SUMMARY AND CONCLUSIONS

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Gallstone disease is a major public health problem especially in the developed countries. The undoubted increase in the frequency of gallstones in last 20 years may be due to an increase in the prevalence of gallbladder disease or to a change in the threshold accepted as an indication for surgical treatment.

Gallstone disease has a significant impact on health care costs in terms of demands on medical personnel and utilization of health care facilities. It is also costly in terms of time lost from work.

It was found that gallstone disease occurs in approximately 10% of adults and in about 20% of person, over the age of 40 years.

However it is difficult to establish the incidence of the disease because population studies using cholecystographic or ultrasonographic techniques are impractical. Moreover operation rates are indirect measures of prevalence since these rates are affected by clinical policy and economic circumstances.

Epidemiologic data suggests that environmental factors (diet in particular) may be important in the

formation of gallstones. Many other risk factors are documented such as the female sex, older age, ethnic group obesity hypercholesterolaemia, diabetes, liver disease, haemolysis ileal disease or resection, drugs in particular oral contraceptives, clofibrates and cholestyramine and a positive family history.

During the last 20 years our understanding of gallstone formation has been greatly enhanced, shock wave fragmentation, stone dissolution and laparoscopic cholecystectomy has become possible, but more information are needed on the prevention of this disease before it can be adequately controlled.

The present study included 100 patients who proved ultrasonographically to have gallstones and 100 matched controls who proved by the same technique to be free from gallstones. For each patient of these two groups a special questionnaire was designed in an attempt to find some risk factors that may contribute to the pathogenesis of gallstone disease.

It was found in this study that the age of the patients ranged from 20 to 72 years with a mean 43.6. For females it ranged from 20 to 72 years with a mean of 44.2 and for males it ranged from 20 to 59 years with a mean of 39.

Females exceeded males in the present study with female to male ratio of 6.7 to 1.

In studying the factors suggesting hormonal role in the pathogenesis of gallstones, the present work has shown that there was no difference between the female cases studied and their controls as regards,the age at marriage, age of menarche, duration of menstrual life, age at first pregnancy, multiparity and duration of contraceptive pill use.

On studying the correlation between the age at presentation of gallstone disease and the age at first pregnancy, in the present work, it was found that the older the age at first pregnancy, the younger the age of presentation of gallstone disease. This may attract attention that patient getting their first pregnancy at older age group are at a higher risk of developing gallstones.

Also a significant inverse correlation was found between the age at marriage and the age at presentation of gallstone disease.

It was observed in the present study that the studied group of patients has a decreased intake of fibres and an increased intake of carbohydrates, proteins and animal fats than the controls.

Inspite of the fact that 40% of the studied patients were used to have snacks between meals which is considered a protective factor against gallstone formation compared to 15% of the controls, it can still be considered a risk factor as this high frequency of meals can cause obesity which is in itself a risk factor in the pathogenesis of gallstones. Females were more accustomed to have snacks (42%) than males (23%).

No difference was observed in the present study between cases and controls in relation to the percentage of patients using diet regimen which is considered a risk factor for gallstone formation.

The mean body mass index was found to be statistically significantly higher in our patients with gallstones (28.7) than the controls (26.2) while the body fat percent was higher in patients (37.9%) than controls (36.1%) but this was statistically insignificant.

In the same time BMI and body fat percent showed statistically significant higher mean values in female cases (29.2 and 39.1 respectively) than their controls (26.6 and 37.3 respectively).

However, in the male patients mean values of BMI and body fat percent did not show statistically significant

difference between cases and controls. This may suggest that obesity is not a risk factor for the development of gallstones in males.

From the medical history of the studied cases and the controls no relation could be linked between gallstone disease and history of bilharziasis or diabetes. However liver cirrhosis could be considered a risk factor for gallstone disease as a statistically significant higher incidence of cirrhosis was observed in the studied cases than the controls.

Also a statistically significant higher incidence of positive family history of gallstone disease was observed among the studied cases compared to their controls.

As regards the laboratory tests whether routine tests, blood groups or liver function tests, no relation could be found between these tests and gallstone disease in the present study.

In conclusion, the factors that could be considered of risk in the predisposition for gallstones in the present study were found to be, the female sex, older age at first pregnancy, increased intake of carbohydrates, proteins and animal fats and decreased intake of fibres, obesity as indicated by BMI and body fat percent, liver

cirrhosis and a positive family history. On the other hand factors suggesting hormonal role in the pathogenesis of gallstones such as age of menarche, duration of menstrual life, multiparity and duration of contraceptive pill use were not found to be significant risk factors in the present study. Also snacks between meals, diet regimen, history of bilharziasis or diabetes, Hb%, blood groups and liver function could not be considered risk factors in the formation of gallstones in the present study.