

Gall bladder disease in Trinidad

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In Trinidad, cholecystectomy is now the most common elective intra-abdominal operation performed by the general surgeon. A review of 220 patients shows that gall bladder disease affects our population at a much younger age (average 43.8 years) than that reported for Caucasians in the United Kingdom, United States and Sweden. The female to male ratio (8.6:1) is one of the highest reported. There is no race predisposition to the disease, which is evenly distributed between the two major ethnic groups represented in the population. In this population, first pregnancy at an early age and multiparity seem to be the important factors which predispose the young female to cholelithiasis.

There is a wide geographic variation in the incidence of cholelithiasis but, generally, it is more prevalent in developed countries. Cholecystectomy is the most commonly performed intra-abdominal operation in the United States, while in the British Isles it is only marginally exceeded by appendicectomy. In Trinidad, a rapidly developing country, it is still greatly surpassed by emergency appendicectomy. Nevertheless, gallstones are common, and cholecystectomy is now the *elective* intra-abdominal operation most frequently performed by the general surgeon. This study seeks to identify the pattern of cholelithiasis on the island.

Materials and method

The Port of Spain General Hospital serves approximately one half of the island's population of 1.2 million. 220 patients with cholelithiasis seen at this hospital between the years 1974-1982 were reviewed. Cases were included only if there was unequivocal evidence of gall stones radiologically or at operation. Records were examined with special reference to age, sex, race, parity, clinical features and associated diseases.

Results

Age and sex Presentation was most common in the 4th and 5th decades with an average age of 43.8 years (Fig 1). 44% of patients were aged 40 or younger at presentation, males being older (average 55 years) than females (average 42.7

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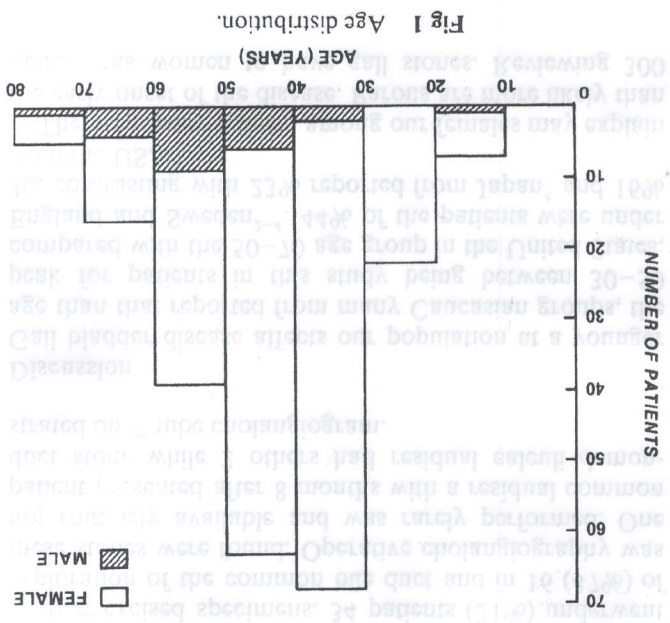


Fig 1 Age distribution.

years). Only 15% of the males were under 40 as opposed to 47% of the females. There were 197 females and 23 males (F:M ratio 8.6:1). In patients over 50 the F:M ratio was 3:1 while it was 17:1 in the younger patients.

Race distribution

98 patients were negro (44%), 94 Indian (43%) and 28 of mixed race (13%).

Contraceptive pill and parity

Of the 90 patients with full documentation, only 8 had used oral contraceptives. One patient was nulliparous while the others ranged in parity from 1-11, the average being 4.5. The age at first childbirth ranged from 15-30 (average 19.7), 66 (74%) had their first child at age 20 or less and 23 (26%) had their first pregnancy between the ages of 20-30.

Clinical features

105 patients (48%) presented with acute severe abdominal pain and tenderness while 111 (50%) had chronic symptoms. 2 patients had sickle-cell disease and 1 had auto-immune haemolytic anaemia. Of the 105 acute admissions 15 (14%) required emergency surgery: 7 for empyema; 3 for gall bladder perforation; 3 for gall stone ileus; and 2 for unresolved jaundice. 26 (29%) of the 90 who settled on conservative therapy had to be re-admitted before the time scheduled

for operation because of recurrent symptoms. Thus 41 (40%) of the acute admissions either had emergency surgery or had to be re-admitted before elective surgery.

Cholecystectomy was performed in 162 cases. The others either refused, were unfit for, or are awaiting surgery. One patient with a perforated gall bladder died post-operatively while incidental carcinoma was found in 2 other excised specimens. 34 patients (21%) underwent exploration of the common bile duct and in 16 (47%) of these stones were found. Operative cholangiography was not routinely available and was rarely performed. One patient presented after 8 months with a residual common duct stone while 2 others had residual calculi demonstrated on T-tube cholangiogram.

Discussion

Gall bladder disease affects our population at a younger age than that reported from many Caucasian groups, the peak for patients in this study being between 30-50 compared with the 50-70 age group in the United States, England and Sweden^{2,4}. 44% of the patients were under 40, contrasting with 23% reported from Japan⁴ and 16% from the USA.⁵

The pregnancy pattern among our females may explain the early onset of the disease. Parous are more likely than nulliparous women to have gall stones. Reviewing 300

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young patients with cholelithiasis, Glenn and McSherry found that pregnancy was related to early onset of the disease⁶. Because the age at first pregnancy averaged 19.7 years, and 74% had their first child under age 20, most of our patients were parous, and thus predisposed to the disease at a young age. In addition, the relatively high parity (average 4.5) may also have contributed. Although there is evidence that implicates oral contraceptives in gall stone pathogenesis⁷, only 9% of our patients used the Pill, too few from which to draw a conclusion.

Most studies record that females are more commonly afflicted with cholesterol cholelithiasis than males⁸⁻¹⁰. In our series the female to male ratio is one of the highest recorded^{3,4,8}. However, this ratio is much lower for the older age group (3:1) than for patients under 50 (17:1). Both genetic and dietary factors are thought to be responsible for the reported ethnic variations in incidence of cholelithiasis^{8,11,12}. In our series, however, no racial bias was shown; this may be due to the similar life-style and diet adopted by these racial groups in Trinidad.

In this series, haemolytic anaemias were uncommon, although in Jamaica sickle-cell anaemia is the most frequently associated disease¹³. Although detailed information was not available in many case notes, cholesterol and mixed stones were the commonest while pigment stones are infrequent in our experience.