



# The Potential of Herbal Management in Gallstone (*Pittashmari*) – A Case Study

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## Abstract

In India, cholelithiasis (gallstones) is now the leading problem. Some patients have a single gallstone, while others develop multiple gallstones at the same time. It could be as big as a golf ball or as small as a grain of sand. The risk factors for gallstones include middle age, inconsistent eating patterns, extended fasting, and metabolic syndrome. Surgical treatment is usually required, such as the removal of the entire gall bladder (cholecystectomy). In *Ayurveda*, it is not texted directly. There is a description of *ashmari* (urinary calculi), so by considering the symptoms and pathology of cholelithiasis, it can be correlated with *pittashmari*, as that site was given for *Accha pitta* according to the *Ayurvedic* classics. *Pittashamri* pathophysiology includes *kapha-pitta* vitiation and an obstructed *Vayu marga* (path). A 40-year-old male patient complained of pain in the upper abdomen along with bloating, chest discomfort, and constipation for the past 6 months. The patient had been taking modern medications. But patient experienced only temporary relief of symptoms. So, the patient came to the OPD for *Ayurvedic* treatment. Investigating with ultrasound, the patient was diagnosed with cholelithiasis and treated purely with herbal drugs as the patient was unaffordable. *Pittarechaka* (cholagogue), *yakruta-pleehaghna*, *ashmarighna*, and drugs with choleric properties, such as *kokilaksha*, *haritaki*, *bhumyamalaki*, and *rohitakarishtha*, were chosen. Within 15 days, the patient's symptoms had significantly improved. The Numerical Rating Scale (NRS) was used to assess abdominal pain. A reduction in the size of the gallstone was seen within three months, and a completely normal ultrasound after one year, as discussed here.

**Keywords:** *Ayurveda*, Cholelithiasis, Cholagogue, Herbal Management, *Pittashamari*

## 1. Introduction

Gallstone formation is the most common disorder of the biliary tract. Gallstones are hardened deposits of the digestive fluid called bile, that form within the gall bladder. According to modern medicine, the process of gallstone formation is called cholelithiasis. Most commonly, multiple small gallstones are present. Gallstones result from a combination of multiple factors, including supersaturation of bile with cholesterol, accelerated nucleation of cholesterol monohydrate in bile, and bile stasis or delayed gallbladder emptying due to impaired gallbladder motility<sup>1</sup>. A single stone is uncommon, but usually consists of cholesterol and arises due to a disorder

of the physicochemical equilibrium, which normally maintains cholesterol in the micellar form in the bile. In *Ayurveda*, it is not given directly as *pittashamari*, but there is a reference in *Ayurveda* that each disease can't be labelled but can be diagnosed according to *dosha*, *dhatu*, and *mala* involvement. The word *Ashmari* was mentioned in the *Ayurvedic* classics; it means stone, while the gall bladder is considered *Pitta Ashaya*, so the stone present in the gall bladder is called *pittashmari*<sup>2</sup>. The treatment protocol was planned considering the *dosha-dushya* involvement. As in *pittashamri*, *kapha-pitta doshas* are involved, along with the *rukshadi guna* of *vayu*; medications acting on *kapha-pitta dosha* and clearing the passage of *vayu* were selected.

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## 1.1 Patient Information

A 40-year-old male patient working in the IT industry visited the Aaddya Ayurveda Clinic complaining of moderate abdominal pain, bloating, constipation, and chest tightness for the last six months. For the last six months, the patient had taken modern medication for the complaints but had only temporary symptomatic relief, so he turned towards *Ayurveda*. The patient had no major illness or family history. The patient had a history of an excessive non-vegetarian oily, spicy, and fatty diet like cheese and paneer, as well as irregular diet timing and work pressure, all of which contributed to disease pathology.

## 2. Clinical Findings

### 2.1 General Examination

Pulse: 78/min, R.R.: 21/min, B.P.: 120/70 mm Hg, Temp: 99°F, General Appearance: healthy, lymphadenopathy: No lymphadenopathy was seen, Icterus: not seen, pallor: absent

### 2.2 Systemic Examination

#### 2.2.1 Dashavidha Pariksha

*Prakruti* (constitutional status): *pitta pradhan kaphaprakruti*, *Sarata* (status of tissue and its related system): *madhyam*, *Satva* (mental state): *madhyam*, *Satmya* (diet status): *madhyam*, *Vyayam shakti* (physical capacity): *pravara*, *Vaya* (age): *yuva*, *Vikruti*: *pitta pradhana*, *Abhyavaharana* (diet capacity) and *Jarana shakti* (digestive capacity): *madhyam*.

