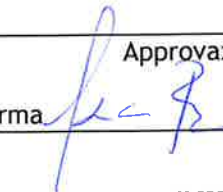


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Redazione  Firma _____ data <u>23/10/25</u>	Verifica  Firma _____ data <u>27/10/25</u>	Approvazione  Firma _____ data <u>30/10/25</u>
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1. MODALITÀ OPERATIVE

1.1 Introduzione

La litiasi della colecisti è una delle patologie che più frequentemente giungono alla nostra osservazione.

Il suo trattamento risolutivo è la colecistectomia che può essere effettuata:

- per via videolaparoscopica
- per via laparotomica

La tecnica da noi abitualmente adottata è la **colecistectomia videolaparoscopica con approccio alla francese**.

1.2 Criteri di selezione del paziente

CLINICI: visita chirurgica in regime ambulatoriale che fornisce indicazioni circa le condizioni generali e specifiche del paziente e consente di raccogliere informazioni e valutare i risultati degli esami ematochimici e strumentali (*) per poter decidere l'idoneità del paziente al trattamento chirurgico:

- valutazione del momento di insorgenza della sintomatologia;
- valutazione della gravità della sintomatologia (disturbi dispeptici, turbe della canalizzazione, coliche epatiche maggiori, episodi di colecistite acuta ripetitivi, ecc.)
- valutazione del rischio di complicanze maggiori come colecistite acuta, idrope, empiema, perforazione della colecisti e litiasi della via biliare principale;
- valutazione delle condizioni generali del paziente e di eventuali patologie collaterali per la definizione del rischio operatorio (criteri ASA)

(*):

Esami ematochimici: Ves. Emocromo, TP e PTT, transaminasi, bilirubina, amilasi; esami strumentali: Ecografia addominale.

Dopo la valutazione degli esami ematochimici e strumentali e delle condizioni cliniche del paziente: inserimento nella lista di attesa chirurgica.

1.3 Fase di ammissione

Chiamata telefonica al paziente per comunicare:

- Giorno di intervento chirurgico
- Giorno di esecuzione delle indagini preoperatorie (da effettuarsi almeno 5-6 giorni prima del ricovero):
- Esami ematochimici
- ECG
- Rx torace
- Eventuali visite specialistiche qualora si rendano necessarie

1.4 Fase di ricovero

Registrazione c/o gli uffici amministrativi.

- ❖ Personale infermieristico
 - Accoglimento in reparto
- ❖ Personale medico chirurgo operatore:
 - intervento informativo su diagnosi, tecnica e procedure chirurgiche;
 - presa visione del modulo consenso informato per intervento chirurgico e firma per accettazione sia del paziente e sia del medico;
 - compilazione della Cartella Clinica (che raccoglie gli accertamenti e le eventuali visite effettuate nella fase preoperatoria)
- ❖ Personale medico anestesista:
 - valutazione del rischio operatorio e presa visione del questionario di anestesia compilato e firmato dal paziente e controfirmato dal medico anestesista;
 - intervento informativo sul tipo di anestesia idonea al trattamento chirurgico;
 - presa visione del modulo consenso informato per rischio anestesilogico e firma per accettazione sia del paziente e sia del medico.

1.5 Fase chirurgica

Preparazione pre-intervento (vedi allegato 2-3)

Intervento chirurgico (con eventuale Colangiografia intraoperatoria di controllo):

Pneumoperitoneo 12 mm Hg di CO2 Trocar sec. disposizione di Dubois. Introduzione dell'ottica in accesso ombelicale, individuazione della colecisti previa eventuale adhesiolisi, dissenzione del triangolo di Calot fino ad ottenere scheletrizzazione della arteria cistica e del dotto cistico. Clippaggio e sezione dell'arteria cistica, se necessaria colangiografia, clip distale sul dotto cistico che viene parzialmente sezionato. Introduzione del lume del cistico di catetere 4-5 F per procedere ad Rx colangiografia intraoperatoria. Valutazione quindi della pervietà delle vie biliari e del loro calibro e della indennità della papilla. Si procede quindi a clip prossimale sul cistico che viene sezionato e a colecistectomia retrograda all'elettrodo monopolare, estrazione della colecisti con endo-bag.

Emostasi accurata, lavaggi ripetuti, chiusura dei tramiti dei trocar.

Decorso post-operatorio (controllo parametri vitali, trattamenti farmacologici prescritti nel postoperatorio, controllo esami ematochimici – azot, creat, transaminasi, bilir. totale e fraz., γGT, amilasemia, emocromo- e mobilitazione attiva del paziente secondo prescrizione medica)

1.6 Fase di dimissione

La dimissione del paziente viene stabilita dal chirurgo che ha effettuato l'intervento o da altro chirurgo da lui delegato in collaborazione con l'anestesista ed è subordinata alla verifica dei seguenti parametri:

- Recupero completo dell'orientamento temporo-spaziale.
- Confermata stabilità cardio-circolatoria.
- Confermato recupero dei riflessi di protezione delle vie aeree ed assenza dei problemi respiratori.
- Ripristino della minzione spontanea.
- Assenza di sanguinamento
- Minima sensazione di dolore e nausea compatibili con una gestione domiciliare.
- Confermata capacità di assumere liquidi.

- Confermata capacità deambulatoria.
- Controllo e medicazione della ferita.
- Confermata presenza di un accompagnatore.
- Assenza di disagio psico-emotivo.

