

Clinical Efficacy of *Palasa kshara bhavita Pippali* in the management of Gallstone disease - A Case study

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Abstract:

Presence of stone in the Gall bladder is termed as Gallstone disease or cholelithiasis. An effective conservative management is lacking in allopathic system of medicine. As a result, irrational surgery is becoming more common by the day, regardless of the condition. Conservative management that reduces the severity of symptoms and prevent complications has got meticulous interest. This is the case report of a 60-year-old female, with right upper quadrant abdominal pain, nausea and belching for two months and diagnosed as a case of multiple Gallstone disease, largest one measuring 8.5 mm. After conservative management with *Palasakshara bhavita pippali choornam* for 40 days, patient found to be symptom free both clinically and radiologically.

Key words: Cholelithiasis, Gallstone disease, *Palasakshara bhavita Pippali*

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Introduction:

Reference to Gallstone disease is in date to antiquity and it has afflicted humans since the Egyptian civilization. Gall Stones have been found during autopsies on mummies dating back to 1000 BC.^[1] Today Gallstone disease makes a considerable economic impact in the health care scenario around world, even though the mortality associated with it is very low. Presence of stone in the Gall bladder is termed as Gall stone disease (GB stone disease) or cholelithiasis. Gallstone disease is a multifactorial disease, resulting from combinations of several factors like cholesterol, super saturation of bile, nucleation of cholesterol monohydrate crystals, reduced GB motility and impaired GB functions. It is mostly seen in women compared to men in overall population in world and women having fourfold chance to develop gallstones than male.^[2] One of the most important factors that influences for gall stone formation is gender, the female gender is generally recognized as a risk factor.^[3]

Conservative management of the Gallstone disease mainly includes oral dissolution therapy. In oral dissolution therapy bile acids are made use in pill form to dissolve gallstones. Ursodiol and chenodiol are the standard oral bile acid drugs used in allopathic system.^[4-5] These drugs show side effects, high recurrence rate and need a long-term administration. Moreover, in allopathic system of medicine no effective conservative management is in practice. Introduction of sophisticated diagnostic tools made many revolutionary changes in the early diagnosis and intervention of the GB stone disease. Transabdominal ultrasonography and Laparoscopic cholecystectomy are considering as golden standards for diagnosis and management of Gallstone disease respectively.^[6]

Management decision depends on severity of the symptoms in symptomatic GB stones.

Asymptomatic GB stone if accidentally found in USG and left untreated may lead to complications in future. So it has become a trend for operating them too nowadays. It may lead to irrational use of laparoscopy and eventually end ups in a considerable financial burden to patients. So introduction of conservative managements that helps in the reduction of symptoms, complications and delays surgical intervention in GB stone has got meticulous interest at any point of time. Uncomplicated and symptomless GB stone cases usually come to Ayurvedic OPD's demanding conservative management. Even though there is no direct reference is given in our classics, the Gallstone disease can be incorporate with *Pandu*, *kamala rogas*. There are number of Ayurvedic formulations in practice, to reduce the size of the GB Stone and improve the quality of the life of the patient. In this case study we conservatively managed a case of multiple GB stone disease with *Palasa kshara bhavita Pippali choornam*. Use of drug *Pippali* in *Yakrut* and *Pleeha rogas* were well established in our classical treatises about thousands of years back. *Pippali* is mentioned as the drug of choice for *Yakrut rogas* by *Vagbhatta acharya* and in many contexts the drug is seen administered with *Palasakshara*^[7].

Case History:

A 60-year-old multiparous, non-obese, house wife residing in Varanasi attended *Shalyatantra* OPD of Sir Sunderlal Hospital BHU with pain in the right upper quadrant of abdomen and nausea associated with belching for two months. Detailed history revealed pain usually aggravating by fatty meals and in some instance, due to pain she used to wake ups during night. 2 months back she developed severe colicky pain in the right upper quadrant with 3 episodes of vomiting. There is no history of oral contraceptive intake or positive family history were elicited. On the same day they consulted in an emergency wing of nearby hospital and after administering I/V

injectables she got considerable relief in pain and vomiting. She continued for one-week oral antibiotics as per instructions given by the doctor. She was reluctant to get operated, so came to our OPD for conservative managements.

