



CONCEPTUAL STUDY ON CHOLELITHIASIS IN AYURVEDA

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ABSTRACT

Cholelithiasis is a common preclinical condition which is silent but evolves into grave complications. Gall stones are formed of abnormal bile composition of cholesterol stones and pigment stones. biliary sludge is an important precursor to the formation of cholelithiasis in major cases. As per Ayurvedic classics, features and management of cholelithiasis can be outlined among various disorders like *Gulma*, *Pittaja udarashoola*, *Shakashritha kamala* and *Yakruthdalyodara*. Since it is a Subclinical condition and has various life threatening complications, surgical management is the main option in contemporary medicine. There is a need for Ayurveda treatment protocol as well as revalidating the establishing principles through safety and efficacy study. So identifying the risk factors and ensuring the appropriate treatment can prevent disease, reoccurrence and fatality.

KEY WORDS: Cholelithiasis, Gallstones, *Gulma*, *Pittaja udarashoola*, *Shakashritha kamala* and *yakruthdalyodara*.

INTRODUCTION

Cholelithiasis is one of the life threatening condition, attributed to the obstruction in secretion of bile juice by the stones formed in it. This obstruction are caused due to cholesterol and pigmental stones^[1].

In Ayurveda, clinical manifestations are explained in *gulma*, *Pittaja udarashoola*, *shakashritha kamala* and *yakruthdalyodara*,. As theses various diseases almost have same clinical features with respect to gallbladder so it can be compared to cholelithiasis in modern science^[2].

In developed countries an overall prevalence of cholelithiasis is 7.9% men and 16.6% in women aged 18-65 years. In India it is found to be 6.12% in the adults. The prevalence rate in 30-69 years of age group is 10%. Between 70-80 years age group is 30-40% and as compared to male 19-20% more in female of all age group^[3].

MATERIALS AND METHODS:

An effort was made to collect & interpret various references pertaining to Cholelithiasis along with its Ayurvedic correlation as *gulma*, *Pittaja udarashoola*, *shakashritha kamala* and *yakruthdalyodara*, across relevant texts.

Causes of gall stone formation

- High fat and caloric diet.
- In female due to abnormal secretion of sex hormones like estrogen and also oral contraceptives leads to decreased bile salt secretion and decreased conversion of cholesterol to cholesterol esters.
- Hypo motility of gall bladder leads to formation of sludge, which is due to pregnancy, Fasting, Prolonged parenteral nutrition as well as drugs such as Otreotide.
- Some of the genetic factors as per modern science accounted for 25%.
- Increased secretion of cholesterol and decreased size of bile acid pool, decreased secretion of bile salts due to some age factors.

Samprapti (Etiopathogenesis):

Samprapthi of pittaja gulma: In case of *gulma* due to consumption of *virudda ahara vata* exacerbates and provokes *pitta* and brings obstruction in *srotas* and manifest pain in the planks and abdomen, doesn't move downwards channels and thus located in *pittashaya* forms a palpable mass (Embolic form of union of morbid *doshas*). It can be correlated to palpable mass in cholelithiasis and formation of different stones in it^[6].

Samprapthi of pittaja udarashoola: Due to *pitta* provoking *ahara vihara* causes aggravation of *pitta* and by the action of *vata* blocks the *pitta* in *pittashaya* forms *shoola* and this *samprapthi* is related to formation of gall stones and causing severe pain in the mid back region which also have symptoms of nausea and vomiting^[7].

Samprapthi of shakashritha kamala: *Kamala* is produced due to obstruction of *shakashritha pitta* entering to *kosta* by the action of *sleshma*, which can be correlated to the pathogenesis of gallstones obstructing biliary tract^[4].

Samprapthi of yakruthdalyodara: Due to upward movement of *vata* in the abdomen causes pain, abdominal distension, thirst, and fever due to blocked *pitta*. It can be correlated to Murphy's sign in cholelithiasis^[5].