Alla dimissione oltre alla scheda informativa sarà consegnata al paziente una relazione destinata al medico curante composta dai seguenti elementi:

- Breve descrizione dell'intervento chirurgico.
- Eventuali condizioni degne di nota realizzatesi nel perioperatorio.
- Trattamenti farmacologici consigliati nell'immediato postoperatorio.
- Indicazione della struttura reperibile per ogni eventuale comunicazione compreso recapito telefonico.
- Indicazione della prima visita di controllo e rimozione punti.

1.7 Follow up

Prima visita di controllo dopo 4-6 giorni con eventuale rimozione punti Se non subentrano complicazioni secondo controllo dopo un mese.

Dieta libera e ripresa della vita attiva anche lavorativa, se esami normali, dopo una settimana.

2. RIFERIMENTI

- 1) Gadzac T.R.U.S.; *experience with laparoscopic cholecystectomy*. Am. S. Surg. 162/71, 1991.
- 2) NIH releases consensus statement on gallstones, bile duct stones and laparoscopic cholecystectomy. Am Fam Physician 1992;46:1571-4.
- 3) Patel JA, Patel NA, Piper GL, Smith DE, 3rd, Malhotra G, Colella JJ. Perioperative management of cholelithiasis in patients presenting for laparoscopic Roux-en-Y gastric bypass: have we reached a consensus? Am Surg 2009;75:470-6; discussion 6.
- 4) Gurusamy KS, Samraj K, Fusai G, Davidson BR. Early versus delayed laparoscopic cholecystectomy for biliary colic. Cochrane Database Syst Rev 2008:CD007196.
- 5) Halldestam I, Kullman E, Borch K. Defined indications for elective cholecystectomy for gallstone disease. Br J Surg 2008;95:620-6.

- 6) Gourgiotis S, Dimopoulos N, Germanos S, Vougas V, Alfara P, Hadjiyannakis E. Laparoscopic cholecystectomy: a safe approach for management of acute cholecystitis. *JSLS* 2007;11:219-24.
- 7) Curro G, Baccarani U, Adani G, Cucinotta E. Laparoscopic cholecystectomy in patients with mild cirrhosis and symptomatic cholelithiasis. *Transplant Proc* 2007;39:1471-3.
- 8) Heinrich S, Schafer M, Rousson V, Clavien PA. Evidence-based treatment of acute pancreatitis: a look at established paradigms. *Ann Surg* 2006;243:154-68.
- 9) Choudhary A, Bechtold ML, Puli SR, Othman MO, Roy PK. Role of prophylactic antibiotics in laparoscopic cholecystectomy: a meta-analysis. *J Gastrointest Surg* 2008;12:1847-53; discussion 53.
- 10) Chang WT, Lee KT, Chuang SC, et al. The impact of prophylactic antibiotics on postoperative infection complication in elective laparoscopic cholecystectomy: a prospective randomized study. *Am J Surg* 2006;191:721-5.
- 11) Dervisoglou A, Tsiodras S, Kanellakopoulou K, et al. The value of chemoprophylaxis against *Enterococcus* species in elective cholecystectomy: a randomized study of cefuroxime vs ampicillin-sulbactam. *Arch Surg* 2006;141:1162-7.
- 12) Steinberg JP, Braun BI, Hellinger WC, et al. Timing of antimicrobial prophylaxis and the risk of surgical site infections: results from the Trial to Reduce Antimicrobial Prophylaxis Errors. *Ann Surg* 2009;250:10-6.
- 13) Guidelines for deep venous thrombosis prophylaxis during laparoscopic surgery. *Surg Endosc* 2007;21:1007-9.
- 14) Scott-Conner CEH, ed. *The SAGES manual: fundamentals of laparoscopy, thoracoscopy, and GI endoscopy*. 2 ed: Birkhäuser; 2005.
- 15) Ahmad G, Duffy JM, Phillips K, Watson A. Laparoscopic entry techniques. *Cochrane Database Syst Rev* 2008:CD006583.
- 16) Larobina M, Nottle P. Complete evidence regarding major vascular injuries during laparoscopic access. *Surg Laparosc Endosc Percutan Tech* 2005;15:119-23.
- 17) Dekker SW, Hugh TB. Laparoscopic bile duct injury: understanding the psychology and heuristics of the error. *ANZ J Surg* 2008;78:1109-14.
- 18) Kholdebarin R, Boetto J, Harnish JL, Urbach DR. Risk factors for bile duct injury during laparoscopic cholecystectomy: a case-control study. *Surg Innov* 2008;15:114-9.

