



Gall bladder diseases in Iraqi peoples

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ABSTRACT

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Background: Bile is stored and concentrated in the gallbladder as food is being consumed. Bile acids regulate gallbladder function via the membrane bile acid receptor. By storing bile acids and changing their composition, changes in gallbladder motor activity can guard against a number of clinical disorders in addition to contributing to the development of gallstone disease.

Methods: This paper compiles studies conducted on Iraqi individuals suffering from gallbladder diseases and reviews the findings of these studies..

Results: In recent years, gallbladder stones have become increasingly widespread in Iraqi culture, and gallbladder illnesses have becoming more common among Iraqis. This review seeks to provide an overview of the many gallbladder conditions. In a number of Iraqi investigations, gall bladder disorders were associated with this condition, and it was discovered that there were more Gram-negative bacteria than Gram-positive bacteria. Other studies included some diseases that were linked to gall bladder disorders in these diseases. According to some research, there is a chance that some persons will have GBD, which is typically asymptomatic during pregnancy. Advanced maternal age, a prior history of GBD, and a positive family history may all raise this risk.

Recommendation: The statement calls for more research on gallbladder disorders among Iraqis and how they connect to intestinal disorders.

KEYWORDS:

Gall bladder, diseases, Typhoid, breast, cancer

BACKGROUND

Located under the liver's right lobe, the gallbladder is a hollow, pear-shaped organ that stores and releases bile produced by the liver. It is connected to the liver and pancreas via the bile duct system and is essential to digestion. The gallbladder stores bile after it passes via the hepatic and cystic ducts. After eating, the duodenal and jejunum cells release a peptide hormone called cholecystokinin, which causes the gallbladder to contract and bile to flow to the duodenum via the bile duct system for fat digestion and absorption.

(Lam et al., 2021)

Gallbladder diseases include the following –

The most frequent cause of gallbladder issues is gallstones, which are not complicated issues.

The most prevalent condition affecting the gallbladder, cholecystitis, can be problematic in and of itself. "A rare but potential disorder called gallbladder cancer and

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blockage of the bile ducts from stones or tumors can cause cholesteisis, a condition in which the flow of bile from the gallbladder to the intestines stops, resulting in the buildup of bile in the blood.

-Liver failure may result from primary biliary cirrhosis, a chronic illness of the liver's bile ducts that causes the liver to gradually deteriorate and accumulate bile.

Gallstones are crystallized deposits of cholesterol, bilirubin, and bile that form in the gallbladder or inside the bile tree. They are often found by accident and are asymptomatic, but they can cause pancreatitis, nausea, vomiting, and pain in the upper right abdomen. They can also obstruct the bile duct.

Bacteria that isolated from Gall bladder tissue

One of the common digestive issues is gallstones. Acute cholecystitis and jaundice are just two of the clinical symptoms they might induce. They can also be asymptomatic and discovered by accident. The result of gallstone is volatile. They might wilt, enlarge, or even change dimensions. They are chemically divided into three primary classes based on the degree of cholesterol: cholesterol stones, brown dye, and

black pigment. Other categories include complicated, mixed, compound, and complex. Prior research has examined the several triggering variables that contribute to the production of gallstones, including concentrated bile. (Al-Marzook et al., 2015), Given that between 50 and 70 percent of gallbladder patients had a favorable family history, age, hormone therapy, obesity, diabetes, and genetic variables were determined to be important (Weiss et al., 1984). (Chuang et al., 2013) But most of them indicated a connection to microbial infections, primarily those caused by *E. coli* and *Bacteriodes* species. A study conducted by Al-Obaidi et al. (2006) Between January 2004 and August 2005, 1016 adult volunteers of all ages and gender were screened by ultrasound at Medical City Teaching Hospital in order to identify silent gallstones in Iraqis and their relationship to certain physical and family characteristics. The outcomes discovered Silent gallstones were 3.3% more common in both sexes. Black tea was the most prevalent type of stone, and its prevalence is higher in women (4.09%) than in men (2.2%), and it rises with age, parity, and the use of contraceptive pills. The majority of the stones were smaller than 20 mm, and the gallbladder had no accompanying masses, calcifications on the wall, or a normal wall thickness (Al-Obaidi et al., 2006).