#### 2.2.2 Ashtavidha Pariksha

*Nadi* (pulse): *pittapradhan kaphanubandhi*, *Mala* (bowel habit): constipation, *Mootra* (urination): normal, *Jihva* (tongue): *sama* (coated), *Shabda* (voice): *spashta* (clear), *Sparsha* (touch): normal, *Druk* (vision): normal, *Aakriti* (general body build): *madhyama* (medium built).

### 2.3 Investigations

An ultrasound of the abdomen and pelvis, a lipid profile, and a Liver Function Test (LFT) were advised to the patient during the first visit to the clinic. The LFT findings were within normal limits. On October 6,

2020, an ultrasound revealed cholelithiasis with 6.3 mm of calculus. Ultrasound was repeated two times within the total timespan of treatment. The lipid profile was also repeated after three months.

## 3. Timeline

The timeline shows the events of treatment. Patient follow-up date; complaints at each visit; treatment given along with appropriate dose and *Anupana* are described in Table 1.

## 4. Diagnostic Assessments

The patient was diagnosed based on the clinical features seen and described. The diagnosis was confirmed by an ultrasound investigation of the abdomen and pelvis. All the ultrasound reports were provided in Figures 1, 2, and 3.

## 5. Therapeutic Interventions

There is *pitta-kapha dosha* vitiation along with *vata-dosha*. Considering these vitiated factors and the site of vitiation, a treatment protocol was planned. The herbal drugs used to prevent gallstones have choleric (drugs that increase bile production) or cholagogue (drugs that improve bile passage from the liver and gall bladder into the intestine or stimulate the gall bladder to contract) properties. Drugs with *kapha-pitta* pacifying, *pittarechaka*, *yakruta-pleehaghna*, and *ashmarighna* properties were chosen. *Kokilaksha churna*, *Haritaki churna*, *Bhumyamalaki churna*, and *Rohitakarishtha* were given. *Haritaki*<sup>7</sup>, *bhumyamlaki*<sup>8-11</sup> and *rohitaka*<sup>12</sup> have the *pittarechaka* i.e., cholagogue property while *kokilaksha* has specific *pittashamaripranuta* property<sup>3</sup>. As the treatment was not affordable to patients, only herbal medications were used. After the first follow-up, his complaints were reduced markedly. After five months, the patient suggested repeating the ultrasound investigation. According to the ultrasound findings, the size of the calculi began to decrease and continued to decrease until disappeared completely. The patient was also made aware of *pathya-apathya*.

**Table 1.** Follow up on patient treatment along with complaints and give treatment details

| Dates      | Complaints                                                                | Treatment                                                                                                         | Dose                                   | Anupan                                                           |
|------------|---------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|----------------------------------------|------------------------------------------------------------------|
| 06-10-2020 | Abdominal pain (5)<br>Bloating, Constipation,<br>Chest tightness          | <i>Kokilaksha churna</i> <sup>3</sup><br><i>Rohitakarista</i> <sup>4</sup><br><i>Haritaki churna</i> <sup>5</sup> | 250 mg bid<br>10 ml bid<br>500 mg bid  | lukewarm water<br>with equal quantity of water<br>lukewarm water |
| 07-11-2020 | Abdominal pain (2)<br>Mild bloating<br>Constipation<br>No chest tightness | Same as above                                                                                                     | Same as above                          | Same as above                                                    |
| 08-12-2020 | No abdominal pain (0)<br>No bloating<br>Slightly constipated              | Same as above                                                                                                     | Same as above                          | Same as above                                                    |
| 12-01-2021 | No fresh complaints                                                       | Same as above                                                                                                     | Same as above                          | Same as above                                                    |
| 07-03-2021 | No fresh complaints                                                       | Same as above                                                                                                     | Same as above                          | Same as above                                                    |
| 07-04-2021 | Abdominal pain (3)<br>Mild constipation                                   | Same as above                                                                                                     | Same as above                          | Same as above                                                    |
| 07-06-2021 | Abdominal pain (1)<br>Mild constipation                                   | <i>Bhumyamalaki churna</i> <sup>6</sup><br><i>Rohitakarishtha</i><br><i>Haritaki churna</i>                       | 500 mg bid<br>10 ml bid<br>250 mg bid. | Lukewarm water<br>With an equal quantity of water<br>With ghee   |
| 08-07-2021 | No fresh complaints                                                       | Same as above                                                                                                     | Same as above                          | Same as above                                                    |
| 08-09-2021 | No fresh complaints                                                       | Same as above                                                                                                     | Same as above                          | Same as above                                                    |
| 26-10-2021 | No fresh complaints                                                       | Same as above                                                                                                     | Same as above                          | Same as above                                                    |

### 5.1 Pathya

- Ahara* (diet) - moong dal soup, *manuka*, *amla*, pomegranate, khichadi, daliya, kanji, dal-rice, jowar roti, all fruity vegetables, papaya.
- Vihara* (routine) - *lagu ahara* and *langhana* once a week.