- 19) Singh K, Ohri A. Anatomic landmarks: their usefulness in safe laparoscopic cholecystectomy. *Surg Endosc* 2006;20:1754-8.
- 20) Yegiyants S, Collins JC. Operative strategy can reduce the incidence of major bile duct injury in laparoscopic cholecystectomy. *Am Surg* 2008;74:985-7.
- 21) Avgerinos C, Kelgiorgi D, Touloumis Z, Baltatzi L, Derveniz C. One Thousand Laparoscopic Cholecystectomies in a Single Surgical Unit Using the "Critical View of Safety" Technique. *J Gastrointest Surg* 2008.
- 22) Debru E, Dawson A, Leibman S, et al. Does routine intraoperative cholangiography prevent bile duct transection? *Surg Endosc* 2005;19:589-93.
- 23) Waage A, Nilsson M. Iatrogenic bile duct injury: a population-based study of 152 776 cholecystectomies in the Swedish Inpatient Registry. *Arch Surg* 2006;141:1207-13.
- 24) Nuzzo G, Giuliani F, Giovannini I, et al. Bile duct injury during laparoscopic cholecystectomy: results of an Italian national survey on 56 591 cholecystectomies. *Arch Surg* 2005;140:986-92.
- 25) Way LW, Stewart L, Gantert W, et al. Causes and prevention of laparoscopic bile duct injuries: analysis of 252 cases from a human factors and cognitive psychology perspective. *Ann Surg* 2003;237:460-9.
- 26) Paganini AM, Guerrieri M, Samari J, et al. Thirteen years' experience with laparoscopic transcystic common bile duct exploration for stones. Effectiveness and long-term results. *Surg Endosc* 2007;21:34-40.
- 27) Hamouda AH, Goh W, Mahmud S, Khan M, Nassar AH. Intraoperative cholangiography facilitates simple transcystic clearance of ductal stones in units without expertise for laparoscopic bile duct surgery. *Surg Endosc* 2007;21:955-9.
- 28) Wenner DE, Whitwam P, Turner D, Chadha A, Degani J. Laparoscopic cholecystectomy and management of biliary tract stones in a freestanding ambulatory surgery center. *JSLs* 2006;10:47-51.
- 29) Lacitignola S, Minardi M. Management of common bile duct stones: a ten-year experience at a tertiary care center. *JSLs* 2008;12:62-5.
- 30) Bertolin-Bernades R, Sabater-Orti L, Calvete-Chorret J, et al. Mild acute biliary pancreatitis vs cholelithiasis: are there differences in the rate of choledocholithiasis? *J Gastrointest Surg* 2007;11:875-9.
- 31) Metcalfe MS, Ong T, Bruening MH, Iswariah H, Wemyss-Holden SA, Maddern GJ. Is laparoscopic intraoperative cholangiogram a matter of routine? *Am J Surg* 2004;187:475-81.

- 32) Tinoco R, Tinoco A, El-Kadre L, Peres L, Sueth D. Laparoscopic common bile duct exploration. *Ann Surg* 2008;247:674-9.
- 33) Topal B, Fieuws S, Tomczyk K, et al. Clinical models are inaccurate in predicting bile duct stones in situ for patients with gallbladder. *Surg Endosc* 2009;23:38-44.
- 34) Perry KA, Myers JA, Deziel DJ. Laparoscopic ultrasound as the primary method for bile duct imaging during cholecystectomy. *Surg Endosc* 2008;22:208-13.
- 35) Machi J, Oishi AJ, Tajiri T, Murayama KM, Furumoto NL, Oishi RH. Routine laparoscopic ultrasound can significantly reduce the need for selective intraoperative cholangiography during cholecystectomy. *Surg Endosc* 2007;21:270-4.
- 36) Machi J, Johnson JO, Deziel DJ, et al. The routine use of laparoscopic ultrasound decreases bile duct injury: a multicenter study. *Surg Endosc* 2009;23:384-8.
- 37) Hakamada K, Narumi S, Toyoki Y, et al. Intraoperative ultrasound as an educational guide for laparoscopic biliary surgery. *World J Gastroenterol* 2008;14:2370-6.
- 38) Martin DJ, Vernon DR, Toouli J. Surgical versus endoscopic treatment of bile duct stones. *Cochrane Database Syst Rev* 2006:CD003327.
- 39) Kharbutli B, Velanovich V. Management of preoperatively suspected choledocholithiasis: a decision analysis. *J Gastrointest Surg* 2008;12:1973-80.
- 40) Clayton ES, Connor S, Alexakis N, Leandros E. Meta-analysis of endoscopy and surgery versus surgery alone for common bile duct stones with the gallbladder in situ. *Br J Surg* 2006;93:1185-91.
- 41) Williams EJ, Green J, Beckingham I, Parks R, Martin D, Lombard M. Guidelines on the management of common bile duct stones (CBDS). *Gut* 2008;57:1004-21.
- 42) Bingener J, Schwesinger WH. Management of common bile duct stones in a rural area of the United States: results of a survey. *Surg Endosc* 2006;20:577-9.
- 43) Schroepfel TJ, Lambert PJ, Mathiason MA, Kothari SN. An economic analysis of hospital charges for choledocholithiasis by different treatment strategies. *Am Surg* 2007;73:472-7.
- 44) Poulouse BK, Speroff T, Holzman MD. Optimizing choledocholithiasis management: a cost-effectiveness analysis. *Arch Surg* 2007;142:43-8; discussion 9.
- 45) Poulouse BK, Arbogast PG, Holzman MD. National analysis of in-hospital resource utilization in choledocholithiasis management using propensity scores. *Surg Endosc* 2006;20:186-90.
- 46) Topal B, Aerts R, Penninckx F. Laparoscopic common bile duct stone clearance with flexible choledochoscopy. *Surg Endosc* 2007;21:2317-21.

