Introduction

Gallstones are small, hard deposits that can form in the gallbladder, a sac-like organ that lies under the liver on the right side of the abdomen. Most people with gallstones don't even know they have them. But in some cases a stone may cause the gallbladder to become inflamed, resulting in pain, infection, or other serious complications.

Gallstones are small, pebble-like substances that develop in the gallbladder. The gallbladder is a small, pear-shaped sac located below your liver in the right upper abdomen. Gallstones form when liquid stored in the gallbladder hardens into pieces of stone-like material\(^1\). The liquid—called bile—helps the body digest fats. Bile is made in the liver, and then stored in the gallbladder until the body needs it. The gallbladder contracts and pushes the bile into a tube—called the common bile duct—that carries it to the small intestine, where it helps with digestion\(^2\).

Bile contains water, cholesterol, fats, bile salts, proteins, and bilirubin—a waste product. Bile salts break up fat, and bilirubin gives bile and stool a yellowish-brown color. If the liquid bile contains too much cholesterol, bile salts, or bilirubin, it can harden into gallstones.

Gallstone disease is a major health problem in western society, and its attendant complications and comorbidities impose a substantial financial burden on the health care economy\(^3\). Among the factors that predispose to cholesterol cholelithiasis, considerable attention has focused on environmental modifiers, such as obesity, because even in populations at increased genetic risk there appears to be a strong link between gallstone susceptibility and body habitus that may be further modified in a gender-specific manner\(^4\). However, despite recent advances in the mechanisms that link hepatic insulin resistance and gallstone susceptibility\(^5\), there remain many unanswered questions concerning the pathways by which alterations in hepatic lipid metabolism result in biliary cholesterol
supersaturation, leading to cholesterol monohydrate crystal formation and eventually the emergence of gallstones. 

Cholesterol gallstone (CGS) disease is a highly prevalent gastroenteronological disorder resulting from alteration in hepatic and biliary cholesterol homeostasis. CGS disease is a multifactorial disease involving both environmental as well as genetic factors. Gallstones formed in the gallbladder consist of cholesterol, bilirubin and calcium salts. The majority of gallstones are contributed by cholesterol and very small numbers of gallstones are primarily composed of calcium salts of bilirubin and phosphate. Generally, lithogenic bile occurs with disruption of cholesterol homeostasis, leading to increased cholesterol secretion and subsequent supersaturation of bile with cholesterol. But the molecular origins of altered secretion rates of biliary lipids in human cholesterol cholelithiasis remain unknown. Whether defects exist in hepatic lipid regulatory enzymes, responsible for cholesterol and bile acid biosynthesis, is not clear. Biliary bile acids are excreted through faeces and a major portion of these bile acids are reabsorbed in the intestine and assimilated by enterohepatic circulation. The decreased cholesterol excretion from the body and its increased biosynthesis and secretion into bile may increase the risk of CGS incidence.

The drugs to dissolve gall stones or other non surgical methods are still considered experimental in modern medicine. Cholesterol gall stones can sometimes be dissolved by oral Ursodeoxycholic acid, but it may be required that the patient takes this medication for 2 years. Gall stones may reoccur however once the drug is stopped. At the same time it may produce side effects like mild diarrhoea and temporarily raised levels of blood cholesterol and liver enzymes. Gall stones can be broken up using a procedure called the Lithotripsy, however this form of treatment is suitable only when there is a small number of gall stones. By over all view it is very much clear that treatment prescribed in modern medicine for Cholelithiasis is far from satisfactory and is often accompanied with several side effects. So there is large scope in Unani in the field of management of Cholelithiasis.
Unani system of medicine based on the principles of humours/akhlat, diagnoses the marz/disease as per its pathology or abnormal physiology that is the root cause and treats it. i.e by correlating the mizaj /temperament of the organ i.e (normal) and diagnosing the abnormal mizaj/temperament of the organ and identifying the humours/akhlat abnormality and assessing their temperament and then correlating it with the temperament of the patient as per the age and sex and physique and establishing an overall diagnosis of physiological deviation (of tabiat) and looking management through tadabeer/regimental therapy i.e actually studying the life style of human from depth ranging from his basic essentials like correction and modification of the air he breathes (hawa) to the water he drinks(makool) i.e the composition of water of that area and the food that he takes which is an important predisposition dietotherapy (ilaj bil ghiza) which aims at treating ailments by administration of specific diets of by regulating the quantity and quality of Lithontriptic Activity of Certain Unani Drugs in the Management of Cholelithiasis in Vitro and in Vivo. food and pharmacotherapy (ilaj bil-dawa) which uses drugs of natural origins (plant, animal andmineral). In a nutshell it corrects the temperament of the organ and normalises the abnormal humours by using drugs 9.

The unani system offers time tested and excellent remedies, the naturally occuring drugs used are symbolic of life and generally free from free radicals.Ever since the birth of mankind there has been a relationship between life, disease and plants. Primitive men started studying diseases and treatments 10. There is no record that people in prehistoric times used synthetic medicines for their ailments but they tried to make use of the things they could easily procure. The most common thing they could find was their in environment i.e. The plants and animals 11. By their experience, this knowledge of herbal remedies was transferred to generation as folk medicine. So the history of herbal medicine is as old as human history.

Herbal medicine is still the mainstay of about 75–80% of the world’s population, mainly in developing countries, for primary health care because of better cultural acceptability, better compatibility with the human body and lesser side Effects. It is estimated that approximately one quarter of prescribed drugs contain
plant extracts or active ingredients obtained from or modeled on plant substances.

Most of plants-derived drugs were originally discovered through the study of traditional cures and folk knowledge of indigenous people and some of these could not be substituted despite the enormous advancement in synthetic chemistry. Consequently, plants can be described as a major source of medicines, not only as isolated active principles to be dispensed in standardized dosage form but also as crude drugs for the population.

Today in many countries modern medicine has displaced plants with many Synthetic products but almost 30% of pharmaceutical preparations are still obtained Directly or indirectly from plants. The modern era has seen some decline in use of medicinal plants and their extracts as therapeutic agent, particularly in developed countries, many of which either been discarded by the medical profession or now Given in the form of isolated compound.

The utility of the synthetic drug is always accompanied with its single or multiple adverse effects and in some cases the curatives are not available.

Today, there is an urgent need to develop safer drugs for the treatment of inflammatory disorders, diabetes, liver diseases, and gastrointestinal disorder. Hence, there is a growing interest in the pharmacological evaluation of various plants used in Indian traditional systems of medicine.

In context with the present scenario and need of the time an experimental study in animal model mice (C57bl/6) would be conducted in which gall stones would induced in mice using lithogenic diet for a period of 12 weeks and the test drug or UCF (Unani Compound Formulation) would be given along with the diet and the biochemical parameters and histopathological studies would be done.