IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 16, Issue 8 Ver. XII (Aug. 2017), PP 71-79
www.iosrjournals.org

Comparative Study of Laparoscopic Cholecystectomy with Drain And Without Drain in Government Rajaji Hospital, Madurai

[1]Dr. R. Rani M.S.,[2]D. Dvl. Dr. M. Joyner Abraham., M.S.,
(Assistant professor, department of general surgery, madurai medical college and hospital, india)
(Post Graduate, Department Of General Surgery, Madurai Medical College And Hospital, India)

Aim:
To compare the

- Duration of surgery
- Post operative pain
- Duration of hospital stay
- Requirement of parenteral antibiotics

In patients undergoing laparoscopic cholecystectomy with drain and without drain.

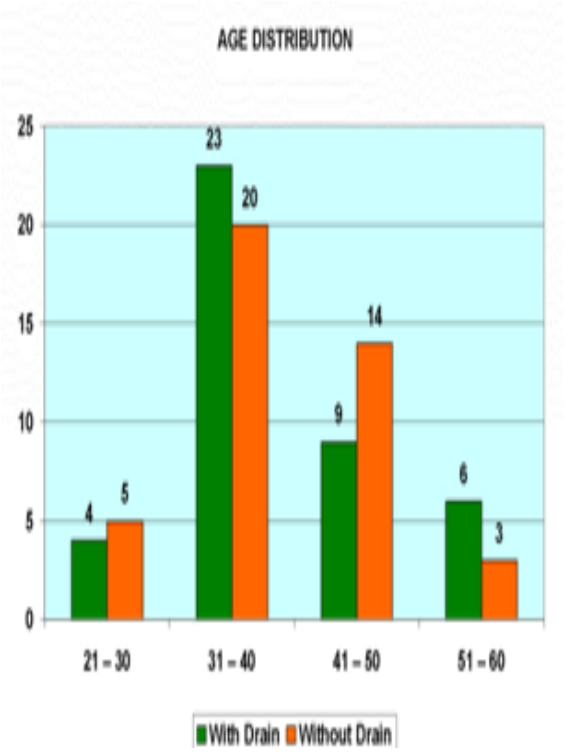
Materials And Methods: Study carried out in Department of General Surgery, Government Rajaji Hospital, Madurai from November 2014 to August 2015 on 84 patients of Symptomatic Gall Stone Disease. Patients divided into two groups. Group A patients containing 42 patients with drain placed and Group B containing 42 patients without drain in patients containing Laparoscopic Cholecystectomy. This is a Prospective Study conducted for 10 months.
Keywords: Gall Stone Disease, Cholecystectomy, Laparoscopic Cholecystectomy, Drain, Without Drain.

Results

Table – 1

Age Distribution

Age in years	With Drain	Without Drain
21 – 30	4	5
31 – 40	23	20
41 – 50	9	14
51 – 60	6	3
Total	42	42
Mean	39.93	38.57
SD	8.83	7.88
P value	0.460 Not significant	

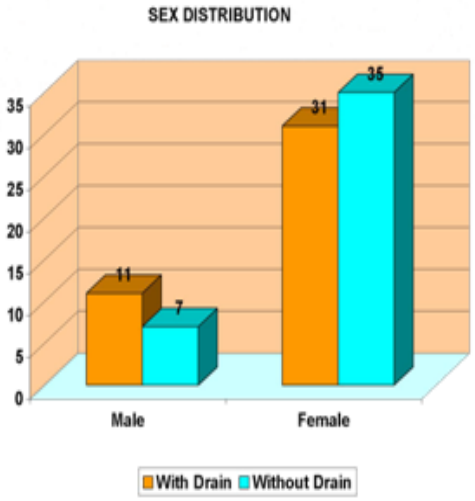


- No Significant difference between both groups by age as p value is not significant

Table – 2

Sex Distribution

Sex	With Drain	Without Drain
Male	11	7
Female	31	35
P value	0.551 Not significant	



- Out of the 82 patients cases 78.5% were females and 21.5% males.