- 47) Tang CN, Tsui KK, Ha JP, Siu WT, Li MK. Laparoscopic exploration of the common bile duct: 10-year experience of 174 patients from a single centre. *Hong Kong Med J* 2006;12:191-6.
- 48) Stromberg C, Nilsson M, Leijonmarck CE. Stone clearance and risk factors for failure in laparoscopic transcystic exploration of the common bile duct. *Surg Endosc* 2008;22:1194-9.
- 49) Campbell-Lloyd AJ, Martin DJ, Martin IJ. Long-term outcomes after laparoscopic bile duct exploration: a 5-year follow up of 150 consecutive patients. *ANZ J Surg* 2008;78:492-4.
- 50) Taylor CJ, Kong J, Ghush M, White S, Crampton N, Layani L. Laparoscopic bile duct exploration: results of 160 consecutive cases with 2-year follow up. *ANZ J Surg* 2007;77:440-5.
- 51) Alhamdani A, Mahmud S, Jameel M, Baker A. Primary closure of choledochotomy after emergency laparoscopic common bile duct exploration. *Surg Endosc* 2008;22:2190-5.
- 52) Kanamaru T, Sakata K, Nakamura Y, Yamamoto M, Ueno N, Takeyama Y. Laparoscopic choledochotomy in management of choledocholithiasis. *Surg Laparosc Endosc Percutan Tech* 2007;17:262-6.
- 53) Karaliotas C, Sgourakis G, Goumas C, Papaioannou N, Lilis C, Leandros E. Laparoscopic common bile duct exploration after failed endoscopic stone extraction. *Surg Endosc* 2008;22:1826-31.
- 54) Jameel M, Darmas B, Baker AL. Trend towards primary closure following laparoscopic exploration of the common bile duct. *Ann R Coll Surg Engl* 2008;90:29-35.
- 55) O'Neill CJ, Gillies DM, Gani JS. Choledocholithiasis: overdiagnosed endoscopically and undertreated laparoscopically. *ANZ J Surg* 2008;78:487-91.
- 56) Gersin KS, Fanelli RD. Laparoscopic endobiliary stenting as an adjunct to common bile duct exploration. *Surg Endosc* 1998;12:301-4.
- 57) Fanelli RD, Gersin KS. Laparoscopic endobiliary stenting: a simplified approach to the management of occult common bile duct stones. *J Gastrointest Surg* 2001;5:74-80.
- 58) Fanelli RD, Gersin KS, Mainella MT. Laparoscopic endobiliary stenting significantly improves success of postoperative endoscopic retrograde cholangiopancreatography in low-volume centers. *Surg Endosc* 2002;16:487-91.

- 59) Costi R, Mazzeo A, Tartamella F, Manceau C, Vacher B, Valverde A. Cholecystocholedocholithiasis: a case-control study comparing the short- and long-term outcomes for a "laparoscopy-first" attitude with the outcome for sequential treatment (systematic endoscopic sphincterotomy followed by laparoscopic cholecystectomy). *Surg Endosc* 2009.
- 60) Ahmed AR, Husain S, Saad N, Patel NC, Waldman DL, O'Malley W. Accessing the common bile duct after Roux-en-Y gastric bypass. *Surg Obes Relat Dis* 2007;3:640-3.
- 61) Neri V, Ambrosi A, Fersini A, Tartaglia N, Valentino TP. Antegrade dissection in laparoscopic cholecystectomy. *JSLs* 2007;11:225-8.
- 62) Cengiz Y, Janes A, Grehn A, Israelsson LA. Randomized trial of traditional dissection with electrocautery versus ultrasonic fundus-first dissection in patients undergoing laparoscopic cholecystectomy. *Br J Surg* 2005;92:810-3.
- 63) Fullum TM, Kim S, Dan D, Turner PL. Laparoscopic "Dome-down" cholecystectomy with the LCS-5 Harmonic scalpel. *JSLs* 2005;9:51-7.
- 64) Bessa SS, Al-Fayoumi TA, Katri KM, Awad AT. Clipless laparoscopic cholecystectomy by ultrasonic dissection. *J Laparoendosc Adv Surg Tech A* 2008;18:593-8.
- 65) Caliskan K, Nursal TZ, Yildirim S, et al. Hydrodissection with adrenaline-lidocaine-saline solution in laparoscopic cholecystectomy. *Langenbecks Arch Surg* 2006;391:359-63.
- 66) Gurusamy KS, Samraj K, Mullerat P, Davidson BR. Routine abdominal drainage for uncomplicated laparoscopic cholecystectomy. *Cochrane Database Syst Rev* 2007:CD006004.
- 67) Tzovaras G, Liakou P, Fafoulakis F, Baloyiannis I, Zacharoulis D, Hatzitheofilou C. Is there a role for drain use in elective laparoscopic cholecystectomy? A controlled randomized trial. *Am J Surg* 2009;197:759-63.
- 68) Zhang WJ, Li JM, Wu GZ, Luo KL, Dong ZT. Risk factors affecting conversion in patients undergoing laparoscopic cholecystectomy. *ANZ J Surg* 2008;78:973-6.
- 69) Del Rio P, Dell'Abate P, Soliani P, Sivelli R, Sianesi M. Videolaparoscopic cholecystectomy for acute cholecystitis: analyzing conversion risk factors. *J Laparoendosc Adv Surg Tech A* 2006;16:105-7.
- 70) Kauvar DS, Brown BD, Braswell AW, Harnisch M. Laparoscopic cholecystectomy in the elderly: increased operative complications and conversions to laparotomy. *J Laparoendosc Adv Surg Tech A* 2005;15:379-82.

