



Efficacy of medicinal plants in *Cholecystitis* with their *Ayurvedic* perspective

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ABSTRACT

Cholecystitis is the most common benign disease affecting the gall bladder mostly occurring in the middle aged female population. Gall stone disease is a very common gastrointestinal disorder seen in four "F" Female, Forty, Fertile, Fatty. The incidence of gall stone disease is 10% - 20% of the world population . In India, prevalence of gall stone disease has been reported as 2 - 29% and seven times more common in the north India. In today's era, some patient with cholesterol gall stones were treated with high doses of *chenodeoxycholic* acid and this kind of treatment was suitable only for 20% of people. Therefore, *cholecystectomy* is presently one of the commonest operation done for this disease. Many of the time surgery is contraindicated in various medical conditions. Understanding the epidemiology and pathology of gall stone

formation helps in improving therapy and possibly preventing the disease. Here comes need of *Ayurveda*. *Ayurveda* emphasizes good health, prevention and treatment of illness with the use of medicinal herbs. In *Ayurveda*, herbal cholagogues (promoting the flow of bile from the liver and gall bladder into the intestine) and herbal choleretics (increasing bile production) are mentioned which helps in prevention of gall stones. Example – *Kokilaksha* , *kutaki*, *chitrak*, *kumari*, *sharpunkha* etc. So in this paper a review on plants acting on *cholecystitis* with their probable mode of action is explained.

KEYWORDS – *Cholecystitis*, Gall stone, *Cholagogues*, *Choleretics*, *Chenodeoxycholic acid*, *Cholecystectomy*.

INTRODUCTION

Gall stone disease is a very common

gastrointestinal disorder seen in four “F” Female, Forty, Fertile, Fatty. The incidence of gall stone disease is 10% - 20% of the world population . In India, prevalence of gall stone disease has been reported as 2 - 29% and seven times more common in the north India. In today’s era, only 20% of the people are treated with some patient with high doses of *chenodeoxycholic* acid. Therefore, *cholecystectomy* is presently one of the commonest operation done for this disease. Many of the time surgery is contraindicated in various medical conditions. Understanding the epidemiology and pathology of gall stone formation helps in improving therapy and possibly preventing the bladder into the intestine) and herbal *choleretics* (increasing bile production) are mentioned which helps in prevention of gall stones.

Gall bladder is a pear -shaped sac which is in-charge of storing bile produced by the liver. During digestion, the gall bladder contracts & expels the bile through the bile duct into duodenum. *Cholecystitis* is the inflammation of the cystic duct by gall stones. A calculus in the gall bladder or *biliary* stone is a concretion that forms in the gall bladder by depositing calcium crystal, excess of cholesterol & *bilirubin* that were previously dissolved in the bile. Gall stones are more common in women as compared to men. Usually it occurs in fatty, fertile, flatulent females between forty & fifty. The most common factor responsible to develop gall stones may include bone marrow or solid organ transplant, diabetes, failure of the gall bladder to empty bile properly ,liver

cirrhosis & *biliary* tract infections. Other conditions are medical conditions that cause the liver to make too much bilirubin, rapid weight loss from eating a low calorie diet & receiving nutrition as intravenous feedings, consumption of food containing excess amount of fat, cholesterol & other harmful substances, get accumulated in the liver & are released as bile. In *Ayurveda* it is mentioned that gall bladder stone or *Pittashmari* are formed when vitiated *Pitta* becomes dry due to increasing *Vata* & *Pittashmari* should be treated same as *Mutrashmari*. It is seen that in *Cholecystitis* plants having property to reduce cholesterol level & anti-inflammatory are most useful. *Cholagogues* herbs which increase secretion from liver can be used in *cholecystitis*. e.g. *Kutaki*, *Daruharidra*, *Bhumyamalaki*, *Sarapunkha*, *Bhrungaraj* etc.

AIM –To study the efficacy of medicinal plants in cholecystitis.

CHOLECYSTITIS

Acute *cholecystitis* is an acute inflammation that involves the wall of the gall bladder with various degrees of severity. It may be *calculous* or *acalculous*. Acute *calculous cholecystitis* begins by impaction of a stone in the cystic duct obstruction of the cystic duct increases the pressure inside the gall bladder leading to its dilation *biliary* stasis and proliferation of microorganism congestion and *lymphatics* in the wall with *subserosal* edema and wall thickness.

Kutki (Picorhiza kurro) have Tikta, katu rasa, sheet veerya, katu vipaka & ruksha guna. Its root is used for treatment. It is deepan, pachan, pittavirechak⁴. In small amount it is Sransan whereas in large amount it is Virechak. It stimulates the liver secretions. It is an excellent cholerectic agent & hepato-protective agent.

Chitrak (Plumbago zeylanica) have katu rasa, ushna veerya, katu vipaka & laghu, ruksha guna⁴. Its root is used for treatment. It is deepan, pachan. It contains “plumbagin” which reduces serum cholesterol, LDL & elevates HDL. It prevents accumulation of cholesterol & triglycerides in liver. It is also Anti-inflammatory.

Kaalmegh (Andrographis paniculata) have Tikta rasa, ushna veerya, katu vipaka & ruksha guna⁴. Its leaves are used for treatment. It is deepan, pachan, pittasarak. It increase biliary flow. It is blood purifier & hepatoprotective. Cold infusion of it is used for liver disorder (Sushrut) & also used for the treatment of Jaundice (Charak).

Apamarga (Achyranthus aspera) have Tikta, katu rasa, ushna veerya, katu vipaka & laghu, sar, ruksha guna. Its panchang is used for treatment. It is deepan, pachan, pittavirechak, medohar i.e. it reduces fat deposition by its scrapping effect. It decreases the inflammation of bile duct & enhances bile secretion so it is used in cholelithiasis.