## 6. Follow-up and Outcomes

The patient was monitored and treated for a year. The patient initially complained of the symptoms listed above in the timeline, which remained persistent for fifteen days following the initiation of the *Ayurvedic* treatment. Monthly or bimonthly follow-ups were conducted. After fifteen days the patient noticed improvement in symptoms. Also, the lipid profile results showed improvement, as shown in Table 3; which provides details of the lipid profile before and after three months of treatment. Reports of lipid profile were shown in Figure 4 and Figure 5, providing all the values of test. After three months, the patient had total relief from symptoms. The abdominal pain was assisted

by the NRS, which decreased from a score of 5 to 0, as shown in Figure 6. LFT values were found within the normal range, and a USG abdomen revealed calculi that had reduced in size, as shown in Figure 2. Additionally, after a year, normal ultrasound results were obtained, as shown in Figure 3. Table 2 provides details of ultrasound investigations and relevant findings.

**Table 2.** Ultrasound (abdomen and pelvis) investigations - gall bladder findings

| Sr. No | Date of ultrasound | Findings related to gallbladder                                                                                           |
|--------|--------------------|---------------------------------------------------------------------------------------------------------------------------|
| 1.     | 06/10/2020         | Partially distended and appears normal. E/O 6.3mm of calculus noted. Wall thickness is normal. Impression- cholelithiasis |
| 2.     | 12/01/2021         | Partially distended and appears normal. E/O 4.1mm of calculus noted. Wall thickness is normal. Impression- cholelithiasis |
| 3.     | 26/10/2021         | The gall bladder is partially distended. No calculus is seen within it. Impression - No significant abnormality.          |

|                     |                      |
|---------------------|----------------------|
| Name : [REDACTED]   | Age/Sex : 40 YEARS/M |
| Ref By : [REDACTED] | Date : 06 Oct 2020   |

**ABDOMINAL USG**

**LIVER** : Normal in size & echotexture. No focal lesion seen.No evidence of intrahepatic biliary dilatation.Portal Vein & CBD is normal at porta hepatis.

**GALL BLADDER** : Partially distended & appears normal. **E/O 6.3mm calculus noted**  
Wall thickness is normal.

**PANCREAS** : Normal in size & echotexture. No focal lesion.

**SPLEEN** : Normal in size & echotexture. No focal lesion.

**RT KIDNEY** : Normal in size , shape, position & echotexture.  
CM differentiation is normal.No evidence of any calculi or hydronephrosis.

**LT KIDNEY** : Normal in size , shape, position & echotexture.  
CM differentiation is normal.No evidence of any calculi or hydronephrosis.

**U.BLADDER** : Well distended & appears normal.

**PROSTATE** : Normal in size & echotexture. No focal lesion.

No evidence of free fluid in the abdomen

**IMPRESSION: Cholelithiasis.**

Advice - Clinical corelation.

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Many Thanks For Reference \* Feed Back Is Welcome

[Signature]  
[REDACTED]  
MBBS DMRE

**Figure 1.** Before starting of treatment - 06/10/2020.

|                     |                      |
|---------------------|----------------------|
| Name : [REDACTED]   | Age/Sex : 40 YEARS/M |
| Ref By : [REDACTED] | Date : 12 Jan 2021   |

**ABDOMINAL USG**

**LIVER** : Normal in size & echotexture. No focal lesion seen.No evidence of intrahepatic biliary dilatation.Portal Vein & CBD is normal at porta hepatis.

**GALL BLADDER** : Partially distended & appears normal. **E/O 4.1mm calculus noted**  
Wall thickness is normal.

**PANCREAS** : Normal in size & echotexture. No focal lesion.

**SPLEEN** : Normal in size & echotexture. No focal lesion.

**RT KIDNEY** : Normal in size , shape, position & echotexture.  
CM differentiation is normal.No evidence of any calculi or hydronephrosis.

**LT KIDNEY** : Normal in size , shape, position & echotexture.  
CM differentiation is normal.No evidence of any calculi or hydronephrosis.

**U.BLADDER** : Well distended & appears normal.

**PROSTATE** : Normal in size & echotexture. No focal lesion.

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**IMPRESSION: Cholelithiasis.**

Advice - Clinical corelation.

