

Index

A

- Acalculous gallbladder disease, 35
- Acute cholecystitis (AC), 2
 - in aged patients, 60
 - diagnosis, 61
 - EAES guidelines, 60
 - imaging, 61
 - Tokyo Consensus meeting guidelines, 60
 - early vs. delayed surgery, 63
 - Cochrane review, 63
 - cost-utility analyses, 64
 - laparoscopic cholecystectomy, 64–65
 - RCTs, 63
 - time interval, 63
 - laparoscopic cholecystectomy
 - elderly population, 62
 - gangrenous cholecystitis, 62
 - population-based outcome research, 60
 - prospective and retrospective comparative studies, 63
 - randomized trials, 60
 - subtotal cholecystectomy, 62
 - surgical indications, 67–68
 - percutaneous cholecystostomy, 65–66
 - severity tailored approach, 66–67
- Anesthetic management
 - complications, 176–177
 - endotracheal intubation, 174
 - neuromuscular block, 175
 - patient monitoring, 174
 - pneumoperitoneum
 - hemodynamic effects, 172–173
 - hypercapnia, 173
 - thoraco-pulmonary compliance, 173
 - postoperative period, 177–178
 - preoperative assessment, 173–174
 - spinal anesthesia, 175–176

- supraglottic airway devices, 175
- thoracic epidural anesthesia, 176
- total intravenous anesthesia, 174
- Asymptomatic gallbladder diseases
 - cholangitis, 28
 - cholecystitis, 24
 - cirrhosis, 28
 - complication rate, 24
 - diabetes, 25, 27
 - gallbladder cancer, 27
 - incidental gallstones, 27
 - malignancy, 25
 - microcalculi/sludge, 26
 - pancreatitis, 24, 28
 - polyps, 25
 - porcelain gallbladder, 25, 26
 - sickle-cell anemia, 25, 28
 - transplant patients, 25, 28

B

- Bile duct injury (BDI), 3, 89
 - abscesses
 - antibiotic prophylaxis and therapy, 95
 - bile leakage, 94
 - gallstone spillage, 94
 - incidence rate, 94
 - management, 94–95
 - bowel injuries, 97–98
 - Calot's triangle structures, 90
 - conversions, 90–92
 - critical view of safety (CVS), 90
 - hemorrhages, 95–97
 - intraoperative management, 93–94
 - partial cholecystectomy, 92–93
 - quality of life, 125–128
- Biliary tree stones. *See* Choledocholithiasis
- Bowel injuries (BI), 97–98

C

- Camera only robotic assistants, 105
- Cholelithiasis
 - decision-making approach, 53–54
 - diagnostic techniques
 - endoscopic ultrasonography, 48
 - ERCP, 46, 48
 - helical computed tomography cholangiography, 48
 - intraductal sonography, 48
 - intraoperative cholangiography, 48
 - intravenous cholangiography, 48
 - laparoscopic intraoperative ultrasonography, 48
 - magnetic resonance cholangiography, 46, 49
 - transabdominal ultrasonography, 47
 - endoscopic sphincterotomy, 50
 - laser lithotripsy, 50
 - mechanical lithotripsy, 50
 - predictors, 49–50
 - primary, 46
 - risk factors, 46
 - secondary, 45, 46
 - signs and symptoms, 46–47
 - surgical treatment
 - rendezvous technique, 52
 - trans-choledocal clearance, 51–52
 - two-stage management, 52–53
- Cirrhosis, 34–35
- Closed laparoscopy, 160–161
- CO₂ pneumothorax, 176
- Critical view of safety (CVS), 16, 18
- Cystic duct and artery occlusion
 - absorbable materials, 76–77
 - endo-GIA, 79
 - Hem-o-lok clips, 76
 - intracorporeal knot, 77
 - monopolar electrocautery, 77
 - nonabsorbable metal clips, 75
 - ultrasonic devices, 77–78

D

- Day-case laparoscopic cholecystectomy (DLC)
 - ambulatory LC, 134
 - choice of anesthesia, 136
 - complications and mortality rates, 134
 - early experience, 132
 - evidence-based medicine, 133
 - exclusion criteria, 135
 - inclusion criteria, 135