Another cross-sectional study by Khalaf et al. (2016) was carried out from June to December 2015 at the ultrasonography departments of Al-Basrah General Hospital and Al-Fayhaa Hospital in Basrah city. There were 1001 participants in the study overall, and the study's findings were In this area, gallstones that did not cause any symptoms were rather common. Age, female gender, elevated BMI, high cholesterol, and a family history of gallstones were all independent risk factors for the development of gallstones.

Research on In all, 45 gallstone patients were chosen at random from the Medical City Hospital and Al Yarmouk Teaching Hospital outpatient clinics in Baghdad. Of the 45 patients, 80% had living, viable bacteria extracted from the gallstone cores, compared to 20% with sterile gallstones. Gram negative bacterial cultures were the most prevalent (89.3%), and they comprised species of *Escherichia coli*, *Klebsiella*, *Proteus*, *Acinetobacter*, and *Enterobacter*. A mixed infection of both Gram-positive and Gram-negative bacteria was seen, featuring *Klebsiella* and *Pseudomonas* bacteria, *Escherichia coli* and *Enterococcus* bacteria, and additional *Escherichia coli* and *Acitobacter* bacteria. The prevalence of gram-positive bacterial cultures, such as *Staphylococci* species, was also lower (10.7%) (Abdullah et al., 2020).

An further investigation by Qassim et al. (2024) 50 tissue samples from people aged 15 to 71 were collected for the study at Al. Hilla Teaching Hospital between October 2023 and June 2024. The investigation includes isolating bacteria from tissue and diagnosing antibiotic sensitivity using the Vitak 2 Compact System. Gram-negative bacteria made about 30% of the total, with *Ochrobactrum anthropi* (12%), *Klebsiella pneumoniae* (10%), *Enterobacter aerogenes* (8%),

and *Enterobacter cloacae* (8%), following *Escherichia coli*. The Gram-positive bacteria were composed of 16% *Enterococcus faecalis* and 16% *Enterococcus gallinarum*. The antibiotic test revealed that while all of the bacteria were resistant to cefazolin, 100% of the Gram-positive bacteria were sensitive to ampiciline and tigecycline.

The association of gall bladder diseases with other diseases

An additional investigation by Mousa et al. in 2019 The total frequency of gallbladder disease was 10.8% among the 500 pregnant women in the study. A favorable family history (90.9%), diabetes (30%), older age (>35 years), higher parity (39.3%), advanced gestational age (third trimester 16.6%), prior use of contraceptive pills (29.9%), and diabetes were all substantially linked to gallbladder disease. 66.7% of pregnant women with gallbladder illness did not exhibit any symptoms. Typhoid patients have been linked to gall bladder disorders in certain studies (Al-Sanjary & Al-Rawi, 2022). situated in There were 20 formalin-fixed paraffin-embedded gallbladder tissues from patients with proven gallbladder cancer and 30 fresh gallbladder tissues from individuals with gallstones. The study found that 33% of the *S. typhi* isolates from the tissue samples could be identified using Vitek2, biochemical testing, and standard methods. In contrast to conventional methods, all of the fresh tissue samples had positive PCR results for the *FliC-d* and *CdtB* genes, 46% for *S. typhi*, 64% for females, 35% for men, and 40% for gallbladder cancer. Of the samples, 62% were female and 37% were male.. Other cases of breast cancer were discovered (Saeed & Hasan, 2022). Tamoxifen treatment is significantly associated with the development of gall bladder stones. Gallstone development is more likely to occur in postmenopausal women.

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