ORIGINAL ARTICLE

CONSENTING PRACTICE FOR POST-OPERATIVE DIARRHEA IN PATIENTS UNDERGOING LAPAROSCOPIC CHOLECYSTECTOMY NEEDS ATTENTION

Ahmad Arsalan Tahir¹, Fahad Mahmood², M Rashid Waheed³, Mohammad Noah Khan⁴, Anwar Hussain²

¹Department of General and Colorectal Surgery Mid Cheshire Hospital Foundation Trust Crewe, UK ²General Surgery, Department of Colorectal Surgery, University Hospital of North Midlands, UK ³Department of General Surgery, Khyber Teaching Hospital Peshawar - Pakistan ⁴Department of General Surgery, University Hospital Southampton, UK

ABSTRACT

Objective: To determine consenting practice for post-cholecystectomy diarrhea at a single UK tertiary care center and how it could be improved to ensure patients are fully informed.

Material and Methods: Data on discussed complications was obtained from consent forms between February 2015 to August 2015 in a single unit high-volume UK teaching hospital (Royal Stoke University Hospital, Stoke-on-Trent, UK). All adults (aged 18 or more) undergoing either emergency or elective laparoscopic cholecystectomy as a primary procedure for gallstones, acute cholecystitis and biliary colic, were included. The re-audit following educational intervention was completed between June 2016 and November 2016. Data was analysed according to grade of consenting surgeon.

Results: During the first audit involving 74 patients, only 22 (29.7%) were consented for risk of post-operative diarrhoea, all by consultants. Following re-education and subsequent re-audit, 45 out of 75 patients (60%) were consented for post-operative diarrhoea, representing an increase.

Conclusion: Effective education can raise awareness about post-operative diarrhoea following cholecystectomy. This will enable effective awareness and manage patient expectations following surgery.

Key words: Post operative, diarrhoea, Laproscopic, Cholecystectomy.

This article may be cited as: Tahir AA, Mahmood F, Waheed R, Khan MN, Hussain A, Consenting practice for postoperative diarrhea in patients undergoing laparoscopic cholecystectomy needs attention. J Med Sci 2019; 27: (2) 107-110.

INTRODUCTION

Laparoscopic cholecystectomy is an established technique for treating symptomatic gallstones or complications arising from gallstones. However, this technique is associated with several complications including post-operative diarrhea. Unfortunately, there is inconsistent practice in consenting for this common complication. Gallstones affect 15% of the UK population with 20% of these patients developing symptomatic disease 1-3. Risk factors for gallstone disease are classically female gender, obesity, increasing age as well as

Dr. Ahmad Arsalan Tahir (Corresponding Author) Department of General Surgery Mid Cheshire Hospital Foundation Trust Middlewich Road, Crewe -UK

E-mail: drarsalantahir@gmail.com Contact: 00447366148044

Date Received:

17 January, 2019 24 April, 2019 Date Revised: **Date Accepted:** 20 May, 2019 smoking and positive family history 4. Gallstones can lead to biliary colic or be complicated by acute cholecystitis, acute pancreatitis or obstructive jaundice.

Laparoscopic cholecystectomy is considered as the Gold standard procedure for treating symptomatic cholecystolithiasis and is the commonest laparoscopic procedure performed worldwide^{5,6}. Frequency of complications vary from 0.5 to 6%7,8. Laparoscopic Cholecystectomy is associated with fewer complication rates and has got an early post operative recovery^{9,10}, complications include infection (1%), haemorrhage (1%), intra-abdominal injury (0.3%), retained stones (0.1%). In addition, up to 30% of patients suffer post-cholecystectomy syndrome which varyingly includes variation dyspepsia, nausea, vomiting, flatulence, bloating, diarrhoea as well as pain in the upper abdomen^{11,12}. Furthermore, the rate of post-operative diarrhoea has varyingly been reported between 9.1% to 33%13-16.

An essential part of good surgical practice is obtaining informed consent, which includes detailed explanation of risk of both serious as well as frequent complications. This is both an ethical and legal responsibility upon the consenting surgeon in their preoperative discussion with the patient and the outcome from this is documented on consent forms that both the patient and operating surgeon sign. Moreover, failure to obtain informed consent can have legal and financial implications for the healthcare trust. Consenting practice for diarrhoea post-cholecystectomy however varies between units as well as between surgeons within a single unit. The aim of this closed loop audit was to determine consenting practice for diarrhoea post-cholecystectomy and if through targeted interventions this could be improved leading to greater consistency in consenting practice.

MATERIAL AND METHODS

The initial audit was a prospective study of patients who underwent laparoscopic cholecystectomy between February 2015 to August 2015 in a single unit high-volume UK teaching hospital (Royal Stoke University Hospital, UK). All adults (aged 18 or more) undergoing either emergency or elective laparoscopic cholecystectomy as a primary procedure for gallstones, acute cholecystitis and biliary colic were included. Patients undergoing open cholecystectomy or cholecystectomy as part of another procedure were excluded.