- 71) Nachnani J, Supe A. Pre-operative prediction of difficult laparoscopic cholecystectomy using clinical and ultrasonographic parameters. *Indian J Gastroenterol* 2005;24:16-8.
- 72) Simopoulos C, Botaitis S, Polychronidis A, Tripsianis G, Karayiannakis AJ. Risk factors for conversion of laparoscopic cholecystectomy to open cholecystectomy. *Surg Endosc* 2005;19:905-9.
- 73) Visser BC, Parks RW, Garden OJ. Open cholecystectomy in the laparoendoscopic era. *Am J Surg* 2008;195:108-14.
- 74) Al Salamah SM. Outcome of laparoscopic cholecystectomy in acute cholecystitis. *J Coll Physicians Surg Pak* 2005;15:400-3.
- 75) Fuller J, Ashar BS, Carey-Corrado J. Trocar-associated injuries and fatalities: an analysis of 1399 reports to the FDA. *J Minim Invasive Gynecol* 2005;12:302-7.
- 76) Shamiyeh A, Wayand W. Laparoscopic cholecystectomy: early and late complications and their treatment. *Langenbecks Arch Surg* 2004;389:164-71.
- 77) Tantia O, Jain M, Khanna S, Sen B. Iatrogenic biliary injury: 13,305 cholecystectomies experienced by a single surgical team over more than 13 years. *Surg Endosc* 2008;22:1077-86.
- 78) Karvonen J, Gullichsen R, Laine S, Salminen P, Gronroos JM. Bile duct injuries during laparoscopic cholecystectomy: primary and long-term results from a single institution. *Surg Endosc* 2007;21:1069-73.
- 79) Diamantis T, Tsigris C, Kiriakopoulos A, et al. Bile duct injuries associated with laparoscopic and open cholecystectomy: an 11-year experience in one institute. *Surg Today* 2005;35:841-5.
- 80) Gurusamy KS, Samraj K. Early versus delayed laparoscopic cholecystectomy for acute cholecystitis. *Cochrane Database Syst Rev* 2006:CD005440.
- 81) Soderlund C, Frozanpor F, Linder S. Bile duct injuries at laparoscopic cholecystectomy: a single-institution prospective study. *Acute cholecystitis indicates an increased risk. World J Surg* 2005;29:987-93.
- 82) Li J, Frilling A, Nadalin S, Paul A, Malago M, Broelsch CE. Management of concomitant hepatic artery injury in patients with iatrogenic major bile duct injury after laparoscopic cholecystectomy. *Br J Surg* 2008;95:460-5.
- 83) Stewart L, Robinson TN, Lee CM, Liu K, Whang K, Way LW. Right hepatic artery injury associated with laparoscopic bile duct injury: incidence, mechanism, and consequences. *J Gastrointest Surg* 2004;8:523-30; discussion 30-1.

- 84) Bektas H, Schrem H, Winny M, Klempnauer J. Surgical treatment and outcome of iatrogenic bile duct lesions after cholecystectomy and the impact of different clinical classification systems. *Br J Surg* 2007;94:1119-27.
- 85) Schmidt SC, Langrehr JM, Hintze RE, Neuhaus P. Long-term results and risk factors influencing outcome of major bile duct injuries following cholecystectomy. *Br J Surg* 2005;92:76-82.
- 86) Sicklick JK, Camp MS, Lillemoe KD, et al. Surgical management of bile duct injuries sustained during laparoscopic cholecystectomy: perioperative results in 200 patients. *Ann Surg* 2005;241:786-92; discussion 93-5.
- 87) Nuzzo G, Giulianti F, Giovannini I, et al. Advantages of multidisciplinary management of bile duct injuries occurring during cholecystectomy. *Am J Surg* 2008;195:763-9.
- 88) Sabbaghian MS, Rich BS, Rothberger GD, et al. Evaluation of surgical outcomes and gallbladder characteristics in patients with biliary dyskinesia. *J Gastrointest Surg* 2008;12:1324-30.
- 89) Bingener J, Richards ML, Schwesinger WH, Sirinek KR. Laparoscopic cholecystectomy for biliary dyskinesia: correlation of preoperative cholecystokinetic cholescintigraphy results with postoperative outcome. *Surg Endosc* 2004;18:802-6.
- 90) Geiger TM, Awad ZT, Burgard M, et al. Prognostic indicators of quality of life after cholecystectomy for biliary dyskinesia. *Am Surg* 2008;74:400-4.
- 91) Paajanen H, Miilunpohja S, Joukainen S, Heikkinen J. Role of quantitative cholescintigraphy for planning laparoscopic cholecystectomy in patients with gallbladder dyskinesia and chronic abdominal pain. *Surg Laparosc Endosc Percutan Tech* 2009;19:16-9.
- 92) Ponsky TA, DeSagun R, Brody F. Surgical therapy for biliary dyskinesia: a meta-analysis and review of the literature. *J Laparoendosc Adv Surg Tech A* 2005;15:439-42.
- 93) Gurusamy KS, Junnarkar S, Farouk M, Davidson BR. Cholecystectomy for suspected gallbladder dyskinesia. *Cochrane Database Syst Rev* 2009:CD007086.
- 94) Ainsworth AP, Adamsen S, Rosenberg J. Surgery for acute cholecystitis in Denmark. *Scand J Gastroenterol* 2007;42:648-51.
- 95) Yamashita Y, Takada T, Hirata K. A survey of the timing and approach to the surgical management of patients with acute cholecystitis in Japanese hospitals. *J Hepatobiliary Pancreat Surg* 2006;13:409-15.

