Available online at http://www.journalcra.com

International Journal of Current Research
Vol. 8, Issue, 11, pp.42308-42310, November, 2016

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

ISSN: 0975-833X

RESEARCH ARTICLE

INCIDENCE OF CHOLEDOCHOLITHIASIS IN GALLSTONE DISEASE IN EASTERN ZONE OF INDIA-A SINGLE CENTRE STUDY

***Mrigendra Rai**

Rajendra Institute of Medical Sciences, Ranchi, India

ARTICLE INFO

Article History:
Received 14th August, 2016
Received in revised form
27th September, 2016
Accepted 17th October, 2016
Published online 30th November, 2016

Key words:

Choledocholithiasis,
Common bile duct stone,
Gall bladder stone,
Incidence.

ABSTRACT

Introduction: Common bile duct stones are found in 10-15% of patients having gall stone disease and the incidence increases with the age, both in India and in western countries.Since the majority of common bile duct stones are secondary to gall bladder stones, their incidence is more in Northern India. Aim of this study is to know the incidence of choledocholithiasis in our institute.

Aim and Objective: To study the incidence of common bile duct stone in patients having gall stone disease in Rajendra Institute of Medical Sciences, Ranchi.

Material and Method: This of is a cross sectional study of 125 patients admitted in different wards of the department of surgery on the basis of symptoms and signs of gall stone disease and latter on trans-abdominal ultrasound and MRCP confirmed that 18.4% of total patients having also choledo cholithiasis.

Result: Incidence of choledocholithiasis is 18.4% in patients having gall stone disease.It is 3 times more common in females.Maximum incidence 34.78% in between 40-49 years, obese (52.17%) and middle socio-economic group (73.9%).

Conclusion: Incidence of choledocholithiasis is increased in recent past and is more common in females in between 40-49 years age group.Obesity is the commonest risk factor.

Citation: Mrigendra Rai, 2016. "Incidence of choledocholithiasis in gallstone disease in Eastern zone of india-A single centre study.", *International Journal of Current Research*, 8, (11), 42308-42310.

INTRODUCTION

The incidence of gallstone disease has been increased significantly wordwide (Steiner *et al.,* 1994) including India.The vast majority of common bile duct stones are formed within the gall bladder and migrate down the cystic duct into the common bile duct as secondary stones in western countries (Schwartz, 2015) as well as in India.Common bile duct stones are found in 10-15% of patients having gallstone disease (Maingot's, 2013).These stones are usually cholesterol stones (Schwartz, 2015). Factors associated with cholesterol stones include nutrition, obesity, increasing age, female sex, pariety etc (Maingot's, 2013).

Aim and objective: The aim of study is to find out the incidence of common bile duct stones in patients admitted with the symptoms and signs of gallstone disease in the department of surgery at Rajendra Institute of Medical Sciences, Ranchi.

MATERIALS AND METHODS

This is a cross sectional study, which was conducted during the period of October 2012 to January 2014, in dfferent surgical wards at Rajendra Institute of Medical Sciences, Ranchi.

The pool of present study were the patients admitted with the features of gallstone disease and the diagnosis was made on the basis of detailed history, physical examinations,trans-abdominal ultrasonography, MRCP, liver function tests and other required investigations. Operative findings along with any complications were also recorded.Patients were followed-up on out-patient basis for the period of one year for any complications.

OBSERVATION AND RESULT

Total 125 patients were taken for this study. Out of which, 102(81.6%) have only cholelithiasis, 23(18.4%) have both cholelithiasis and choledocholithiasis.Out of those 23 patients who have both cholelithiasis and choledocholithiais, 17(74%) were female, 6(26%) were male, with male to female ratio 1:2.83. The maximum incidence of cholelithiasis with choledocholithiasis was found in between 40-49 years of age, 8(34.78%) (Table 2), obese, 12(52.17%), middle income group, 17(73.9%). All 17 female patients having both cholelithiasis and choledocholithiasis were multiparous.Alcohol addiction was found in 2(8.6%) patients having both the diseases. The most common presenting complains in patients having both cholelithiasis and choledocholithiasis were epigastric/right hypochondrial pain in