Physical examinations revealed vital signs (Temp-98.3 F, PR-78/Min, RR-20/Min, BP-130/90 mmHg) within normal limits. No generalised oedema or icterus was noticed. Pain score was 6/10 assessed by Wong Baker Pain Scale.

Abdominal Examination showed generalised distension and normal breathing pattern. On Palpation positive Murphy's sign was elicited and abdomen was tender particularly in the right upper quadrant. Also, there was no muscle guarding. Blood investigations including CBC, LFT, Lipid Profile, ESR and transabdominal ultrasound were done on 09/01/2021 [Fig 1]. The initial blood

investigations revealed mild elevation in WBC level ($10.84 * 10^3 / \mu\text{L}$) and all other parameters were within normal limit. Transabdominal ultrasound (dated on 09/02/2021) demonstrated multiple echogenic foci with posterior acoustic shadow that suggestive of presence of multiple stone and largest measuring 8.5 mm. No other abnormalities were detected in biliary tract. All other sonographic findings were normal. This case was diagnosed as Gallstone disease with multiple stones and managed conservatively.

Treatment given:

Patient was given with *Palasa kshara bhavita pippali choornam* capsule in a dose of 500 mg twice daily one hour after food along with lukewarm water for the period of 40 days (Table-1). She was advised to avoid fatty meals, high fat dairy products, gas forming food items such as chickpea, dal, potato etc and encouraged to include light foods and salads in her daily dietary intake.

Table-1: Timeline:

Date	Clinical Features & Improvement	Treatment Given
09/02/2021	Colicky RUQ pain Murphy's sign positive Belching Nausea	<i>Palasa Kshara bhavita Pippali choornam</i> capsule-500mg two times a day after food
23/02/2021	Marked reduction in Nausea, belching. Appetite improved	<i>Palasa kshara bhavita Pippali choornam</i> capsule- 500mg two times a day after food
09/03/2021	Considerable pain reduction Started to enjoy food without fear	<i>Palasa kshara bhavita Pippali choornam</i> capsule-500mg two times a day after food
24/03/2021	No pain No Abdominal discomfort No Belching No Nausea	Treatment stopped USG taken

USG Reports:

<p>Division of Ultrasonography DEPARTMENT OF RADIODIAGNOSIS & IMAGING INSTITUTE OF MEDICAL SCIENCES BANARAS HINDU UNIVERSITY VARANASI - 221005</p>	
U.S.G. No.:	1928
Age & Sex:	66 F
Ward/O.P.D.:	✓
Referred By:	Dr.
ULTRASOUND - ABDOMEN	
Observations: <p>LIVER : Size, surface and echo texture of right, left and caudate lobe of liver are within normal limit. No intrahepatic biliary dilation or parenchymal lesion is noted.</p> <p>GB : Multiple gall bladder calculi with posterior acoustic shadow measuring 8.5 mm.</p> <p>PORTA : Visualized portion of CBD and extrahepatic portal vein is normal in dimension.</p> <p>PANCREAS : Size of the gland and its echo texture are normal. Pancreatic duct is of normal dimension. No evidence of calcification / calculus / mass lesion seen.</p> <p>SPLEEN : Spleen size and echo texture of spleen is within normal limit with no parenchymal lesion.</p> <p>KIDNEYS : Both the kidneys have normal size, shape, location and echo texture. Corticomedullary differentiation of either kidney is well maintained.</p> <p>U.B. : This is well distended (with urine) & has normal wall thickness. No evidence of calculus / polyp / mass lesion noted. Post void residual urine is _____ ml.</p> <p>UTERUS : This has normal shape, size and position. Endometrial thickness is within normal limit. Cervix is normally outlined. No evidence of any space-occupying lesion is detected. No fluid collection is seen in pouch of Douglas.</p> <p>OVARIES : Both the ovaries are normal in their size and location.</p> <p><u>There is no evidence of free or localized peritoneal collection or lymphadenopathy in abdomen.</u></p>	
Conclusion: Multiple gall bladder calculi largest measuring 8.5 mm	
Date:	09/02/2021
(ULTRASONOLOGIST)	

Fig-1: USG Report BT (09/02/2021)