Table – 3

Post operative Sub hepatic Collection at USG abdomen

Collection	With Drain	Without Drain
24 hrs	12	11
1 week	0	0
P value	Not significant	

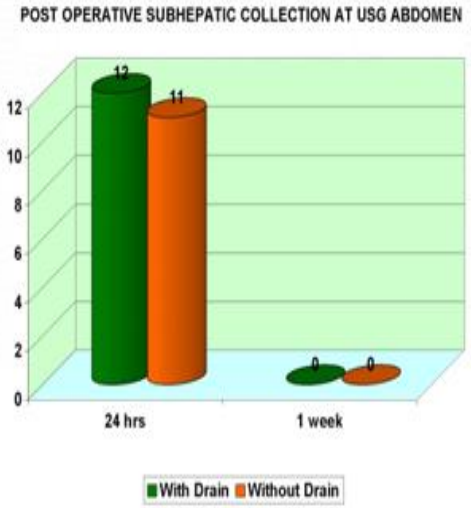


Table – 4

Post op Wound infection

Wound infection	With Drain	Without Drain
Yes	8	4
No	34	38
P value	Not significant	

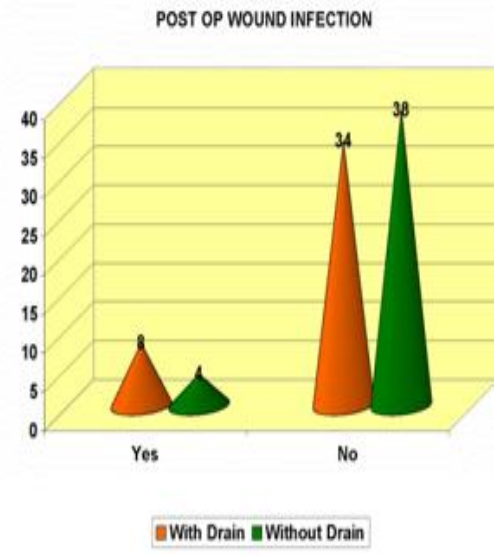


Table – 5

Post operative - Nausea / vomiting

Nausea / vomiting	With Drain	Without Drain
Yes	8	4
No	34	38

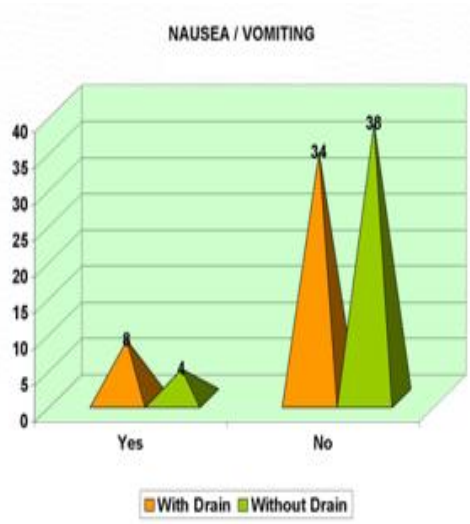
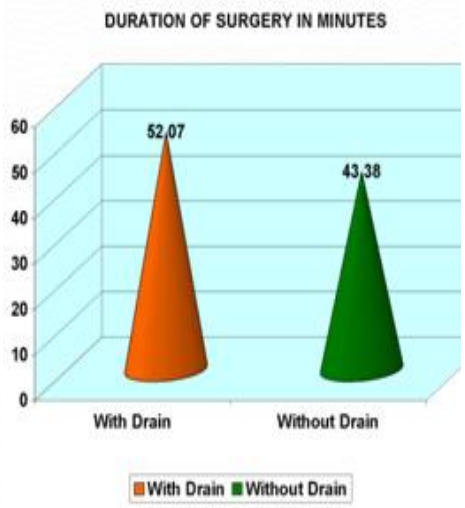


Table – 6

Duration of surgery

Time in minutes	With Drain	Without Drain
Mean	52.07	43.38
SD	3.39	2.38
P value	<0.001	Significant

