high concentration of cholesterol, two other factors are important in causing gallstones. The first is how often and how well the gallbladder contracts; incomplete and infrequent emptying of the gallbladder may cause the bile to become over concentrated and contribute to gallstone formation. This can be caused by high resistance to the flow of bile

out of the gallbladder due to the complicated internal geometry of the cystic duct.^[13] The second factor is the presence of proteins in the liver and bile that either promote or inhibit cholesterol crystallization into gallstones. In addition, increased levels of the hormone estrogen, as a result of pregnancy or hormone therapy, or the use of combined (estrogen-containing) forms of hormonal contraception, may increase cholesterol levels in bile and also decrease gallbladder movement, resulting in gallstone formation.

PRESENTATION OF CASE

A 46 yr female patient came to our SJGAMC KC OPD on 14/6/17 with Reg. no.1036 as a diagnosed case of Cholelithiasis (Stone size 4mm) of pain in the Right upper quadrant and that pain radiating to right sub scapular are since 3 months. Nausea, lethargy and head ache are associated complaints. No history of DM &HTN. Who had been known to have an asymptomatic single giant gallstone for at least 10 years. She was admitted through the emergency room at Multispecialty Hospital, Bellary Karnataka in January 2017, with a 2-day history of progressively increasing abdominal pain in the right upper quadrant, associated with nausea and general weakness, patient was advised to undergo surgery, because of complications she approaches our hospital for better management. Physical examination reveals severe pain at right upper quadrant with palpable gall bladder. USG report shows well distended gallbladder with normal wall, a calculi of 5mm size is seen.

S.N O	SUBJECTIVE PARAMETERS FOR THIS STUDY	OBJECTIVE PARAMETERS FOR THIS STUDY
1.	pain in the Right upper quadrant and that pain radiating to right sub scapular	USG Abdomen
2.	Nausea	
3.	Lethargy	
4.	Head ache	

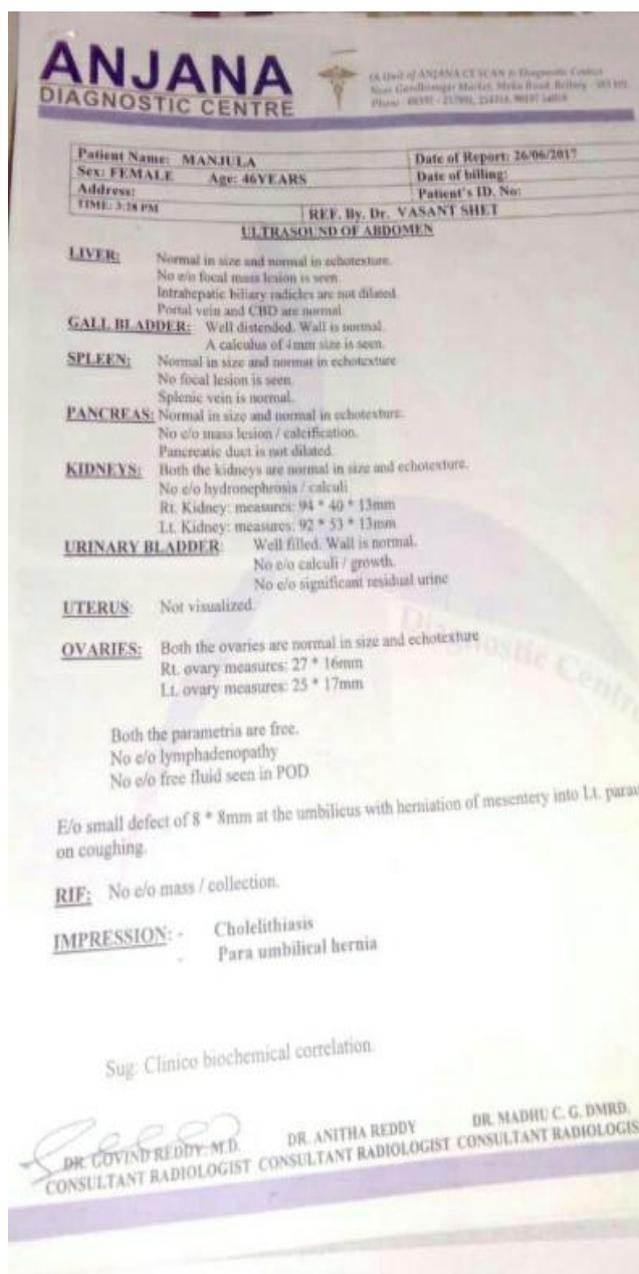
MATERIALS AND METHODS

S.NO	MEDICATION	DOSE
1.	<i>GoroChanadhi vati (kottakkal pharmacy)</i>	1 bid
2.	<i>Hazrulayahuda bhasma</i>	10 gms
3.	<i>Katuki churna</i>	20 gms
4.	<i>Gokshura churna</i>	20 gms
5.	<i>Yavakshara</i>	10gms