- 96) Csikesz NG, Tseng JF, Shah SA. Trends in surgical management for acute cholecystitis. *Surgery* 2008;144:283-9.
- 97) Campbell EJ, Montgomery DA, Mackay CJ. A national survey of current surgical treatment of acute gallstone disease. *Surg Laparosc Endosc Percutan Tech* 2008;18:242-7.
- 98) Campbell EJ, Montgomery DA, MacKay CJ. A survey of current surgical treatment of acute gallstone disease in the west of Scotland. *Scott Med J* 2007;52:15-9.
- 99) Siddiqui T, MacDonald A, Chong PS, Jenkins JT. Early versus delayed laparoscopic cholecystectomy for acute cholecystitis: a meta-analysis of randomized clinical trials. *Am J Surg* 2008;195:40-7.
- 100) Yamashita Y, Takada T, Kawarada Y, et al. Surgical treatment of patients with acute cholecystitis: Tokyo Guidelines. *J Hepatobiliary Pancreat Surg* 2007;14:91-7.
- 101) Lam CM, Yuen AW, Chik B, Wai AC, Fan ST. Variation in the use of laparoscopic cholecystectomy for acute cholecystitis: a population-based study. *Arch Surg* 2005;140:1084-8.
- 102) Shikata S, Noguchi Y, Fukui T. Early versus delayed cholecystectomy for acute cholecystitis: a meta-analysis of randomized controlled trials. *Surg Today* 2005;35:553-60.
- 103) Soffer D, Blackbourne LH, Schulman CI, et al. Is there an optimal time for laparoscopic cholecystectomy in acute cholecystitis? *Surg Endosc* 2007;21:805-9.
- 104) Stevens KA, Chi A, Lucas LC, Porter JM, Williams MD. Immediate laparoscopic cholecystectomy for acute cholecystitis: no need to wait. *Am J Surg* 2006;192:756-61.
- 105) Tzovaras G, Zacharoulis D, Liakou P, Theodoropoulos T, Paroutoglou G, Hatzitheofilou C. Timing of laparoscopic cholecystectomy for acute cholecystitis: a prospective non randomized study. *World J Gastroenterol* 2006;12:5528-31.
- 106) Chau CH, Siu WT, Tang CN, et al. Laparoscopic cholecystectomy for acute cholecystitis: the evolving trend in an institution. *Asian J Surg* 2006;29:120-4.
- 107) Wang YC, Yang HR, Chung PK, Jeng LB, Chen RJ. Urgent laparoscopic cholecystectomy in the management of acute cholecystitis: timing does not influence conversion rate. *Surg Endosc* 2006;20:806-8.
- 108) Kolla SB, Aggarwal S, Kumar A, et al. Early versus delayed laparoscopic cholecystectomy for acute cholecystitis: a prospective randomized trial. *Surg Endosc* 2004;18:1323-7.

- 109) Johansson M, Thune A, Nelvin L, Stiernstam M, Westman B, Lundell L. Randomized clinical trial of open versus laparoscopic cholecystectomy in the treatment of acute cholecystitis. *Br J Surg* 2005;92:44-9.
- 110) Hadad SM, Vaidya JS, Baker L, Koh HC, Heron TP, Thompson AM. Delay from symptom onset increases the conversion rate in laparoscopic cholecystectomy for acute cholecystitis. *World J Surg* 2007;31:1298-01; discussion 302-3.
- 111) Lee AY, Carter JJ, Hochberg MS, Stone AM, Cohen SL, Pachter HL. The timing of surgery for cholecystitis: a review of 202 consecutive patients at a large municipal hospital. *Am J Surg* 2008;195:467-70.
- 112) Casillas RA, Yegiyants S, Collins JC. Early laparoscopic cholecystectomy is the preferred management of acute cholecystitis. *Arch Surg* 2008;143:533-7.
- 113) Daniak CN, Peretz D, Fine JM, Wang Y, Meinke AK, Hale WB. Factors associated with time to laparoscopic cholecystectomy for acute cholecystitis. *World J Gastroenterol* 2008;14:1084-90.
- 114) Lau H, Lo CY, Patil NG, Yuen WK. Early versus delayed-interval laparoscopic cholecystectomy for acute cholecystitis: a metaanalysis. *Surg Endosc* 2006;20:82-7.
- 115) Asoglu O, Ozmen V, Karanlik H, et al. Does the complication rate increase in laparoscopic cholecystectomy for acute cholecystitis? *J Laparoendosc Adv Surg Tech A* 2004;14:81-6.
- 116) Macri A, Scuderi G, Saladino E, et al. Acute gallstone cholecystitis in the elderly: treatment with emergency ultrasonographic percutaneous cholecystostomy and interval laparoscopic cholecystectomy. *Surg Endosc* 2006;20:88-91.
- 117) Leveau P, Andersson E, Carlgren I, Willner J, Andersson R. Percutaneous cholecystostomy: a bridge to surgery or definite management of acute cholecystitis in high-risk patients? *Scand J Gastroenterol* 2008;43:593-6.
- 118) Akyurek N, Salman B, Yuksel O, et al. Management of acute calculous cholecystitis in high-risk patients: percutaneous cholecystostomy followed by early laparoscopic cholecystectomy. *Surg Laparosc Endosc Percutan Tech* 2005;15:315-20.
- 119) Welschbillig-Meunier K, Pessaux P, Lebigot J, et al. Percutaneous cholecystostomy for high-risk patients with acute cholecystitis. *Surg Endosc* 2005;19:1256-9.
- 120) Teoh WM, Cade RJ, Banting SW, Mackay S, Hassen AS. Percutaneous cholecystostomy in the management of acute cholecystitis. *ANZ J Surg* 2005;75:396-8.