Pathogenesis of cholesterol stones:

Cholesterol is rendered soluble in bile by aggregation with water soluble bile salts and water insoluble lecithin, both of which act as detergents. When cholesterol concentration exceeds the solubilising capacity of bile (super saturation), cholesterol can no longer remain dispersed and nucleates into solid cholesterol monohydrate crystals. They are bile must be supersaturated with cholesterol, Gallbladder hypomotility promotes nucleation, cholesterol nucleation in bile is accelerated, Mucus hyper secretion in the gallbladder traps the crystals, permitting their aggregating into stones^[8].

- **Pathogenesis of pigment and calcium stones:**

Pigment gallstones are complex mixture of abnormal insoluble calcium salts of unconjugated bilirubin along with inorganic calcium salts. Unconjugated bilirubin is normally a minor component of bile but increase when infection of biliary tract leads to release of microbial β -glucuronidase, which hydrolyses bilirubin glucuronides. Thus, infection of the biliary tract, as with *Escherichia coli* or *ascaris lumbricoides* or by the liver fluke *opisthorchis sinensis*, increases the likelihood of pigment stones^[8].

LAKSHANA (SIGNS):

Physical examination results frequently are normal. Discomfort might be elicited on deep palpation of right upper quadrant of the abdomen. Murphy's sign (pain on palpation of right upper quadrant when patient inhales) might indicate Acute cholecystitis. Other signs of cholecystitis include fever and tachycardia. An enlarged gall bladder may be palpated when there is a mucocele or emphyema of gallbladder is present, the gallbladder is felt as tense globular swelling projecting downwards and lateral to the right rectus abdominus muscle^[9]. Complete or partial obstruction of common bile duct manifest as jaundice. In all races, jaundice is detected most reliably by examination of sclera in natural for yellow discolouration^[9]. And all these signs are responsible for finding the cholelithiasis as a route cause.

LAKSHANAS AS PER AYURVEDA:

We will not get a particular clinical manifestations for cholelithiasis in Ayurveda. But *lakshanas* explained in *gulma*, *pittaja udarashoola*, *shakashritha kamala* and *yakruthdalyodara*, can be considered as complications occurred due to presence of gall stones. Apart from that, the *lakshanas* explained for *saama vata* (*vibhanda*, *agni saada*, *antrakoojana*, *anga vedana*, *thoda*, *angasaada*, *snehaadi vata kramina vruddi*, *gouravata*, *arochaka*^[10]. *Saama kapha* (*udgarabava*, *pralepathwa*, *picchilathva* and *kshuda naasha*).

As comparing the Ayurvedic symptoms to modern symptoms of cholelithiasis as follows, if it is a silent stones- *gulma*, pain with stones- *pittaja udarashoola*, stone obstruction- *shakashritha kamala*, cholilithiasis causing further liver disorder- *yakruthdalyodara* and all these features can be considered as prognosis of cholelithiasis from *gulma* to *yakruthdalyodara*. Flatulent dyspepsia, *hrullasa*, *gourava*, *tandra*, *angamarda*, *hwara*, *pandutva*, *srothoroda*^[11] are also some of the features of acute cholelithiasis.

UPADRAVAS:

Acharya Sushrutha, while explaining *Baddodara*, says *ashmari* as one of the cause for it, which is nothing but gallstones responsible for acute intestinal obstruction. Hence, *Baddodara* can be considered as complication of *Pittaja ashmari*^[12].

CHIKITSA:

No disease can manifest without vitiation of *doshas*, Hence any disease even if it is not explained in the classics should be treated according to *lakshanas* of *doshas* involved. So based on *yukthi* treatment can be adopted^[13].

Ashmari is a severely complicated disease as death, it can be treated only in early stages with medicine in later stages surgery is a must. The *aushada chikitsa* includes *sneha*, *kshara*, *yavagu*, *yusha* and *kasaya prayoga* with *ashmarigna* drugs^[14].

