

ABSTRACT

TITLE: The Prevalence of Hypothyroidism in patients with proven Gall stone disease

INTRODUCTION: Gall stone disease is a common prevalent condition causing significant morbidity. Hypothyroid state has been previously studied as a predisposing factor in the formation of gall stones. This study aims to study the prevalence of hypothyroidism in patients with proven gall stone disease.

AIM: To study the prevalence of hypothyroidism in patients with proven gall stone disease.

MATERIALS AND METHODS: This is a prospective observational study. Method of sampling was non-random, purposive. 50 patients with USG evidence of cholelithiasis were evaluated with thyroid function tests. The operation procedure and Histopathology reports were observed and recorded.

RESULTS: A prospective study was conducted on the Prevalence of hypothyroidism in patients with proven Gall stone disease in a total of 50 patients in PSG institute of medical sciences and research, coimbatore from the period of October 2016 to August 2018. All patients who fit the inclusion criteria were evaluated clinically and Thyroid function test was performed. Of the 50 patients, 33 (66%) were women and 17 (34%) were men. The mean age was 48.54. The ratio of female to male distribution is 1.9:1. Of the 50 patients, 11 (22%) were hypothyroid and 38 (78%) were euthyroid. Of the hypothyroid patients, 8 (16%) were subclinical hypothyroidism, 2 (4%) had overt hypothyroidism and 1 had central hypothyroidism. The commonest age distribution in men and women with hypothyroidism and Gall stone disease was 61-70 years followed by 41-50 years in both sexes. Chronic cholecystitis (40%) was the commonest presentation in the study population followed by asymptomatic / Symptomatic cholelithiasis (34%) and Acute cholecystitis (26%). All patients who presented with Acute cholecystitis had sub clinical hypothyroidism. Whereas those who presented with Chronic cholecystitis had predominantly subclinical hypothyroidism with equal

percentages of overt and central hypothyroidism . Those with cholelithiasis were 75% sub clinical hypothyroidism and 25% overt hypothyroidism. Of the 50 patients , 62% underwent a laparoscopic cholecystectomy , 12% underwent a Laparoscopic subtotal cholecystectomy , 4% underwent an Open cholecystectomy and a 2% conversion rate from Laparoscopy to open Cholecystectomy.

CONCLUSION: In conclusion, this study has demonstrated a significant prevalence of hypothyroidism, or subclinical hypothyroidism in patients with gall stones. The higher prevalence of hypothyroidism in gall stone patients changes in the cholesterol metabolism which influence stone formation as well as changes in the sphincter of Oddi pressures which may lead to stasis and stone formation. It cannot be ascertained whether hypothyroid individuals post cholecystectomy have an increased risk too common bile duct stones. Long history of hypothyroidism not only predisposes to cholesterol stone with alterations in cholesterol metabolism but also pigment stones. As absence of thyroxine leads to failure of Sphincter of Oddi relaxation which in turn leads to stasis of bile which is an important predisposing factor to the formation of pigment stones. . Treatment of subclinical hypothyroidism has demonstrated a positive effect on the serum cholesterol levels and it can be assumed that patients at risk of forming gall stones due to subclinical hypothyroidism may also benefit from such early thyroid hormone replacement.

KEY WORDS: Hypothyroidism, Cholelithiasis, Gall stone disease, Sub clinical hypothyroidism.