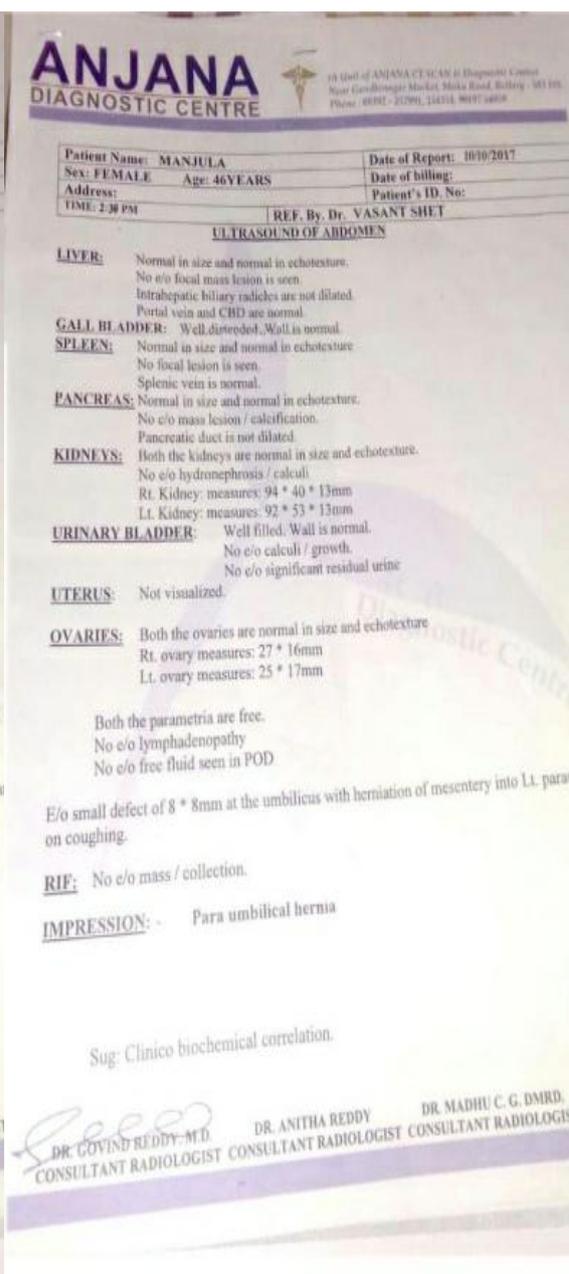
Mix well from 2nd to 5th ingredients and divide it into 60 equal part. Advised her to take 1 part of medicine morning 1 part of medicine evening on empty stomach with honey. Up to 3 months, review once in 10 days.

RESULTS

So far as subjective parameter is concerned, the patient started feeling better from the very beginning (i.e. 15 days after the introduction of medicines). After 3 months of therapy she was advised to go for ultrasonography which was compared with that of previous scan. The results obtained are as following.



Before treatment



After treatment

Status of gall bladder before treatment (BT)	Status of gall bladder after treatment (AT)
Well distended gallbladder with normal wall, a calculi of 4mm size is seen.	Size normal, With normal wall Lumen echo free

DISCUSSION

The *Accha Pitta* can be considered as bile on the basis of similarity in location, function and abnormality. This *Accha Pitta* is generated from liver and stored in gall bladder, hence the gall bladder is considered as *Pittashaya*. The most important factor in gall stone formation is bile super saturation with cholesterol which can be correlated with *Vikrit Kaphasanchiti*^[14] in *Pittashaya* as per *Ayurveda*. The phenomenon of deficiency of anti-nucleating factors and accelerated nucleation of cholesterol monohydrate crystal is somewhat similar to *Kapha-pitta Samsarga* so the drugs chosen for this are having the *Lekhana, Chhedana, Bhedana, Mootrala Bastishodhana, Anulomana, Deepana, Paachana, Vedanaasthaapana* and *Kaphashaamaka* properties, so it is also helpful to dissolve/ reduce the size of *Ashmari* (stone). *Gorochanadhi vati* having *Pittashamaka* property and this is also responsible for inhibition of further stone formation.

CONCLUSION

Hence it is concluded that the combination of *Gorochanadhi vati, Hazrulayahuda bhasma, katuki churna, Gokshura churna, yavakshara* is highly effective in the management of gall stones (cholelithiasis). As per the USG-abdomen, the patient has got rid of 4 mm of gall stone within only 3 months of short duration by adopting *Ayurvedic* treatment. In addition, the general condition of the patient has also improved positively. Therefore, on the basis of observations and results of this case study, it can be inferred that *Ayurveda* has the potential to treat cholelithiasis effectively.

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