Pittaja gulma chikitsa: As the symptoms are similar to *pittaja gulma* should be managed by *virechana* (bitter drugs and purgatives boiled with ghee) as *pittahara chikitsa* can be adopted. ***Trutyadi churna***- cures *gulma* and *ashmari* when given with milk^[20]. ***Trayamanadi grutha***- cures *gulma* caused by *pitta* and *raktha*. Dose is depending on the condition of patients can be adopted. ***Tayamana kshira yoga***- milk with *kshira* and in this yoga also dose is depending on the *agni bala* of the patient. ***Virechana***- given with *kashaya* of *draksha* and *abaya* mixed with *guda*. And also *kampillaka* can be given in the form of linctus by mixing it with *madhu*^[18].

Pittaja shoola chikitsa: In case of symptoms of cholelithiasis similar to *pittaja udarashoola* can be given with *pittahara chikitsa* and some oral medications like **Baladi kwatha** of 30-50ml with *hingu* and rock salt. **Tumburvaadi churna** 3-6gm with warm water. **Hingwadi churna** of 3-5gm can be given along with *varunadi manda*. **Tripura bairava rasa** of 65mg along with castor oil 12gm can be given. **Dhatri loha** 500mg to 1gm can be given along with ghee (12gm) and honey (6gm)^[17].

Shakashritha kamala chikitsa: In case of symptoms of cholelithiasis similar to *shakashritha kamala* can be given with *kaphara chikitsa* like *katu, thikshna, ushna, lavana* and *amla upakramas*. And *mamsa rasa*(meat soup), *ruksha*(dry) type of food and vegetable soup prepared out of dry radish, juice of *mathulunga* mixed with honey, *pippali, maricha,* and *shunti*^[15]are best to treat it.

Yakruthodara chikitsa: In case of symptoms similar to cholelithiasis, patient can be given with *pitta* and *vatahara chikitsa* like *abyanaga, swedana, virechana* and *niruha basti*. The *shamanaushadis* like *sapthala grutha, pippali* with *abaya* and *guda, paaniya kshara* and *aristas*^[16] can also be given for cholelithiasis patient.

PATYA AND APATYA

Different varieties of *shaali* rice, *jaangala mamsa rasa, gokshira, ajakshira, grutha, karjura, amalaki, draksha, dadima, paarushaka*- these should be given as diet to the patient suffering from cholelithiasis. To such patients water is boiled with *bala, vidariganda* etc., should be given^[14]. Following *Dinacharya, Rithucharya* is the major life style modification that can be adopted. Not just consuming proper diet, but also one has to follow the rules of taking food (*Ahara vidhividhana*)^[19].

DISCUSSION

As per Ayurveda *accha pitta* is considered as bile based on its location, function and abnormality. The bile is generated and stored in gall bladder so it is considered as *pittashaya*. *vikrutha kapha sanchaya* can be correlated to formation of gallstones as per Ayurvedic concepts. So treating the cholelithiasis by usage of ayurvedic therapies like *paaniya kashara, virechana*, different types of *sneha paana, vati, churna, rasoushadi* as well as following *patya* is prime consideration of the study. So identifying the risk factors and ensuring the appropriate treatment can prevent disease and fatality.

CONCLUSION

Santarpana nidanas(sedentary life style) being the main etiological factor in manifestation of cholelithiasis. When we left untreated may end up as life threatening condition. The phenomenon of cholelithiasis here related to some Ayurvedic diseases like *yakruth dalyodara, shakashritha kamala, pittaja gulma* and some with *pittaja uadarashoola*. Here in this condition early stage can be curable with some medication. If they persist more in size means the surgery is the best option, these *chikitsa* mentioned in classics such as *Shodana(virechana), grutha prayoga, paaniya kshara* and *churna yoga* are the best for this disorder along with *pathya ahara* and *vihara* is appropriate, which would help in relieving cholelithiasis and further prognosis of disease.

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