- 121) Li JC, Lee DW, Lai CW, Li AC, Chu DW, Chan AC. Percutaneous cholecystostomy for the treatment of acute cholecystitis in the critically ill and elderly. *Hong Kong Med J* 2004;10:389-93.
- 122) Tsumura H, Ichikawa T, Hiyama E, et al. An evaluation of laparoscopic cholecystectomy after selective percutaneous transhepatic gallbladder drainage for acute cholecystitis. *Gastrointest Endosc* 2004;59:839-44.
- 123) Kirshtein B, Bayme M, Bolotin A, Mizrahi S, Lantsberg L. Laparoscopic cholecystectomy for acute cholecystitis in the elderly: is it safe? *Surg Laparosc Endosc Percutan Tech* 2008;18:334-9.
- 124) do Amaral PC, Azaro Filho Ede M, Galvao TD, et al. Laparoscopic cholecystectomy for acute cholecystitis in elderly patients. *JSLs* 2006;10:479-83.
- 125) Lowenfels AB, Maisonneuve P, Sullivan T. The changing character of acute pancreatitis: epidemiology, etiology, and prognosis. *Curr Gastroenterol Rep* 2009;11:97-103.
- 126) Frey CF, Zhou H, Harvey DJ, White RH. The incidence and case-fatality rates of acute biliary, alcoholic, and idiopathic pancreatitis in California, 1994-2001. *Pancreas* 2006;33:336-44.
- 127) Kimura Y, Takada T, Kawarada Y, et al. JPN Guidelines for the management of acute pancreatitis: treatment of gallstone-induced acute pancreatitis. *J Hepatobiliary Pancreat Surg* 2006;13:56-60.
- 128) UK guidelines for the management of acute pancreatitis. *Gut* 2005;54 Suppl 3:iii1-9.
- 129) Nebiker CA, Frey DM, Hamel CT, Oertli D, Kettelhack C. Early versus delayed cholecystectomy in patients with biliary acute pancreatitis. *Surgery* 2009;145:260-4.
- 130) Sinha R. Early laparoscopic cholecystectomy in acute biliary pancreatitis: the optimal choice? *HPB (Oxford)* 2008;10:332-5.
- 131) Chiang DT, Thompson G. Management of acute gallstone pancreatitis: so the story continues. *ANZ J Surg* 2008;78:52-4.
- 132) Singhal T, Balakrishnan S, Grandy-Smith S, Hunt J, Asante M, El-Hasani S. Gallstones: best served hot. *JSLs* 2006;10:332-5.
- 133) Taylor E, Wong C. The optimal timing of laparoscopic cholecystectomy in mild gallstone pancreatitis. *Am Surg* 2004;70:971-5.
- 134) Cameron DR, Goodman AJ. Delayed cholecystectomy for gallstone pancreatitis: re-admissions and outcomes. *Ann R Coll Surg Engl* 2004;86:358-62.

- 135) Lakatos L, Mester G, Reti G, Nagy A, Lakatos PL. Selection criteria for preoperative endoscopic retrograde cholangiopancreatography before laparoscopic cholecystectomy and endoscopic treatment of bile duct stones: results of a retrospective, single center study between 1996-2002. *World J Gastroenterol* 2004;10:3495-9.
- 136) Jackson H, Granger S, Price R, et al. Diagnosis and laparoscopic treatment of surgical diseases during pregnancy: an evidence-based review. *Surg Endosc* 2008;22:1917-27.
- 137) Festi D, Dormi A, Capodicasa S, et al. Incidence of gallstone disease in Italy: results from a multicenter, population-based Italian study (the MICOL project). *World J Gastroenterol* 2008;14:5282-9.
- 138) Chen CH, Huang MH, Yang JC, et al. Prevalence and risk factors of gallstone disease in an adult population of Taiwan: an epidemiological survey. *J Gastroenterol Hepatol* 2006;21:1737-43.
- 139) Zhang Y, Liu D, Ma Q, Dang C, Wei W, Chen W. Factors influencing the prevalence of gallstones in liver cirrhosis. *J Gastroenterol Hepatol* 2006;21:1455-8.
- 140) Bingener J, Cox D, Michalek J, Mejia A. Can the MELD score predict perioperative morbidity for patients with liver cirrhosis undergoing laparoscopic cholecystectomy? *Am Surg* 2008;74:156-9.
- 141) Curro G, Iapichino G, Melita G, Lorenzini C, Cucinotta E. Laparoscopic cholecystectomy in Child-Pugh class C cirrhotic patients. *JSLS* 2005;9:311-5.
- 142) Mancero JM, D'Albuquerque LA, Gonzalez AM, Larrea FI, de Oliveira e Silva A. Laparoscopic cholecystectomy in cirrhotic patients with symptomatic cholelithiasis: a case-control study. *World J Surg* 2008;32:267-70.
- 143) Leandros E, Albanopoulos K, Tsigris C, et al. Laparoscopic cholecystectomy in cirrhotic patients with symptomatic gallstone disease. *ANZ J Surg* 2008;78:363-5.
- 144) Schiff J, Misra M, Rendon G, Rothschild J, Schwaitzberg S. Laparoscopic cholecystectomy in cirrhotic patients. *Surg Endosc* 2005;19:1278-81.
- 145) Ji W, Li LT, Chen XR, Li JS. Application of laparoscopic cholecystectomy in patients with cirrhotic portal hypertension. *Hepatobiliary Pancreat Dis Int* 2004;3:270-4.
- 146) Ji W, Li LT, Wang ZM, Quan ZF, Chen XR, Li JS. A randomized controlled trial of laparoscopic versus open cholecystectomy in patients with cirrhotic portal hypertension. *World J Gastroenterol* 2005;11:2513-7.