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Many Thanks For Reference \* Feed Back Is Welcome

[Signature]  
[REDACTED]  
MBBS DMRE

**Figure 2.** During the treatment - 12/01/2021.



020-29518003, 29518004, 29518005  
info@metrolife.co.in | www.metrolife.co.in  
Sr. No 21/A, Valencia Building, Shop No. 3 & 4, Dange Chowk,  
Pimpri-Chinchwad, Maharashtra 411033

Patient : [REDACTED] \*LM1405\*  
PRN No : LM1405  
Ref.by : [REDACTED]

Age : 40/Male  
Date : 26.10.2021

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### USG - ABDOMEN + PELVIS

**LIVER:**  
The liver is normal in size (measures 13.1 cm) and shows normal echogenicity. No focal lesion is noted. The intrahepatic biliary radicles are normal. The common bile duct and portal vein (8.8 mm) appear normal.

**GALL BLADDER:**  
The gall bladder is partially distended. No calculus is seen within it.

**PANCREAS:**  
Visualised part of pancreatic head, neck, proximal body is normal in size and shape. No focal lesion or calcifications are seen within it. The pancreatic duct is normal. Rest of the pancreas could not be well evaluated due to bowel gases.

**SPLEEN:**  
The spleen is normal in size (measures 9.7 cm) and echotexture. No focal lesion is seen.

**KIDNEYS:**  
The right kidney measures 10.3 x 5 cm.  
The left kidney measures 11 x 5.3 cm.  
Both kidneys show normal parenchymal echotexture. The corticomedullary differentiation is maintained bilaterally. The pelvicalyceal system is normal in both kidneys.

**AORTA/IVC:**  
The aorta and IVC appear grossly normal. No obvious lymphadenopathy is seen.

**URINARY BLADDER:**  
The bladder is well distended. No vesical calculus is seen.

**PROSTATE:**  
Prostate appears normal in size and measures 18-20 cc in volume. No obvious focal lesion is seen.

Visualised bowel loops are non - dilated and show normal peristalsis.

No ascites is noted.

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Sr. No 21/A, Valencia Building, Shop No. 3 & 4, Dange Chowk,  
Pimpri-Chinchwad, Maharashtra 411033

Patient : [REDACTED] \*LM1405\*  
PRN No : LM1405  
Ref.by : [REDACTED]

Age : 40/Male  
Date : 26.10.2021

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### USG - ABDOMEN + PELVIS

**IMPRESSION :**  
USG of abdomen & pelvis reveals -  
- No significant abnormality.

  
[REDACTED] (\*Digitally Signed\*)  
**MBBS, MD**  
**CONSULTANT RADIOLOGIST**

**Figure 3.** After complete treatment - 26/10/2021.



**Table 3.** Lipid profile details during the first visit and after three months of treatment

| Lipid profile parameter | At first visit (8-10-2020) | During the third follow-up (12-01-2021) |
|-------------------------|----------------------------|-----------------------------------------|
| Total cholesterol       | 273 mg/dl                  | 169.5 mg/dl                             |
| Triglycerides           | 205 mg/dl                  | 104.3 mg/dl                             |
| HDL cholesterol         | 54.6 mg/dl                 | 33.8 mg/dl                              |
| NON-HDL cholesterol     | 218.40 mg/dl               | 135.70 mg/dl                            |
| LDL cholesterol         | 177.40 mg/dl               | 114.84 mg/dl                            |
| VLDL Cholesterol        | 41 m/dl                    | 20.86 mg/dl                             |
| LDL/HDL ratio           | 3.25                       | 3.4                                     |

**DIAGNOPLUS**  
PATHOLOGY LABORATORY

Diagnoplus.path@gmail.com  
An ISO 9001:2015 Certified Centre

Patient Name: [REDACTED] Age / Gender : 40 Years / Male  
Referral Doctor: [REDACTED] Collection Date : 08/10/2020  
Pt.Type / ID : Direct [REDACTED] Reporting Date : 08/10/2020

**LIPID PROFILE**

| Test Description    | Value(s) | Unit  | Reference Range                                                                                          |
|---------------------|----------|-------|----------------------------------------------------------------------------------------------------------|
| Total Cholesterol   | 273      | mg/dl | Low < 109<br>Desirable : < 202<br>Borderline High: 201 - 240<br>High : > 240                             |
| Triglycerides       | 205      | mg/dl | Low < 26<br>Normal : < 160<br>Borderline High: 151 - 199<br>High : 200                                   |
| HDL Cholesterol     | 54.6     | mg/dl | < 30 Low<br>75 High                                                                                      |
| Non HDL Cholesterol | 218.40   | mg/dl | Desirable : < 130<br>Boderline high: 130 - 159<br>High : 160                                             |
| LDL Cholesterol     | 177.40   | mg/dl | Low < 85<br>Optimal : <150<br>Near/Above Optimal : 101 - 129<br>Borderline High: 130 - 159<br>High : 160 |
| VLDL Cholesterol    | 41.00    | mg/dl | Below 40                                                                                                 |
| LDL/HDL Ratio       | 3.25     | -     | Desirable/Low Risk : 0.5 - 3.0<br>Borderline/Middle Risk : 3.1 - 6.0<br>Elevated/High Risk : >6.1        |