- pain management, 136
 - POVN prevention, 136–137
 - SAGES guidelines, 132–133
- Dome-down/fundus-first technique, 18, 19

E

- Endobronchial intubation, 177
- Endoscopic retrograde
 - cholangiopancreatography (ERCP), 46, 48
- Endoscopic sphincterotomy (ES), 2, 50
- Endoscopic ultrasonography, 48
- EuroQoL-5D questionnaire, 124

F

- Fully robotic remote systems, 105

G

- Gallbladder dyskinesia, 35–37
- Gallbladder polypoid lesions (GPL), 32–34
- Gastrointestinal Quality of Life Index (GIQLI), 118, 120, 122
- General anesthesia day-case laparoscopic cholecystectomy (GA-DLC), 136

H

- Health-related quality of life (HRQoL)
 - disease-specific instruments, 117
 - evaluation, 118–119
 - generic health instruments, 118
- Helical computed tomography cholangiography, 48

I

- Intra-abdominal pressure (IAP), 172
- Intraductal sonography, 48
- Intraoperative cholangiography (IOC), 48, 79–80
- INtraoperative Video-Enhanced Surgical Training (INVEST) method, 143
- Intravenous cholangiography, 48

L

- Laparoscopic cholecystectomy (LC), 1
 - acute cholecystitis (*see* Acute cholecystitis (AC))
 - 3-and 4-port technique, 75–76

- anesthesia (*see* Anesthetic management)
- bile duct injury (*see* Bile duct injury (BDI))
- biliary tract obstruction, 2
- Calot's triangle, 3
- co-morbidity, 4
- complications, 2 (*see also* Pneumoperitoneum)
- contraindications, 28
- conversion rate, 2
- critical view of safety, 3
- cystic duct and artery occlusion
 - absorbable materials, 76–77
 - endo-GIA, 79
 - Hem-o-lok clips, 76
 - intracorporeal knot, 77
 - monopolar electrocautery, 77
 - nonabsorbable metal clips, 75
 - ultrasonic devices, 77–78
- in day surgery (*see* Day-case laparoscopic cholecystectomy (DLC))
- delayed surgery, 2
- demographics, 2, 4
- development, 9
- dissection technique
 - acute cholecystitis, 16
 - critical view of safety, 16, 18
 - dome-down/fundus-first technique, 18, 19
 - fundus-down technique, 19
 - infundibular approach, 14
 - intraoperative cholangiography, 15
 - randomized controlled trial, 19
 - triangle of safety technique, 16–18
 - ultrasound dissection, 19
- drains after
 - infective complications, 81
 - SAGES guidelines, 81
 - subhepatic drains, 81–82
- elderly, 2
- expert selection, 150, 151
- expert's opinion, 150–156
- expert surgeon
 - experienced, 145
 - hospital volume and surgeon volume, 146
 - inexperienced, 145
 - intermediate, 145
 - learning curves, 146
 - surgical proficiency, 146
- indications
 - asymptomatic gallbladder diseases (*see* Asymptomatic gallbladder diseases)
 - cirrhosis, 34–35
 - elderly, 31–32
 - gallbladder dyskinesia, 35–37
 - gallbladder polypoid lesions, 32–34
 - obesity, 29–30
 - pregnancy, 31
- learning curve
 - adequate training, 145
 - bile duct injuries, 144–145
 - clinical outcomes, 144
 - definition, 144
 - supervision, and patient selection, 145
 - surgical residents, 145
- mortality, 4
- pancreatitis, 2
- patient position
 - American technique, 10–13
 - duodenal lesion, 13
 - ergonomics, 14
 - French technique, 10–11, 13
 - lithotomy position, complications, 13
 - randomized trial, 13
- postoperative hospital stay, 2
- postoperative pain
 - aerosolized intraperitoneal local anesthetics, 83
 - intraperitoneal local anesthetic, 82–83
 - opioids, 83
 - pre-incisional local anesthetics, 83
 - pre-incisional TAP block, 83
 - somatic pain, 82
 - visceral pain, 82
- quality of life
 - GIQLI, 118
 - health-related quality of life, 117–119
 - iatrogenic BDI, 125–128
 - LC effectiveness, 119–121
 - NHP, 118
 - vs.* open cholecystectomy, 121–124
 - SF-36, 118
 - vs.* small-incision laparotomic cholecystectomy, 124–125
- training (*see* Laparoscopic surgical training)
- Laparoscopic intraoperative ultrasonography, 48
- Laparoscopic surgical training
 - anatomical variations, 142
 - dexterity, 141
 - fulcrum effect of the body wall, 142
 - hand-eye-co-ordination, 141
 - handling tissues, 142
 - lack of 3-dimensional images, 142

