Journal of Academia and Industrial Research (JAIR)
Volume 2, Issue 3 August 2013

ISSN: 2278-5213

SHORT COMMUNICATION

Influence of Cholecystectomy on relief of symptoms and analysis of Post-cholecystectomy symptoms

Sanjeev Sharma*, A.S. Bhatia and Naresh Kumar
[1]Dept. of Surgery; Govt. Medical College and Hospital, Amritsar, Punjab
drsanjeevsharma@hotmail.com*; +91 9417155881

Abstract

Patients (*n = 100*) who were operated upon for cholecystectomy in G.N.D. hospital/Govt. Medical College Amritsar were analyzed between 2008 and 2011. There were 85 females (85%) and 15 males (15%) out of a total of 100 patients who were operated upon for gall bladder disease. Majority of patients belonged to fourth and fifth decade of life and 95 patients underwent open cholecystectomy and 5 underwent laparoscopic cholecystectomy. Bile duct was explored in seven cases and stones were removed. The overall incidence of post-cholecystectomy symptoms has been 27% in the study. Symptoms relate to hepatobiliary system and adjacent organs. Main investigative tools are ultrasound, upper gastrointestinal endoscopies and endoscopic retrograde cholangiopancreatography (ERCP).

Keywords: Cholecystectomy, gall bladder disease, post-cholecystectomy symptoms, ultrasound.

Introduction

Cholelithiasis is the commonest disease of the biliary tract accounting for 85% of biliary pathology (Rigo *et al.,* 1974). The incidence of cholelithiasis in India is 5.4% (Newman and Northop, 1959). Gall stones are 1.6 to 5 times more common on females than in males in developed countries. It is estimated that about 10-20% of population has gallstones (Wilbur and Bolt, 1959; Bainton *et al.,* 1976; Barker *et al.,* 1979; Godrey *et al.,* 1984). Many of these stones are asymptomatic and majority die of unrelated causes (Bateson and Bouchier, 1975). Widespread use of abdominal ultrasonography has led to discovery of increasing number of silent gall stones. Follow-up studies show that only 15% of them develop symptoms and require cholecystectomy (Wenkert and Robertson, 1966).

Cholecystectomy as a treatment of symptoms should only be done if symptoms can definitely be ascribed to gall bladder disease. Cholecystectomy in a certain number of patients fails to relieve symptoms. Persistence or appearance of such symptoms compatible with biliary disease has been variously designated by terms such as biliary dys-synergia, biliary dyskinesia and post-cholecystectomy syndrome. However, it is not a syndrome and the term is confusing (Way, 1994). It was originally defined as a pure functional disturbance after cholecystectomy (Pribram, 1950). Loss of gall bladder function alone is not followed by serious symptoms. In addition, these symptoms have been found to be related to retained stones, stenosis of sphincter of oddi and long cystic duct stump (Burnett and Shields, 1958). Symptoms attributable to surgical procedure proper deserve the term post-cholecystectomy syndrome. The term has also been used where no organic cause of pain or symptoms could be found (Schofield and Macleod, 1966). The reported incidence of post-cholecystectomy symptoms ranges between 4-40% depending upon thoroughness of follow-up and diagnostic work up (Carter, 1939; Roth, 1985). An organic cause can be found in 50% of cases of post-cholecystectomy symptoms (Brandstaller *et al.,* 1976). Post- cholecystectomy syndrome has also been classified into true syndrome (due to disorders of biliary system, pancreas and sphincter of oddi) and false syndrome due to symptoms arising from adjacent organs (Chakraborty *et al.,* 1969). A follow-up evaluation of patients indicated that 75-88% is completely relieved of their pre-operative symptoms (Burnett and Shields, 1958). Against these backdrops, this study was aimed to study the influence of cholecystectomy on relief of symptoms of gall bladder disease and analysis of post-cholecystectomy symptoms.

Materials and methods

Study population: Patients (*n = 100*) who were operated upon for cholecystectomy in G.N.D. hospital/Govt. Medical College Amritsar were analyzed between 2008 and 2011.

Parameters studied: Upon admission, a through history of each patient was taken. It was followed by physical examination. The cases which confirmed the pain and other signs and symptoms to be related to gall bladder disease were selected for study. Each patient was subjected to routine investigations, liver function tests and abdominal ultrasound. Following cholecystectomy, the patients were followed up for 2, 4 and 6 months and their symptoms of pain etc. were noted. The patients who had symptoms were investigated to rule out other pathology by abdominal ultrasound and upper gastrointestinal endoscopies according to the presenting symptoms.

Table 1. Presenting signs and symptoms of patients.

A. Symptoms		No. of patients
1.	Pain right hypochondrium	93
2.	Pain with flatulent dyspepsia	47
3.	Pain with vomiting	45
4..	Jaundice	6
5.	Flatulent dyspepsia only	2
6.	Pain epigastrium	5
7.	Only nausea	4
B. Physical signs		
1.	Murphy's positive	57
2.	No physical findings	30
3.	Palpable mass	8
4.	Severe tenderness right hypochondrium	5

Results

There were 85 females (85%) and 15 males (15%) out of a total of 100 patients who were operated upon for gall bladder disease. Majority of patients belonged to fourth and fifth decade of life and 95 patients underwent open cholecystectomy and 5 underwent laparoscopic cholecystectomy. Bile duct was explored in seven cases and stones were removed. Presenting sign and symptoms are shown in Table 1. Ultrasound was used as diagnostic investigation in all the cases. It revealed cholelithiasis in 98 (98%) cases, sludge with stone in 4(4%) cases, only sludge in 2(2%) cases and pathological gall bladder with no stones in 2(2%) cases. Seven cases had associated choledocholithiais. One patient had common bile duct dilatation without stone. Seven cases (7%) had mucocele and 1 case (1%) had empyema of gall bladder. Seventy two (72%) patients had normal wall thickness and acute cholecystitis was present in 5 cases (5%).