**\*\*END OF REPORT\*\***

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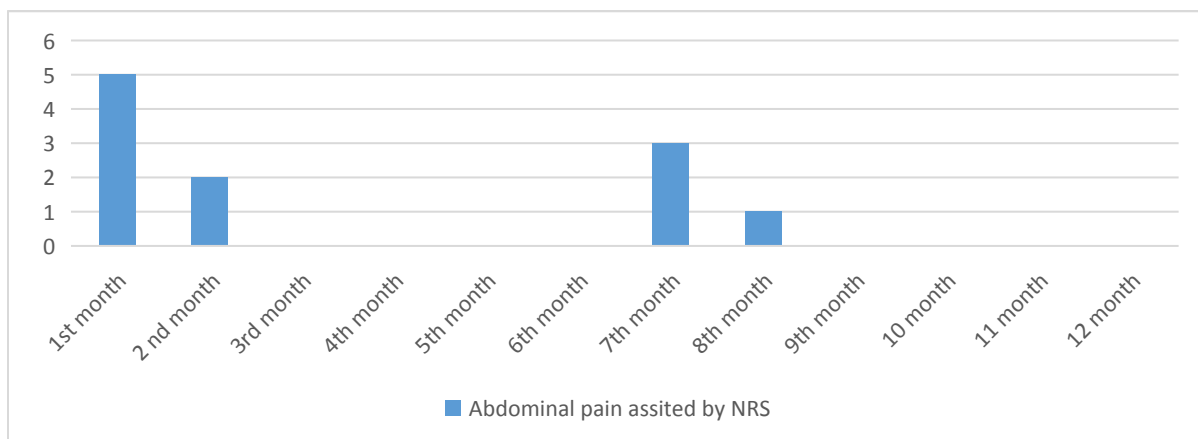
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**Figure 4.** Before treatment - 08/10/2020.



**Figure 5.** After treatment - 12/01/2021.



**Figure 6.** Abdominal pain assisted by using NRS scale.

## 7. Discussion

Gallstone is the most common condition and often needs surgical intervention. Four Fs are considered for gallstone formation: fat, fertile, female, and forty<sup>13</sup>. The prevalence of gallstones in India was 2% to 29%<sup>14</sup>. Gallstones are composed of cholesterol or pigment and frequently of mixed types<sup>15</sup>. It produces general symptoms but might lead to an emergency if a stone blocks the cystic duct or common biliary duct. At that point, surgical intervention is needed. Also, many times, surgical intervention is suggested to avoid further complications. Thus, by considering *ayurvedic* management, we can avoid surgical intervention in most cases and provide the best conservative treatment. In *Ayurveda*, cholelithiasis is analogous to *pittashmari*. *Pittashmari* was not directly mentioned in the classics, but from the description of *ashmari*, the pathogenesis of *pittashmari* can be understood. *Ayurveda* has described the concept of *accha pitta*, which is generated at the second stage of digestion and has a similar function. As this *accha pitta* was generated in the liver and stored in the gall bladder, the gall bladder can be considered *pittashaya*<sup>16</sup>. Here, the stone is formed by the *pitta* along with the *shleshma*. The vitiated *shleshma* combines with *pitta*, which is already present in *pittashaya*. This *shleshma-pitta* combination forms viscous material, which further obstructs the path of *Vayu*. Due to obstruction, the *rukshadi guna* of *vayu* increases, leading to the conversion of viscous material into a dry and solid mass, which can be known as *pittashmari*<sup>17</sup>. Therefore, the management of *Pittashmari* should incorporate the medicines that have properties to nullify both *pitta* and *kapha* as well as clear the passage of *vayu*.