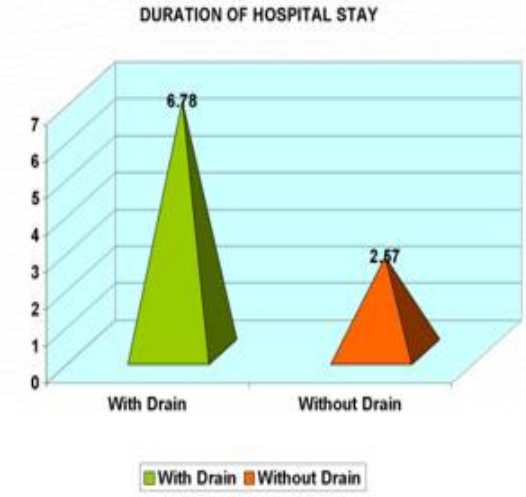


- The average duration of Surgery is comparatively more in drain group i.e. 52.07 minutes and without drain group is 43.38 minutes. It is statistically significant.

Table – 7

Duration of Hospital stay

Duration in days	With Drain	Without Drain
Mean	6.78	2.57
SD	0.52	0.50
P value	<0.001	Significant



- The average hospital stay is comparatively more in drain group i.e. 6.78 days and without drain group is 2.57 days. It is statistically significant.

Table – 8

Post operative Abdominal pain score (VAS)

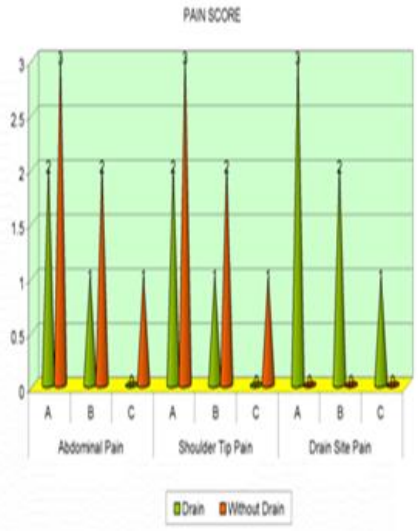
Site	0 hr	24 hrs	48 hrs
Drain	2	1	0
Without Drain	3	2	1

Post operative Shoulder Tip pain score

Site	0 hr	24 hrs	48 hrs
Drain	2	1	0
Without Drain	3	2	1

Post operative Drain Site pain score

Site	0 hr	24 hrs	48 hrs
Drain	3	2	1
Without Drain	0	0	0



- In our study abdominal and shoulder pain was comparatively less in drain group but this difference was not statistically significant. More over drain site pain was statistically more in drain group.

DISCUSSION

Cholelithiasis is a common disease entity. Frequent occurrence and serious complications of cholelithiasis have made this one of the most important surgically correctable diseases.

Open cholecystectomy being a gold standard for the treatment of gallbladder diseases for more than 100 years since Care Johann Langenbuch has performed first open cholecystectomy in 1882. 1st laparoscopic cholecystectomy in human has been done in 1987 by Dr. Philip Mouret to become the new gold standard and almost replaced open cholecystectomy for the treatment of gallbladder disease. The first laparoscopic cholecystectomy in India was performed in 1990 at the JJ Hospital, Mumbai, followed by few months later in Pune by Dr. Jyotsna Kulkarni.

When Langenbuch performed the first cholecystectomy in 1882, he placed a peritoneal drain as a part of procedure. The routine placement of drains becomes a part of operation for a long period of time. However controversy has surrounded this practice in elective conventional cholecystectomies, with most surgeons departing from this approach. Surgeons have routinely drained after laparoscopic cholecystectomy because of the fear of collection of bile or blood requiring open procedures. Another reason for draining is to allow CO2 insufflated during laparoscopy to escape via the drain site, thereby decreasing the shoulder pain. A higher proportion of

In a series of 6147 patients of laparoscopic cholecystectomy by Singh Kuldip et al (1993-2004) 2124 were males (34.5%) and 4023 were females (65.4%) with an average age of 48.6 years (range 22-84 years). In another series of 6380 patients of laparoscopic cholecystectomy by Singh Kuldip et al (1992-2005) 2250 were males (35.2%) and 4130 were females (64.7%) with an average age of 49 years (range 22-84 years). Thus our study coincides with both the studies of Singh Kuldip et al.