Laparoscopic surgical training (*cont.*)

- vs. open surgery, 141–142
- video trainer, 142
- virtual reality training, 142
 - anatomical variations, 142
 - Cochrane review, 143
 - complication rate, 143
 - custom-designed simulator, 142
 - haptics, 143
 - INVEST method, 143

Laser lithotripsy (LL), 50

M

Magnetic resonance cholangiopancreatography (MRCP), 46, 49

Mechanical lithotripsy (ML), 50

Mini-laparoscopic cholecystectomy (MLC), 107–108

Minilaparotomy, 160

Mortality, 4

N

Natural orifice cholecystectomy (NOTES-C), 108, 110–112

New technologies

- health technology, 104
- mini-laparoscopic cholecystectomy
 - financial perspectives, 108
 - loss of triangulation, 108
- natural orifice cholecystectomy, 110–112
- robotic laparoscopic cholecystectomy
 - camera only robotic assistants, 105
 - complications, 105–106
 - drawbacks, 105
 - fully robotic remote systems, 105
 - single-site robot-assisted laparoscopic cholecystectomy, 106
 - single-site surgery, 106
- single-incision laparoscopic surgery
 - articulated or curved instruments, 108
 - glove-port, 109, 110
 - home made devices, 109
 - NOTES, 108

Nottingham Health Profile (NHP), 118

O

Obesity, 29–30

Open cholecystectomy (OC), 2, 31, 121–124

Open laparoscopy, 160

P

Partial cholecystectomy, 92–93

Pneumoperitoneum, 160

- anesthetic management
 - hemodynamic effects, 172–173
 - hypercapnia, 173
 - thoraco-pulmonary compliance, 173
- direct trocar insertion, 161–162
- laparoscopic access
 - Cochrane, 166
 - multicentric surveys, 165
 - RCT, 164–165
 - retrospective studies, 164
 - systematic reviews, 165

laparoscopy complications

- bladder healing, 162
- bleeding, 162–163
- circumflex iliac vessel injury, 163
- epigastric vessel injury, 163
- incidence, 163–164
- incisional hernia, 163
- infection, 163
- major vascular complications, 162
- parietal vessel lesion, 163
- Veress needle position, 163
- visceral complications, 162
- open laparoscopy/minilaparotomy, 160
- VN laparoscopy/closed laparoscopy, 160–161

Postoperative nausea and vomiting (POVN), 136, 178

Postoperative pain (POP), 177

Pressure-controlled ventilation (PCV), 175

Prophylactic laparoscopic cholecystectomy, 26

ProSeal LMA™, 175

R

Robotic laparoscopic cholecystectomy (RLC)

- camera only robotic assistants, 105
- complications, 105–106
- drawbacks, 105
- fully robotic remote systems, 105
- single-site robot-assisted laparoscopic cholecystectomy, 106
- single-site surgery, 106

S

Short-Form 36-Item Health Survey (SF-36), 118, 120

Sickle-cell anemia, 25, 28

Single-incision laparoscopic surgery
 articulated or curved instruments, 108
 glove-port, 109, 110
 home made devices, 109
 NOTES, 108
Single-site robot-assisted laparoscopic
 cholecystectomy (SSRLC), 106
Single-site surgery, 106
SLIPA™, 175
Society of American Gastrointestinal and
 Endoscopic Surgeons (SAGES),
 132–133
Sphincterotomy, 2
Sugammadex, 175
Supraglottic airway devices (SADs), 175

T

Thoraco-pulmonary compliance, 173
Total intravenous anesthesia (TIVA), 174
Transabdominal ultrasonography, 47
Transversus abdominis plane (TAP) block,
 136, 177
Triangle of safety technique
 (TST), 16–18

V

Vascular injuries, 95
Venous embolism, 176–177
Veress needle (VN) laparoscopy,
 160–161, 173