### 7.1 Probable Mode of Action of *Kokilaksha Churna*

*Kokilaksha* (*Astercantha longifolia*) is described as *pittashamaripranuta* in *Nighantu Adarsha*<sup>3</sup>. Also, it is indicated in *Pittashmari* in *Priyanighantu*<sup>18</sup>. It is *madhura*, *tikta rasa*, *sheeta virya*, *madhura vipaki* drug having *snigdha*, and *pichchila guna*. It is also *mootral* and *pitta nisaraka*. According to *Kaidev Nigantu*, it is described as *vata vibandhanuta*, which helps to clear the path of *Vayu* and decrease vitiated *pitta dosha*<sup>19</sup>. Various ethnobotanical data suggest its use in jaundice,

gallstones, and urinary calculi<sup>20</sup>. Extracts and bioactive compounds from the plant have a hepatoprotective effect, and cholagogues (promoting the flow of bile from the liver and gall bladder into the intestine) and herbal choleretics (increasing bile production) are mentioned which help in the prevention of gall stones<sup>6</sup>. So, it is used in *pittashmari* very effectively.

### 7.2 Probable Mode of Action of *Haritaki churna*

*Terminalia chebula* is *pancharasatmaka* except for *Lavana rasa*, *Ushna virya*, and *Madhura vipaka*. According to *bhavaprakasha nighantu*, *haritaki* has *yakruta-pleeha gamitva* (action on the liver and spleen) and *anulomaka*<sup>5</sup>. Its cholagogue<sup>7</sup> property aids in stimulating the release of bile from the liver into the small intestine and helps to wash out excess bile from the body before it is absorbed, aiding in the prevention of liver, spleen, and gall bladder disorders. Additionally, because of its *ashmarihara* properties, it can be used in *pittashmari*. Many studies have been conducted on *Terminalia chebula*'s hepatoprotective<sup>7,21</sup> and hypocholesterolemic<sup>7,22</sup> properties. As the gallstone is composed of cholesterol and bile, *haritaki* effectively works in breakdown the pathology of cholelithiasis (*samprapti vighatana*). One of the studies shows that compounds extracted from an alcoholic fraction of *Terminalia chebula* fruit have a good affinity for cholecystokinin (CCK) receptor<sup>23</sup> and the gallbladder contracts in response to the hormone cholecystokinin (CCK), which forces bile passage through the cystic duct and into the Common Bile Duct (CBD). The oddi sphincter relaxes concurrently in response to CCK, allowing bile to enter the duodenal lumen<sup>24</sup>, which helps treat and prevent gall stone.

### 7.3 Probable Mode of Action of *Rohitakarista*

*Rohitaka* (*Tecomella undulata*), a drug of *katu kashaya rasa*, *sheeta virya*, and *katu vipaka* that reduces vitiated *kapha-pitta dosha*, is the main active ingredient in *Rohitakarista*. According to *Rajavallabha Nigantu* *Rohitaka* is *yakrutplihagulmodarahara* and *sara gunatmaka*, help to eliminate excessive *pitta*<sup>25</sup>. The *arishta kalpana* is one of *madya kalpana* which comes under *sandhana kalpana*<sup>26</sup>. Compared to other *sandhana kalpana*, *arishta* has a higher therapeutic



value<sup>27</sup>. *Arishta* possesses properties like *ushna*, *teekshna*, *sukshma*, and *Vyavayee* which are responsible for its quick action, easy assimilation in the body as well as *agnideepana karma* which helps treat a variety of diseases<sup>28</sup>. In *Susruta samhita*, additionally, *arista gunas* are described as *agnideepaka*, *kapha-vatahara*, *sara*, *pitta-avirodhi*, useful in *shoola*, *adhmana* etc<sup>27</sup>. Hence by considering all these properties, instead of using single *rohitaka churna* or *rohitakyadi churna*, *rohitakarishhta* was chosen for quick and effective action. An *in vitro* study reveals that *Rohitakarishhta* is highly significant for reducing triglyceride levels if administered for an effective duration<sup>29</sup>. It is used in *jeerna agnimandyajanit vyadhi*. It also helps to regularize the flow of *pachakapitta* and perform *deepana-pachana karma*.

## 7.4 Probable Mode of Action of *Bhumyamlaki*

*Bhumyamlaki* (*Phyllanthus niruri*) have *Tikta*, *kashaya rasa*, *sheeta veerya*, *madhura vipaka* and *laghu*, *ruksha guna*, *kapha-pitthara* (reduces vitiated *kapha-pitta dosha*) properties. It has a lipid-lowering effect, which is a risk factor for some types of gallstones. It is a smooth muscle relaxant, so it would likely be useful for the pain that accompanies a gallstone attack. It stimulates the production of bile. It is known as “Stonebreaker”. *Bhumyamalaki* is of great use in treating metabolic health problems like high cholesterol and others that originate from disturbed liver functions<sup>6</sup>. It serves as an appetiser and has a carminative effect. It also shows a laxative effect. *Bhumyamalaki* has cholagogue, laxative and hepatoprotective properties<sup>8</sup>. *Bhumyamalaki* is included under drugs having an anti-cholelithiasis plant with cholagogic effect<sup>10</sup>.