- 147) *Palanivelu C, Rajan PS, Jani K, et al. Laparoscopic cholecystectomy in cirrhotic patients: the role of subtotal cholecystectomy and its variants. J Am Coll Surg 2006;203:145-51.*
- 148) *Philips JA, Lawes DA, Cook AJ, et al. The use of laparoscopic subtotal cholecystectomy for complicated cholelithiasis. Surg Endosc 2008;22:1697-700.*
- 149) *Ercan M, Bostanci EB, Ozer I, et al. Postoperative hemorrhagic complications after elective laparoscopic cholecystectomy in patients receiving long-term anticoagulant therapy. Langenbecks Arch Surg 2009.*
- 150) *Leandros E, Gomatos IP, Mami P, Kastellanos E, Albanopoulos K, Konstadoulakis MM. Elective laparoscopic cholecystectomy for symptomatic gallstone disease in patients receiving anticoagulant therapy. J Laparoendosc Adv Surg Tech A 2005;15:357-60.*
- 151) *Stephen AE, Berger DL. Carcinoma in the porcelain gallbladder: a relationship revisited. Surgery 2001;129:699-703.*
- 152) *Kwon AH, Inui H, Matsui Y, Uchida Y, Hukui J, Kamiyama Y. Laparoscopic cholecystectomy in patients with porcelain gallbladder based on the preoperative ultrasound findings. Hepatogastroenterology 2004;51:950-3.*
- 153) *Zielinski MD, Atwell TD, Davis PW, Kendrick ML, Que FG. Comparison of surgically resected polypoid lesions of the gallbladder to their pre-operative ultrasound characteristics. J Gastrointest Surg 2009;13:19-25.*
- 154) *Kratzer W, Haenle MM, Voegtle A, et al. Ultrasonographically detected gallbladder polyps: a reason for concern? A seven-year follow-up study. BMC Gastroenterol 2008;8:41.*
- 155) *Lin WR, Lin DY, Tai DI, et al. Prevalence of and risk factors for gallbladder polyps detected by ultrasonography among healthy Chinese: analysis of 34 669 cases. J Gastroenterol Hepatol 2008;23:965-9.*
- 156) *Aldouri AQ, Malik HZ, Waytt J, et al. The risk of gallbladder cancer from polyps in a large multiethnic series. Eur J Surg Oncol 2009;35:48-51.*
- 157) *Colecchia A, Larocca A, Scaioli E, et al. Natural history of small gallbladder polyps is benign: evidence from a clinical and pathogenetic study. Am J Gastroenterol 2009;104:624-9.*
- 158) *Gurusamy KS, Abu-Amara M, Farouk M, Davidson BR. Cholecystectomy for gallbladder polyp. Cochrane Database Syst Rev 2009:CD007052.*

- 159) You DD, Lee HG, Paik KY, Heo JS, Choi SH, Choi DW. What is an adequate extent of resection for T1 gallbladder cancers? *Ann Surg* 2008;247:835-8.
- 160) Kang CM, Choi GH, Park SH, et al. Laparoscopic cholecystectomy only could be an appropriate treatment for selected clinical R0 gallbladder carcinoma. *Surg Endosc* 2007;21:1582-7.
- 161) Cucinotta E, Lorenzini C, Melita G, Iapichino G, Curro G. Incidental gall bladder carcinoma: does the surgical approach influence the outcome? *ANZ J Surg* 2005;75:795-8.
- 162) Kwon AH, Imamura A, Kitade H, Kamiyama Y. Unsuspected gallbladder cancer diagnosed during or after laparoscopic cholecystectomy. *J Surg Oncol* 2008;97:241-5.
- 163) Chan KM, Yeh TS, Jan YY, Chen MF. Laparoscopic cholecystectomy for early gallbladder carcinoma: long-term outcome in comparison with conventional open cholecystectomy. *Surg Endosc* 2006;20:1867-71.
- 164) Tenconi SM, Boni L, Colombo EM, Dionigi G, Rovera F, Cassinotti E. Laparoscopic cholecystectomy as day-surgery procedure: current indications and patients' selection. *Int J Surg* 2008;6 Suppl 1:S86-8.
- 165) Psaila J, Agrawal S, Fountain U, et al. Day-surgery laparoscopic cholecystectomy: factors influencing same-day discharge. *World J Surg* 2008;32:76-81.
- 166) Chauhan A, Mehrotra M, Bhatia PK, Baj B, Gupta AK. Day care laparoscopic cholecystectomy: a feasibility study in a public health service hospital in a developing country. *World J Surg* 2006;30:1690-5; discussion 6-7.
- 167) Sherigar JM, Irwin GW, Rathore MA, Khan A, Pillow K, Brown MG. Ambulatory laparoscopic cholecystectomy outcomes. *JSLS* 2006;10:473-8.
- 168) Kasem A, Paix A, Grandy-Smith S, El-Hasani S. Is laparoscopic cholecystectomy safe and acceptable as a day case procedure? *J Laparoendosc Adv Surg Tech A* 2006;16:365-8.
- 169) Chok KS, Yuen WK, Lau H, Lee F, Fan ST. Outpatient laparoscopic cholecystectomy in Hong Kong Chinese — an outcome analysis. *Asian J Surg* 2004;27:313-6.
- 170) Bueno Lledo J, Planells Roig M, Arnau Bertomeu C, et al. Outpatient laparoscopic cholecystectomy: a new gold standard for cholecystectomy. *Rev Esp Enferm Dig* 2006;98:14-24.