23(100%), nausea/vomiting in 23(100%) patients. Scleral icterus was found in 17(74%), high coloured urine in 17(74%), pruritus in 3(13%), steatorrhea in 12(52%) patients.As for clinical signs all 23(100%) patients have tenderness in epigastrium/right hypochondrium and jaundice (Table 3). Trans-abdominal ultrasonography and MRCP has been done in all 125 patients, out of which 23(18.4%) were found to have both cholelithiasis and choledocholithiasis.

DISCUSSION

Stones within bile duct along with gallstones was first described by great physician Alexender Tranllianus (Selvaraju *et al.,* 2008). Common bile duct stones continue to pose a significant problem both to the patient and the surgeon (Desai *et al.,* 2009). The vast majority of ductal stones are secondary to gallstones which migrate down the cystic duct to the common bile duct (Schwartz, 2015). Wordwide, there is increase in incidence of gallstone disease, the incidence of it's association with bie duct stone also increased (Caddy and Tham, 2006; Shaeffer, 2006). Common bile duct stones are found in 10-15% of patients having cholelithiasis (Maingot's, 2013). In present study it's incidence is 18.4%. Although primary choledocholithiasis is more common in Asian populations (Sabiston Textbook, 2007), in present study all the patients with choledocholithiasis also having cholelithiasis. According to Maingot's Abdominal operations 12th edition and study of Rosenthal RJ *et al*, the incidence of common bile duct stones increases with age and duration of disease (Rosenthal *et al.,* 1998; Maingot's, 2013). Present study also shows that there is no any case of choledocholithiasis below the age of 20 years with maximum incidence in between 40-49 years of age. According to Schwartz's Principles of Surgery, 10th edition, gallstone disease is three times more common in women than men, and the majority of ductal stones are secondary to gallstone (Schwartz's, 2015) thus choledocholithiasis is also common in women.In our study also choledocholithiasis is 2.8(ie 3) times more common in women than men. Obesity, parity, nutritional factors etc are other risk factors associated with choledocholithiasis (Maingot's, 2013). In our study also majority of patients are obese, fertile, from middle socio-economic class.Only two patients with choledocholithiasis are addicted to alcohol. Secondary choledocholithiasis may be asymptomatic or associated with symptoms similar to those seen with gallstone disease (Cynthia *et al.,* 2002). In our study epigasric/right hypochondrial pain, nausea/vomiting found in 100%, sclera icterus in 74%, high coloured urine in 74%, steatorrhea in 52%, pruritus in 13% patients having choledocholithiasis with cholelithiasis.

Table 1. Incidence of Choledocholithiasis

Disease	No. of patients	Percentage (%)
Only Cholelithiasis	102	81.6%
Cholelithiasis +Choledocholithiasis	23	18.4%

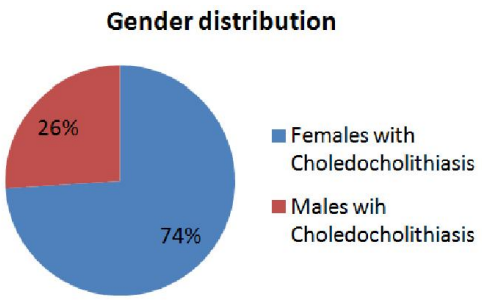

Table 2. Age distribution

Age group (in years)	Total no. of patients (125)	Percentage (%)	No. of patients with choledocholithiasis (23)	Percentage (%)
10-19	7	5.6%	0	0%
20-29	23	18.4%	3	13%
30-39	24	19.2%	3	13%
40-49	36	28.8%	8	34.78%
50-59	18	14.4%	4	17.4%
60 and above	17	13.6%	5	21.7%