The re-audit following intervention was completed between June 2016 and November 2016. This audit loop was completed after implementing the primary recommendations from the first audit of increased education and aide memoires. The study parameters remained the same. Data was collected from consent forms from individual operations and analysed according to grade of consenting surgeon: Senior House Officer (Core trainee, CT1-2), Speciality Registrar (ST3-8), or Consultant. As this was an audit study against published standards, no formal ethical approval was required for use of anonymized patient data.

RESULTS

First audit

The first audit identified 150 patients between February 2015 and August 2015 who underwent laparoscopic cholecystectomy. Only 74 patients had accessible consent forms and these were subsequently analysed. In total, 8 different consultants completed 58 forms and various speciality registrars or senior house officers completed 14 forms. Of the 74 patients, only 22 (29.7%) were consented for risk of post-operative diarrhoea (Figure 1). 20 of these 22 patients were

consented by a single consultant with the 2 others being consented by 2 different consultants. None of the senior house officers or registrars consented for potential post-operative diarrhoea. The results of first audit is shown in Figure 1.

The recommendations arising from the first audit were an educational talk to junior doctor grades responsible for consenting along with aide memoires and use of stickers for common procedures. This was followed by a re-audit in the following year.

Second Audit

During the re-audit, between June 2016 and November 2016, data from consent forms for 75 patients undergoing laparoscopic cholecystectomy was collected. All 75 consent forms were filled by 5 different consultants and no forms were filled by speciality registrars or senior house officers. 45 out of 75 patients (60%) were consented for post-operative diarrhoea distributed amongst the 5 five consultants as shown in Figure 2. This was an increase compared to the first audit cycle from 30% to 60%.

DISCUSSION

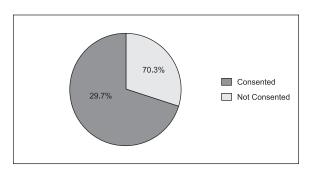


Fig 1: First audit – only 22 of 74 patients were consented for post-operative diarrhoea. of these, 20 patients were consented by a consultant

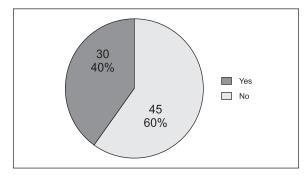


Fig 2: Second Audit – 45 of 75 patients were consented for post-operative diarrhoea following laparoscopic cholecystectomy. All of these patients were consented by a consultant.

Our completed audit cycle of consenting practice for laparoscopic cholecystectomy shows that post-operative diarrhoea is often not consented for. This is particularly true of more junior doctor grades when consenting. Furthermore, with educational input and appropriate guidance consenting practice can be improved to ensure that a greater proportion of patients are aware of this potential complication. This will enable surgeons to manage patient expectations as well as fulfil their ethical and legal obligations regarding consent and avoid potential litigation.

The importance of consenting for diarrhoea post laparoscopic cholecystectomy is highlighted by several studies that have shown post-operative diarrhoea. A systematic review of 25 observational studies reported the prevalence of post-cholecystectomy diarrhoea as 9.1% (302 of 3306 patients) (9). Although the aetiology and predisposing factors of post-cholecystectomy diarrhoea are not clearly understood, the authors speculated that in part it may be related to bile-acid malabsorption. Nonetheless the potential to cause socially disabling symptoms is significant to warrant discussion with patients pre-operatively.

limitations

The findings are from a single centre UK tertiary centre. This centre has a policy of operating on acutely inflamed as well as non-inflamed gallbladders as per National Institute of Health and Care Excellence (NICE) guidelines. We recognise that the repeat audit did not reveal any data from junior doctor grades. There is no restriction on more junior grades than consultant consenting providing they are competent to do so. As such the lack of data from this group may be due to the time period of study and is something that could be remedied in subsequent audit cycles.

CONCLUSION

Effective education can raise awareness about post-operative diarrhoea following cholecystectomy. This will enable effective awareness and manage patient expectations following surgery.

REFERENCES

- Gurusamy KS, Davidson C, Gluud C, Davidson BR. Early versus delayed laparoscopic cholecystectomy for people with acute cholecystitis. Cochrane Database of Systematic Reviews. 2013(6).
- Gomes CA, Junior CS, Di Saveiro S, Sartelli M, Kelly MD, Gomes CC, et al. Acute calculous cholecystitis: review of current best practices. World journal of gastrointestinal surgery. 2017;9(5):118.
- Lill S, Rantala A, Karvonen J, Pölönen T, Grönroos JM. Elective laparoscopic cholecystectomy for