<p>Ultrasound Unit DEPARTMENT OF RADIODIAGNOSIS & IMAGING INSTITUTE OF MEDICAL SCIENCES BANARAS HINDU UNIVERSITY VARANASI - 221005</p>	
U.S.G. No.:	8809
Age & Sex:	66 F
Ward/O.P.D.:	✓
Referred By:	Dr.
ULTRASOUND - ABDOMEN	
Observations: <p>LIVER : Size, surface and echo texture of right, left and caudate lobe of liver are within normal limit. No intrahepatic biliary dilation or parenchymal lesion is noted.</p> <p>GB : Gall bladder has normal size and wall thickness with echo free lumen.</p> <p>PORTA : Visualized portion of CBD and extrahepatic portal vein is normal in dimension.</p> <p>PANCREAS : Size of the gland and its echo texture are normal. Pancreatic duct is of normal dimension. No evidence of calcification / calculus / mass lesion seen.</p> <p>SPLEEN : Size and echo texture of spleen is within normal limit with no parenchymal lesion.</p> <p>KIDNEYS : Both the kidneys have normal size, shape, location and echo texture. Corticomedullary differentiation of either kidney is well maintained.</p> <p>U.B. : This is well distended (with urine) & has normal wall thickness. No evidence of calculus / polyp / mass lesion noted. Post void residual urine is _____ ml.</p> <p>UTERUS : This has normal shape, size and position. Endometrial thickness is within normal limit. Cervix is normally outlined. No evidence of any space-occupying lesion is detected. No fluid collection is seen in pouch of Douglas.</p> <p>OVARIES : Both the ovaries are normal in their size and location.</p> <p><u>There is no evidence of free or localized peritoneal collection or lymphadenopathy in abdomen.</u></p>	
Conclusion: No obvious w/o any significant sonographic abnormality noted.	
Date:	24/03/2021
(ULTRASONOLOGIST)	

Fig-2: USG Report AT (24/03/2021)

Result and Discussion:

In this case the USG report before treatment showed multiple GB calculus noted. Largest one measuring 8.5 mm. After completion of treatment the USG finding suggest that gall bladder has normal size and wall thickness with echo free lumen. No significant sonographic abnormality noted. [Fig-2]

Ayurvedic classics extensively elaborated both medical and surgical management of Kidney stone disease but no direct reference of GB stones can be seen. Clinical presentation of Gall stone disease resembles with that of *Pandu*, *Kamala*, *Yakrit Pleeha rogas*. Hence the treatment principles of the same can be incorporated in Gallstone disease also. In this case study *Palasa* (*Butea monosperma*) *Kshara bhavita Pippali* [8] (*Piper longum*) mentioned in *Bhavaprakasa Samhita* is taken and made use in a case of multiple GB stone stones, largest measuring 8.5 mm and managed conservatively. With 40 days treatment period patient become free from all

the symptoms both clinically and radiologically.

After giving medicines, in the first review itself, patient was happy as she got good appetite, sound sleep, reduction in frequency of belching and nausea. In subsequent visits, all other symptoms also got reduced. Patient was completely free from all the symptoms and no findings elicited in physical examinations too. The good part was that the patient could enjoy her food without the fear of pain. Transabdominal ultrasonography after 40 days of internal medication showed really promising results in this case study. GB lumen was echo free and suggested absence of stone and no other sonographic abnormalities were detected.

Dissolution therapy established by modern medicine needs at least a year of administration and usually indicated in less than 6-10 mm stones of cholesterol origin only, high recurrence rate also noticed followed by withdrawal of treatment. Time

duration taken for the dissolution for multiple GB stones noted in the present study was very minimal and 5 months follow up period without any medication also uneventful. Here patient was free from any co morbidities and obesity so that it was comparatively easy to treat the condition.