## 8. Patient Perspective

On January 9, 2020, I experienced severe abdominal bloating and chest discomfort, for which I went to the doctor and was prescribed medications. For the past six months, the symptoms listed above have bothered me. Even though I take medications regularly, they only provide symptomatic relief, so this time I decided to visit an *Ayurvedic* OPD. So, I visited the Aaddya *Ayurvedic* Clinic for the above-mentioned complaints.

I was terrified when the doctor suggested an ultrasound during my first visit, but the doctor consulted me and explained all the health issues, I had been experiencing for the past few months. On the very next day, I did my ultrasound investigation, and the report came back with cholelithiasis as the diagnosis. I have faith in *Ayurveda*, so I decided to go for this treatment. The most important thing I noticed was how simple the medications were to take and how few medications were given. I am really satisfied with the treatment modalities and results. It was evidence-based for me and my family that, after a year of treatment, the ultrasound findings are normal.

## 9. Informed Consent

The patient had given informed consent. Consent was explained thoroughly to the patient. He also permitted the publication of data.

## 10. Conclusion

Thus, in this case, the *pittashmari* (gallstone) was managed with a pure herbal and a minimum number of medications within a year, which was very cost-effective for the patient. *Ayurveda* can provide alleviating treatment as well as stop the progression of the disease. It can be used to treat cholelithiasis and its complications in a non-invasive and non-surgical manner. This was a single case study, but the efficacy of herbal intervention should be studied in a larger number of patients.

## 11. Acknowledgements

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## 12. References

1. [https://www.wjahr.com/admin/assets/article\\_issue/13042019/1560859910.pdf](https://www.wjahr.com/admin/assets/article_issue/13042019/1560859910.pdf)