Haridra (Curcuma longa) have Tikta, katu rasa, ushna veerya, katu vipaka &

ruksha guna. It is raktashodhak & shothahar. It contains “curcumin” which seemed to combine the cholerectic & hydrocholagogic action with antiseptic property⁵. Thus would be an ideal therapeutic agent in conditions of the biliary system & gall bladder due to suppressed staphylococcal infection.

Daruharidra (Berberis aristata) have Tikta, Kashaya Rasa, Laghu, Rooksha Guna katu Vipaka, ushna veerya. Its root, stem, fruit are for treatment. It possesses antibacterial, anti-inflammatory, antipyretic and antiseptic properties. It is used as a cholagogue, stomachic, laxative and diaphoretic. It promotes bile secretions. It is Anti-inflammatory. It protects liver. It checks bad cholesterol as it is Lekhaniya herbs that has scraping, cholesterol reducing quality⁵.

Bhrungaraj (Eclipta alba) have katu, Tikta rasa, ushna veerya, katu vipaka & laghu, ruksha guna. It is good Anti-inflammatory herb. It stimulates liver function. It has ability to reduce triglycerides & cholesterol. It has hepato-protective properties so juice of the leaves is used in the treatment of liver cirrhosis, hepatitis and infective hepatitis⁵. It is also used for liver enlargement, jaundice and other ailments of the liver and gall bladder. Bhringaraj contains wedelolactone and de methyl wedelolactone, which exhibits anti-hepato toxic properties – i.e. it helps in eliminating the toxins from the liver.

Kokilaksha (Astercantha longifolia) have Madhur, tikta rasa, sheet veerya, madhu vipaka & guru, snigdha, pichchil guna. Its

leaves and roots are used for treatment. *Priya nighantu* has clearly mentioned that It is used for *Pittashmari*. The leaves help to promote bile secretions and stimulate liver, hence, benevolent in hepatitis and liver diseases.

Bhumyamalaki (Phyllanthus niruri) have *Tikta, kashaya rasa, sheet veerya, madhur vipaka & laghu, ruksha guna*. It has a lipid lowering effect which is risk factor for some type of gall stones. It is a smooth muscle relaxant so would likely useful for the pain that accompanies a gall stone attack. It stimulates the production of bile. It is known as “Stone breaker”. *Bhumyamalaki* is of great use in metabolic health problems like high cholesterol and other which origin from disturbed liver functions. The extract of *Bhumyamalaki* exhibit its ability to obstruct the creation of calcium-oxalate crystals.

Kumari (Aloe vera) have *Tikta rasa, sheet veerya, katu vipaka & guru, snigdha, pichchil guna*. It is *deepan, pachan, bhedan (breaks pittashmari), yakrutottejak, virechak*. It combat cholesterol & improves cellular oxygenation. It is good protector of liver. It helps liver to drain bile. It regulates bile flow into the intestine by its cholagogue action thus improves digestion and relieves constipation. It relieves obstruction of bile duct and corrects function of liver and Gall Bladder. It has hepato-stimulant effect thus it corrects functional efficiency of liver.

Punarnava (Boerhavia diffusa) have *tikta, madhu, kashaya rasa, ushna veerya, katu vipaka & laghu, ruksha guna*. Its roots

are used for treatment. It reduces swelling, anti inflammatory. It improves liver functions.

Sharpunkha (Tephrosia purpuria) have *tikta, kashaya rasa, ushna veerya, katu vipaka & laghu, ruksha, tikshna guna*. Its leaves and roots are used for treatment. It is *deepan, pachan, bhedan* (accumulation breaking herb). It stimulate liver function. It is *cholegogue*⁵. It is useful in liver diseases like hepatitis, liver cirrhosis.

Yava (Aehaji maurorum) have *kashay, tikta rasa, katu vipaka & sheet veerya*. *Yavasharkara* stimulate liver function. It is *cholegogue*. It has significant effects on the metabolism of bile acids and cholesterol as well as on the morphology of the small intestinal mucosa.

DISCUSSION:

The treatment of *cholecystitis & cholelithiasis* at present is mainly *cholecystectomy*. No drug is available which can alter the inflammatory changes of *cholecystitis* and neither drug is available which can completely remove or dissolved lithiasis without any complication. Perhaps few drugs are there in modern medicine which one reported their activity to dissolve the gall stone with few extent but these are with harmful adverse effect e.g *chenodeoxycholic acid* and *ursodeoxycholic acid*. There is need to avoid harmful effect of drugs, so the conventional eco-friendly herbal & natural preparation are being search. In India 18% female & 9% male suffered from gall

stone . It is higher than every incidence in US & western Europe where the incidence is approximate 8-10% & in India overall 12% incidence. The treatment of choice is at present only surgical management that is open , minimal access surgery & *laproscopic cholecystectomy*. These herbs inhibit the excessive production of cholesterol which is a chemical building block of average all stones. It also helps to maintain healthy bile production & even compensate for blockages caused by gall stones. These herbs stimulate the gall bladder & promote the flow of bile. Most of these plants improve liver function. These plants stimulate bile flow into small intestine by clearing blockage in bile duct. It is seen that most of herbal supplements can have spectacular results in the treatment of gall stone & without any adverse side effects.

CONCLUSION:

After the study of *Ayurvedic* medicine , cholagogues and choleretics mentioned here helps to prevent the gall stone, reduces the inflammation and give relief from acute cholecystitis attack. These herbs inhibit the excessive production of cholesterol which is a chemical building block of average all stones. It also helps to

maintain healthy bile production & even compensate for blockages caused by gall stones. These herbs stimulate the gall bladder & promote the flow of bile.

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