Table 3. Frequency and distribution of symptoms and signs of choledocholithiasis

Symptoms	Frequency	Percentage (%)
Epigastric/right hypochondriac pain	23	100
Nausea/vomiting	23	100
Sclera icterus	17	74
Fever	0	0
High coloured urine	17	74
Pruritus	3	13
Steatorrhea	12	52
Signs		
Tenderness in epigastrium/right hypochondrium	15	65
Jaundice	17	74

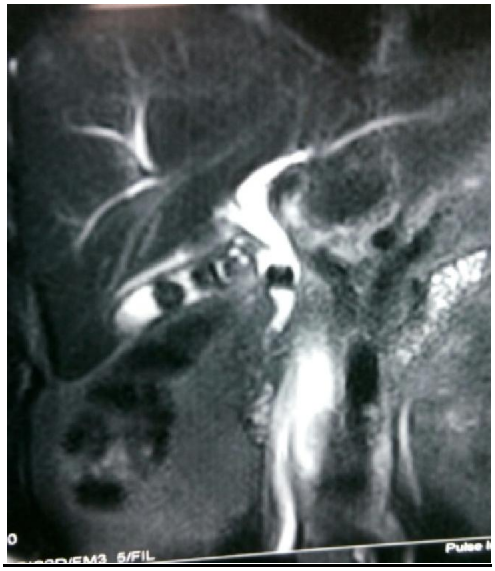

Figure 1. MRCP stones in gallbladder and CBD

Figure 2. Post- operative T-tube cholangiogram

Conclusion

Present study shows that all the cases of choledocholithiasis are secondary to gall stone disease and are three times more common in females than males. The age group most commonly affected is in between 40-49 years. Multiparous females are commonly affected.Obesity is one of the strongest risk factor.

REFERENCES

Caddy, G.R., Tham, T.C. 2006. Gall-stone disease: Epidemiology, Pathogenesis and Classification of biliary stones (common and intrahepatic). Best Pract Research Clini Gastroenterol, 20:1075-1083.

Cynthia *et al*., 2002. Epidemiology and natural history of common bile duct stones and prediction of diseases. The American Society for Gastrointestinal Endoscopy 0016-5107, volume 56,No.6,S167.

Desai, R. 2009. *Indian J Surg.,* Sep-Oct. 2009, 71:229-237.

Kondo, S., Isayama, H., Akahane, M., Toda, N., Sasahira, N., Nakai, Y., Yamamoto, N., Hirano, K., Komatsu, Y., Toda, M. *et al*. 2005. Detection of common bile duct stones; comparision between endoscopic ultrasonography,magnetic resonance cholangiography and helical-computed-tomography, *Eur J Radiol.,* 54:271-275(PubMed).

Madden, J.L. 1973. Common duct stones;their origin and surgical management. *Surg.Clin North Am.,* 53:1095-1113.

Maingot's Abdominal Operations, Twelfth Edition, 2013, 49; 1009

Rosenthal, R.J., Ricardo, R.L., Martin, R.F. 1998. Options and Strategies for management of Choledocholithiasis : *Word J Surg.,* 22:1125-1132.

Sabiston Textbook Of Surgery 20th Edition 2017, 54:1494.

Saharia, P.C. *et al*, 1977. Primary common duct stones, Ann Surg 1985,598-602.

Schwartz's Principles of surgery, Tenth edition, 2015,32;1321

Scientific Committee of Europian Association For Endoscopic Surgery. Diagnosis and treatment of Common bile duct stones (CBDS). Result of a consensus development conference.Surg.endo.1998; 12:856- 864.(PubMed)

Selvaraju, R. *et al*., 2008. FTIR Spectroscopic Analysis of Human gallstones, *Romanians J Biphys.,* 18(4)309-316

Shaeffer, E.A. 2006. Gallstone Disease: *Best Pract Res Clini Gastroenterol,* 20:981-996.

Steiner, C.A., Bass, E.B., Talamini, M.A., Pitt, H.A., Steinberg, E.P. 1994. Surgical rates and operative mortality for open and laparoscopic cholecystectomy in Maryland. *N Eng J Med*., 330; 403-8

****