Duration of surgery

The average duration of surgery in our study was 52 minutes in drain group and 43 minutes in without drain group. Significant difference between the duration of surgery ie. p value is <0.001.

The average duration of surgery in other studies were as follows-

Ravimohan SM et al - 46.8 minutes

Bart M Redemaker et al - 78 minutes

Sooper et al - 95 minutes

Axe ROS et al - 93 minutes

Duration of hospital stay :

Duration of hospital stay also higher than that of no drain group ie appr. 7 days in drain group and 3 days in no drain group.

operative severity and duration of the abdominal pain and shoulder pain. Also in this study, post operative pain was assessed using VAS and there was no significant difference. However Kazuhisa et al found that the mean VAS score were significantly greater in drain group than in non drain group at 24 and 48 hrs especially in women. On the contrary, Tzovaras et al suggested that the routine use of a drain in elective laparoscopic cholecystectomy has nothing to offer and it is associated with increased drain site pain.

Sub hepatic collection at USG abdomen :

Collection at USG abdomen at 24 hrs is 12 cases in drain group and 11 cases in no drain group. Nil collection at USG abdomen after 1 week in both groups.

Wound infection :

No significant difference between drain and non drain group regarding wound infection in Post operative period ie. 8 cases (19%) in group A and 5 cases (12%) in group B, and is not statistically significant. Hawasli and Brown and Playforth with his team reported that no significant differences were present regarding wound infection in their trials.

Post op Nausea / vomiting

Gurusamy et al and Tarik et al reports showed no significant differences in post operative nausea and vomiting between drain and no drain groups. The same was reported in this study, No significant difference between Post operative complication like nausea and vomiting ie 8 cases (19%) in drain group and in 5 cases (12%) non drain group and it is not statistically significant.

Post operative pain :

Hawasli and Brown found that there were minor but not statistically significant difference between drain group and non drain group in terms of post

CONCLUSION

The use of drain in laparascopic cholecystectomy has not much to offer, in the contrary, it can be associated with increased drain site pain. We find no significant advantage of using drain after laparascopic cholecystectomy, therefore, its routine use cannot be recommended as a means to reduce nausea / vomiting as there is higher incidence of post operative drain site pain and longer duration of hospital stay with its use. However in a select group of patients it can be justifiable to leave a drain where there is a fear of unsolved potential bile leak, ie. imperfect closure of cystic duct or bile staining in the lavage fluid or gall bladder bed suggesting the possibility that an accessory duct has been missed. So to conclude, Routine subhepatic drainage after laparoscopic cholecystectomy is not necessary in uncomplicated cases.

BIBLIOGRAPHY

1. Shehadi WH. The biliary system through the ages. Tnt Surg 1999; 64:63.
2. Thudicum JLW. Part 1: historical introduction. In: Robinson JO, ed. Silvergirl's surgery: biliary tract. Austin, Texas: Silvergirl, 1985:4-13.
3. Sparkman RS, Bobes Centennial. The first cholecystectorny surgery 1967; 61:965.
4. Gastrointestinal and liver disease, Sleisenger and Ford Trams, 7th ed, Pg 1091.
5. Halpert B, Carl Langenbuch. Master surgeon of the biliary system. Arch Surg 1932; 178.
6. Kuldip Singh, Ashish Obri. Journal of minimal access. Surgery 2005 June; 1:59-61.
7. Fi1ipi Fitzgil3bons RJ S GN4 Histoncalreviéw: Dlágnosti thparoscopy to laparoscopic cholecystectomy and beyond. In: Zucker KA (ed), Surgical laparoscopy. St. Louis MO. Quality Medical 1991; 3-2 1.
8. Litynski GS. Erich Mube and tbe rejection of laparoseopic cholecystectomy (1985): a surgeon ahead of his time. JSLS, 1998 Oct-Dee; 2(4):341-6.
9. Tehemton E. Udwadia. Journal of minimal access. Surgery 2005 June; 1:51-52.
10. James Tocouli. Surgery of the biliary tract. Churchill Livingstone 1993: Pg 135.
11. Richard L, Drake, Wayne Vogi, Adam W.M. Mitchelj, Grays Anatomy for students, Churchill Llvingstone, 2005; Pg 287.