Drug *Pippali* extensively used as a drug of choice in hepatobiliary diseases from ancient time itself. *Pippali* mentioned as *Agrya* for *Yakrit Pleeha roga*^[9] by *Charaka acharya*. Drug *Palasa* is made in to *kshara toy* according to classical references and *bhavana* is given to *Pippali* choornam to enhance the property.^[10] Drug *Palasa* is very popular as *ksharasreshtha*,^[11] the name itself suggests the potency of preparation, and it is specially indicated in *Pleeharoga*. Role of *Paneeya kshara* is well established in conditions like *agnisanga*, *anaha*, *abhyantara vidradi* etc, symptoms of GB stone goes hand in hand with these clinical entities. The precipitation, nucleation and aggregation of various factors in urine lead to formation of kidney stones. The same steps are found in GB stone pathogenesis also. Hence morphologically and to some extent structurally these stones resemble one another. Thus an *Ashmarihara* preparation like *kshara* has great significance in GB stones too. *Paneeya kshara* is well known for its *chedhna*, *lekhana*, *bhedana*^[12] property and extensively used to treat *Ashmari*.

Hepatoprotective activity of the drug *Pippali* (*Piper longum*) is well known and it is abundantly used nowadays. Piperine (PA), extracted from unsaponifiable oil is found to have a variety of biological effects, such as anti-oxidant, anti-inflammatory, anti asthmatic and against CCl₄ induced hepatotoxicity. PA could decrease the cholesterol potency in bile, reduces total cholesterol, triglycerides and increases HDL level in the serum.^[13] *Bhavana* of *Pippali choorna* in *Palasa kshara* made the

combination more appropriate choice in the present case, that may help in the dissolution of the GB stone.

Conclusion:

In this case study, the patient has shown encouraging results in Gallstone disease. As per the USG abdomen, the patient has got rid of 8.5mm of GB stone within only 40 days of short duration by adopting Ayurvedic treatment. In addition, the general condition of the patient has also improved positively. Therefore this case study can be inferred that Ayurveda has the potential to treat cholelithiasis effectively and hence to establish the potentials of the Ayurvedic poly herbal formulations in the management of Gallstone disease, more studies should be conducted in a large sample size.

Limitation of study:

This is single case study so the same protocol should be conducted in large sample size.

Consent of patient:

The consent has been obtained from patient at the time of registration for treatment and publication without disclose the identity of patient as per medical ethics.

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References:

1. Jarnagin, William R. Blumgart's surgery of the Liver, Pancrease and Billiary tract E-Book, Laparoscopic cholecystectomy and choledocholithotomy, Elsevier Health Sciences, 5th Edition, Volume 1, USA012. Pp-511.
2. Somen Das, A Concise Text Book Of surgery, The biliary System, S Das Publication, Calcutta, 8th edition,2014 pp-860-861.

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3. Hui San, Hong Tang, Shan Jiang, Li Zeng, En-Qiang Chen, Tao-you and You-Jaun Wang, World J Gastroenterol. 2009;15(15):1886-91.
4. LDJ O'donnell, KW Heaton, University Department of Medicine, Bristol Royal Infirmary Liver and Biliary, 1988,29,655-658.
5. Hans Fromm, December Gallstone Dissolution Therapy, Gastroenterology 1986; 91:1560-7.
6. Anneline Cremer, Marianna Arvanitakis, Diagnosis and Management of Bile stone disease and its Complication, 2016; 62(1);103-29.
7. Sri Vaghbhata, Ashtanga Hridaya, Sarvanga Sundara commentary, Arunadatta 88/40, Chaukambha Sanskrit Series office Varanasi 2015.pp-943.
8. Bhava Prakasa Samhita, Madhyama khanda 14/33, Chaukambha Sanskrit Santhan Varanasi, 2011.pp-450.
9. R.K. Sharma and Bhagwan Dash, Charaka Samhita English translation, vol-3, sloka 36-40/1, Chaukambha Sanskrit Series office Varanasi. 2012.pp-47.
10. Acharya Sushrutha Sushrutha Samhita, Sutrasthana, dalhana vyakhyana, 12/11 Chaukambha Sanskrit Santhan Varanasi, 2014- pp-47.
11. P V Sharma, Dhanwanthari Nighantu Translated Dr. Guru Prasad Sharma, Chaukambha Orientalia Varanasi, Amradi Varga sloka no.148-150. 2011 pp-200.
12. Acharya Sushrutha, Sushrutha Samhita, Sutrasthana, Dalhana vyakhyana, Chaukambha Sanskrit Santhan Varanasi, 3/11, pp-45.
13. Xiu-Yun Song, et.al. Piperin prevents cholesterol gall stone formation in mice European Journal of pharmacology, 2015;751:112-117.

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