Table 2. Pre-operative investigative work-up.

Anemia (Hb < 10 g)	55
Bleeding disorder	-
Leucocytosis	1
Liver function tests deranged	7
Ultrasonography	
• Single stone	26
• Two stones	7
• Multiple stone	65
• No stone	2
• Only sludge	1
• Sludge with stone	4
• Choledocholithiasis	7
• CBD dilatation but no stone	1
Wall thickness	
• Normal	72
• Increased	28
Acute cholecystitis	5

Table 2 shows a pre-operative investigative work-up of patients. Immediate post-operative complications were noted in 8 patients (Table 3).

Table 3. Immediate post-operative complications.

Complication	No. of patients
Excessive bile from drain	1
Severe pain abdomen with vomiting	1
Collection (intraperitoneal)	2
Wound infection	4
Wound dehiscence	2
Retained stones	2

Table 4. Showing follow-up study.

Sign and symptoms	No. of patients
2 months follow-up	
Pain (parietal)	7
Pain (undiagnosed)	1
Peptic disease like symptoms	7
Incisional hernia	0
Colitis	0
Dyspepsia (persistent)	1
Sub-acute intestinal obstruction	0
Jaundice	0
Angina	1
4 months follow-up	
Acid peptic disease	4
Pancreatitis	1
Appendicitis	1
Colitis	0
Hiatus hernia	0
6 months follow-up	
Incisional hernia	1

The follow-up study of patients at 2 months, 4 months and 6 months revealed various sign and symptoms and disease as shown in Table 4. Up to two months follow up, 18 patients had some sort of complaints. Up to 4 months follow up, 6 patients developed symptoms. At 6 months follow up, only one patient had presenting complaint of incisional hernia in the operative scar.

Discussion

The overall incidence of post-cholecystectomy symptoms has been 27% in the study. Symptoms relate to hepatobiliary system and adjacent organs. Main investigative tools are ultrasound, upper gastrointestinal endoscopies and ERCP. The incidence of post-cholecystectomy symptoms varies from 4% to 63% in various studies as shown in Table 5.

Table 5. Incidence of post-cholecystectomy symptoms in various studies.

Author and year	Incidence
Carter *et al.* (1939)	63%
Chakraborty *et al.* (1969)	29.7%
Bodevall and Overgaard (1967) Stefanini *et al.* (1974)	4-40%
Present study	27%

Conclusion

Post-cholecystectomy symptoms develop in a high proportion of patients. A thorough post-operative investigative work should be done to assess the cause of these symptoms and treatment be initiated as per the etiology of symptoms.

References

1. Bainton, D., Davies, G.T., Even, K. and Gravelle, I.H. 1976. Gall bladder disease, prevalence in South Wales industrial town. *New Eng. J. Med.* 294: 1147.
2. Barker, D.J.P., Gardener, N.J., Power, C. and Hutt, M.S.R. 1979. Prevalence of gall stones at necropsy in British town, a collaborative study. *Brit. J. Med.* 11: 1389.
3. Bateson, M.C. and Bouchier, I.A.D. 1975. Prevalence of gall stone in Dundee–a necropsy study. *Brit. J. Med*. 4: 427.
4. Bodevall, B. and Overgaard, B. 1967. Computer analysis of post-cholecystectomy biliary tract symptoms. *Surg. Gynecol. Obstet.* 124(4): 723-732.
5. Brandstaller, G., Kratochvil, P. and Wiedner, F. 1976. Die diagnostische be dentug der endoskopisch retrograden cholangiopankreatikographie biem rogennaten post cholezystektomie syndrome. *Wien Klin Wochenschr.* 88: 806.
6. Burnett, W. and Shields, R. 1958. Symptoms after cholecystectomy. *Lancet*. 1: 923.
7. Carter, R.F. 1939. Practical management of disorders of the liver, pancreas and biliary tract. Lea and Febiger, Philadelphia, 84: 135.
8. Chakraborty, C.R., Dutta. and Gupta, A.K. 1969. Observations on post-cholecystectomy syndrome. *Ind. J. Surg.* 31: 319.
9. Godrey, P.J., Bates, T., Harrison, M., King, M.B. and Padley, N.R. 1984. Gallstone and mortality study of all gallstone related death in a single head district. *GUT.* 25: 1029.
10. Newman, H.F. and Northop, J.D. 1959. Autopsy incidence of gall stones. *Surg. Gynecol. Obstet.* 1: 109.
11. Pribram, B.O.C. 1950. Post-cholecystectomy syndrome. *JAMA*. 142: 12-62.
12. Rigo, M., Mosimann, H. and Ryncki, P. 1974. Pathologie chirurgicole Dela vesicule et des voies bilianes. *Helvetica Chir Acta.* 41: 533.
13. Roth, J.L.A. 1985. Post-cholecystectomy syndrome. *Gastroenterol*. 6: 3815.
14. Schofield, G.E. and Macleod, R.G. 1966. Sequelae of cholecystectomy. *Brit. J. Surg.* 53: 1042.
15. Stefanini, P., Garboni, P. and Petrossi, N. 1974. Factors influencing long term results of cholecystectomies. *Surg. Gynecol. Obstet.* 139: 734.
16. Way, L. 1994. Current surgical diagnosis and treatment. *Appleton Lange.* 10: 557.
17. Wenkert, A. and Robertson, B. 1966. The natural cause of gall stone disease. Eleven years review of 781 non-operated cases. *Gastroenterol*. 50: 376.
18. Wilbur, P.S. and Bolt, R.J. 1959. Incidence of gall bladder disease in normal man. *Gastroenterol*. 36: 251.