2. Londhe PD. The Concept of Cholelithiasis as Per *Ayurvedic* Text. IJAM [Internet]. 2016 [cited 2023 August];7(1). Available from: <https://www.ijam.co.in/index.php/ijam/article/view/07022016>. <https://doi.org/10.47552/ijam.v7i1.801>
3. Vaidya B. Nighantu adarsh (vol. II), Pataladi varga; page number 222. Varanasi: Chaukhambha bharati academy, reprint; 2019.
4. Vaidya L. Shree Govind Das Virachit Bhaishajya Ratnavali, pleehayakrutrogadikar; page number 508, shloka number 84-87, Delhi: Motilal banarasidas prakashan private limited, reprint; 2012.
5. Chunekar KC. Bhavaprakasa nighantu (Indian material medica) of Sri Bhavamisra (c. 1600-1600 A.D.): edited by; Pandey GS. Haritakyadi varga; page number 5. Varanasi: Chaukhambha bharati academy; reprint; 2020.
6. Rajput K, Gavand R, Ramteke A. Efficacy of medicinal plants in cholecystitis with their *ayurvedic* perspective. *Ayurlog: National Journal of Research in Ayurved Science* 2021; 10(01). Retrieved from <https://www.ayurlog.com/index.php/ayurlog/article/view/939>
7. Akhtar H, Husain SZ. A descriptive review on traditional herbal drug-terminalia chebula. *J Adv Res BioChem Pharma*. 2019; 2(1):21-8.
8. Sharma R, Martins N, Kuca K, Chaudhary A, Kabra A, Rao MM, Prajapati PK. Chyawanprash: A Traditional Indian Bioactive Health Supplement. *Biomolecules*. 2019; 9(5):161. <https://doi.org/10.3390/biom9050161> PMID:31035513 PMCID:PMC6571565
9. [https://bsip.res.in/admin/assets/pdf-file/catalogue%20Saini\\_compressed.pdf](https://bsip.res.in/admin/assets/pdf-file/catalogue%20Saini_compressed.pdf)
10. Salman A, Mehreen Z, Imran M, Mohtasheem H. Choleretic and cholagogic effects of anti-cholelithiasis plants. *Journal of Pharmacognosy and Phytochemistry*. 2021. <https://doi.org/10.22271/phyto.2021.v10.i2a.13664>
11. Ray Sarkar, Bapi, Das, Jyotirmoy. A review of ethnomedicinal plants and their traditional uses for the treatment of hepatobiliary disease by different tribes of north-east India. 2023.
12. Ali M, Hameed A, Shahnaz S, Showkat M. Phytochemical Investigation of the Stem Bark of *Tecomella Undulata* (Sm.) Seem. 2017; 2:159-71. <https://doi.org/10.22606/mocr.2017.24002>
13. A concise textbook of surgery by S. Das, 9th edition, 2016, published by Dr S. Das, chapter 37: 869.
14. A clinical study: prevalence and management of cholelithiasis, Arpit Bansal, Murtaza Akhtar, Ashwani Kumar Bansal. <https://www.ijurgery.com/index.php/isj/article/download/455/454>
15. Davidson's Principles and Practice of Medicine by Brian R. Walker, Nicki R. College, Stuart H. Ralston, Ian D. Penman, 22nd edition, 2014, published by Churchill Livingstone, chapter 23; 981.
16. Tripathi R. Charakasamhita with Vidyamanorama Hindi commentary, Chikitsasthana 16/131, Pg. 412. Delhi: Chaukhambha Sanskrit Pratishthan, Print; 2009. <https://doi.org/10.1159/000243548>
17. Meenakshi Verma, Anuruddha Gupta: Review Article of *Pittashmari* W.S.R to Cholelithiasis. *IAMJ*. 2020; 8(4):3273. [http://www.iamj.in/posts/images/upload/3272\\_3278](http://www.iamj.in/posts/images/upload/3272_3278)
18. Sharma PV. Priya nighantu, shatavyadi varga; page number 95, sholka number 108. Chaukhambha surbharati prakashan, Varanasi: print; 1995.
19. Sharma PV. Kaidev Nighantu, Shatavyadi Varga; page number 201, sholka number 1090-1092. Chaukhambha orientalia, Varanasi: 1<sup>st</sup> edition, print; 1979.
20. Sethiya NK, Ahmed NM, Sheikh RM, Kumar V, Singh PK, Kumar V. Ethnomedicinal, phytochemical and pharmacological updates on *Hygrophila auriculata* (Schum.) Hiene: an overview, *Journal of Integrative Medicine*. 2018; 16(5):299-311. <https://doi.org/10.1016/j.joim.2018.07.002> PMID:30007830
21. Feng XH, Xu HY, Wang JY, Duan S, Wang YC, Ma CM. *In vivo* hepatoprotective activity and the underlying mechanism of chebulinic acid from *Terminalia chebula* fruit. *Phytomedicine*. 2021; 83:153479. <https://doi.org/10.1016/j.phymed.2021.153479> PMID:33561764
22. Rathore HS, Soni S, Bhatnagar D. Hypocholesterolemic effect of *Terminalia chebula* fruit (Myrobalan) in mice. *Anc Sci Life*. 2004; 23(4):11-5. PMID: 22557135; PMCID: PMC3330977.
23. Chuttani K, Mishra P, Chopra M, Panwar P, Sharma RK, Mishra AK. Radiolabelling and biological evaluation of a non-peptidic compound from *Terminalia chebula* (Harar) for CCK-expressing tumours. *Indian J Nucl Med*. 2003; 18:19À24.
24. Hundt M, Basit H, John S. Physiology, Bile Secretion. [Updated 2022 Sep 26]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023 Jan. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK470209/>
25. Central Council for Research in *Ayurvedic* Sciences (CCRAS), New Delhi, E-nighantu, Rajvallabhanighantu, available on <http://localhost:4001/e-Nighantu/rajvallabhanighantu/?mod=read>
26. Tripathi B. Sharangdhgar Samhita with Dipika Hindi Commentary; Madhyama Khanda 10/; p. 249-262. Varanasi: Chaukhambha Surbharati Prakashan; Reprint; 2007.
27. Yadavaji Trikamji Acharya, Narayan Ram Acharya Kavyatirtha, editors. Sushrut Samhita with the Nibandhasangraha commentary of Shri Dalhanacharya, Nyaychandrika Panjika of Gayadasacharya on Nidansthana; Sutrasthana 45/194; p. 211. Varanasi: Chaukhambha Sanskrit Sansthan, Reprint; 2012.
28. Pandurang DD, Panda P, Pradeepkumar PP, Aswani PS, Rao MM. Review on pharmacological properties of *arishta kalpana* with a glance on *arishta kalpas* of *bhaishajya*

- ratnavali*. International Journal of Research in Ayurveda and Pharmacy. 2018; 9(2):6–11. <https://doi.org/10.7897/2277-4343.09226>
29. Ullah MO, Uddin MJ, Hamid K, Kabir S, Rahman MA, Choudhuri MS. Studies of various biochemical parameters of rat plasma following chronic administration of “*Rohitakarista*”- an *Ayurvedic* formulation. Pak J Biol Sci. 2008; 11(16):2036-9. <https://doi.org/10.3923/pjbs.2008.2036.2039> PMID:19266913