- symptomatic uncomplicated gallstone disease: do the symptoms disappear?. Surgical endoscopy. 2014;28(6):1816-20.
- Ros E, Zambon D, Fort J, Azpiroz F, Casellas F, Andreu J, et al. Acute calculous cholecystitis: Review of current best practices. Surg Endosc Other Interv Tech. 2016;28(1):2708–12.
- Vander Velpen GC, Shimi SM, Cuschieri A. Outcome after cholecystectomy for symptomatic gall stone disease and effect of surgical access: laparoscopic v open approach. Gut. 1993;34(10):1448-51.
- Gurusamy K, Junnarkar S, Farouk M, Davidson BR. Meta-analysis of randomized controlled trials on the safety and effectiveness of day-case laparoscopic cholecystectomy. British Journal of Surgery. 2008;95(2):161-8.
- Ros E, Zambon D. Postcholecystectomy symptoms. A prospective study of gall stone patients before and two years after surgery. Gut. 1987;28(11):1500-4.
- Gui GP, Cheruvu CV, West N, Sivaniah K, Fiennes AG. Is cholecystectomy effective treatment for symptomatic gallstones? Clinical outcome after long-term follow-up. Annals of the Royal College of Surgeons of England. 1998;80(1):25-32.
- Farahmandfar MR, Chabok M, Alade M, Bouhelal A, Patel B. Post cholecystectomy diarrhoea—a systematic review. Surgical Science. 2012;3(06):332-8.
- Fisher M, Spilias DC, Tong LK. Diarrhoea after laparoscopic cholecystectomy: incidence and main determinants. ANZ journal of surgery. 2008;78(6):482-6.
- O'donnell LJ. Post-cholecystectomy diarrhoea: a running commentary. Gut. 1999;45(6):796-7.
- Fort JM, Azpiroz FE, Casellas FR, Andreu JO, Malagelada JR. Bowel habit after cholecystectomy: physiological changes and clinical implications. Gastroenterology. 1996;111(3):617-22.
- Shi HY, Lee HH, Chiu CC, Chiu HC, Uen YH, Lee KT. Responsiveness and minimal clinically important differences after cholecystectomy: GIQLI versus SF-36. J Gastrointest Surg. 2008;12(7):1275-82.
- Van Dijk AH, De Reuver PR, Tasma TN, Van Dieren S, Hugh TJ, Boermeester MA. Systematic review of antibiotic treatment for acute calculous cholecystitis. British Journal of Surgery. 2016;103(7):797-811.
- Sauter GH, Moussavian AC, Meyer G, Steitz HO, Parhofer KG, Jüngst D. Bowel habits and bile acid malabsorption in the months after cholecystectomy. Am J Gastroenterol. 2002;97(7):1732-5.
- 16. Sari YS, Tunali V, Tomaoglu K, Karagöz B, Güneyİ A, KaragöZ İ. Can bile duct injuries be prevented?" A new technique in laparoscopic cholecystectomy". BMC Surg. 2005;5(1):14.
- 17. Mir IS, Mohsin M, Kirmani O, Majid T, Wani K, Hassan MU, et al. Is intra-operative cholangiography necessary during laparoscopic cholecystectomy? A multicentre rural experience from a developing world country. World journal of gastroenterology: WJG. 2007;13(33):4493-7.

Consenting practice for post-operative diarrhea in patients undergoing laparoscopic cholecystectomy......

- Radunovic M, Lazovic R, Popovic N, Magdelinic M, Bulajic M, Radunovic L, et al. Complications of laparoscopic cholecystectomy: our experience from a retrospective analysis. Open access Macedonian journal of medical sciences. 2016;4(4):641-6.
- McKinley SK, Brunt LM, Schwaitzberg SD. Prevention of bile duct injury: the case for incorporating educational theories of expertise. Surgical endoscopy. 2014;28(12):3385-91.
- Larobina M, Nottle P. Complete evidence regarding major vascular injuries during laparoscopic access. Surgical Laparoscopy Endoscopy & Percutaneous Techniques. 2005;15(3):119-23.
- Fuller J, Ashar BS, Carey-Corrado J. Trocar-associated injuries and fatalities: an analysis of 1399

- reports to the FDA. Journal of minimally invasive gynecology. 2005;12(4):302-7.
- Strasberg SM. An analysis of the problem of biliary injury during laparoscopic cholecystectomy. J Am Coll Surg. 1995;180:101-25.
- 23. Giger U, Michel JM, Volanthen R, Becker K. Laparoscopic cholecystectomy in acute cholecystitis. Langenbecks Arch Surg. 2004;14:234–12.
- Olsen DO. Laparoscopic cholecystectomy. The American journal of surgery. 1991;161(3):339-44.
- Majeed AW, Troy G, Smythe A, Reed MW, Stoddard CJ, Peacock J, et al. Randomised, prospective, single-blind comparison of laparoscopic versus small-incision cholecystectomy. The Lancet. 1996;347(9007):989-94.

CONFLICT OF INTEREST: Authors declare no conflict of interest

GRANT SUPPORT AND FINANCIAL DISCLOSURE NIL

AUTHOR'S CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under:

Tahir AA: Concept, Design, Drafting, Manuscript.

Mahmood F: Data Acquisition, Drafting Manuscript, Bibliography.

Waheed R: Bibliography, proof reading.Khan MN: Drafting and proof reading.Hussain A: Proof Reading, Design, concept.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.