12. Henry A Pitt,Thomas R.Gadacz.Biliary system. In, Shackelford's Surgery of the Alimentary Tract Volume 2, 6th edition, Saunders Publishers, 2007; 1444-9.

13. Sheila Sherlock, James Dooley. Diseases of the liver and biliary system, 9th ed, Blackwell Scientific Publications, 1991, Pg 63, 105

14. Gag Decker, du Plessis DJ, Lee Mc Gregors synopsis cf s : 12th ed, Varghese Publishing house, 1999; Pg 89.

15. Courtney M. Townsend, Daniel Beauchamp R, Mark Evers B, Kenneth L. \tanox.. Sabiston Textbook of Surgery, Elsevier, 17th ed, 2000; Pg. 1598-1600.

16. Chummy S. Sinnatamby. Last Anatomy, Regional and Applied, 10th ed, Churchill Livingstone, 2000; Pg 145.

17. Sanjay Nagral. Anatomy relevant to cholecystectomy. Journal of minimal access surgery, June 2005; 1:55-56.

18. Margret Oddsdottir, Thai Pham and John Hunter.Gallbladder and the Extrahepatic Biliary System. In, Schwartz Principles of Surgery, Mc Graw Hill 2010; Ch 32; pg 1137-39.

19. Gamal Mostafa, Cathey Lamont, Frederick L. Greene. Review of Surgery: Basic Science and Clinical Topics for ABSITE. Springer; Ch 113 ,Pg 263.

20. C.Palanivelu, Art of Laparoscopic Surgery- Textbook and Atlas, Jaypee Publishers, Vol. I,Chapter 36, pg 556.

21. Donovan JM, Carey MC. Physical-chemical basis of gallstone formation, Gastroenterol Clin North Am 199 1;20:47-66.

22. Wang D and Afdhal N.Gallstone disease,in Sleisenger and fordtran's Gastrointestinal Surgery,9th Edition,saunders Efsevier,Philadelphia. Pp.1106-08.

23. Ravi S.Chari and Shiinul A.Shah. Biliary system. In, Townsend (ed). Sabiston Textbook of Surgery Volume 2, 18th edition, South Asia edition. Philadelphia, Saunders Publishers, 2009;! 5 58-62.

24. Ahrendt SA: Biliarytract Surgery. Curr Gastroenterol Rep 1: 107, 1999.106

25. Lee HJ,Choi BI,Han JK et a!: Three dimensional ultrasonography using minimum transparent mode in obstructive biliary diseases: Early experience. J Ultrasound Med 21:443,2002.

26. Shlaer WJ, Leopold GR, Scheible FW. Sonography of the thickened gallbladder wall: a nonspecific finding. AJR Am J Roentgenol 1981; 136:337-339.

27. Chan Y-L, Chan ACW Lam WWM, et a!. Choledocholithiasis: comparison of MR cholangiography and endoscopic retrograde cholangiography. Radiology 1996;200:85-9.

28. Margret Oddsdottir, Thai Pham and John Hunter.Gallbladder and the Extrahepatic Biliary System. In, Schwartz's Principles of Surgery, Mc Graw Hill 2010; Ch 32; pg 1141.

29. Marton KI, Doubilet P. How to image the gallbladder in suspected cholecystitis. Ann Intern Med 1988; 109:722- 727.

30. Wang D and Afdhal N.Gallstone disease,in Sleisenger and fordtran's Gastrointestinal Surgery,9th Edition,saunders Elsevier,Phi!adelphia. Pp.1106- 1119

*Dr. R. Rani M.S. "N1608127179." IOSR Journal of Dental and Medical Sciences (IOSR-JDMS) , vol. 16, no. 08, 2017, pp. 71–79.