**EP223**

**LAPAROSCOPIC BILE DUCT EXPLORATION AS A ONE-STAGE TREATMENT FOR CHOLEDOCHOLITHIASIS. COST-EFFECTIVENESS STUDY COMPARED TO ERCP FOLLOWED BY LAPAROSCOPIC CHOLECYSTECTOMY**

P. J. Gil Vázquez, D. Ferreras Martínez, B. Gómez Pérez and F. Sánchez Bueno

Hospital Clínico Universitario Virgen de la Arrixaca, Spain

**Introduction:** The standard treatment of choledocholithiasis is endoscopic retrograde cholangiopancreatoscopy (ERCP). In this way, it needs two interventions: ERCP and laparoscopic cholecystectomy (LC), so it is necessary two anesthetic processes, more possibilities of failure, complications, hospital stay and more expenses. Thanks to laparoscopic common bile duct exploration (LCBE) complete treatment is possible with a single intervention.

**Method:** We designed this prospective, non-randomized study to analyze LCBE approach in terms of hospital stay and cost-effectiveness.

**Results:** There are 118 patients in the study (67 women; mean age of 69.8 ± 17.3 years old). Sixty-six patients received ERCP+LC management. Fifteen of them failed to clean the bile duct. LCBE was carried out in 59 patients (49 plus 11 ERCP failure). Seven of them required conversion to open surgery. No statistically were found in terms of clinical-demographic terms. LCBE was more effective in terms of hospital stay and expenses derived from the management of these patients.

**Conclusions:** LCBE is more effective and has a similar safety than two-stage approach in patients with a diagnosis of choledocholithiasis. It significantly reducing hospital stay and expenses derived from the management of these patients.

**EP224**

**SHORT AND LONG-TERM RESULTS AFTER SURGICAL REPAIR IN PATIENTS WITH IATROGENIC BILIARY INJURIES**


University Hospital Complex Badajoz, Hepatobiliary, Pancreatic and Liver Transplant Surgery, Spain

**Purpose:** Iatrogenic bile duct injury is a complication associated with significant perioperative morbidity and mortality. The aim of this work is to analyse the results of surgical repair after biliary duct injury in our institution.

**Methods:** This is a retrospective study from 2007 to 2019. All patients who underwent surgical repair were included. Demographic variables, type of lesions, surgical complications and evolution after surgical repair of the iatrogenic lesion were analyzed.

**Results:** During this period a total of 41 surgical repairs were performed for iatrogenic injuries after cholecystectomy. The mean age of the patients was 57 years (28-82), 51.2% were male. Biliary iatrogenic procedures were performed laparoscopically in 78% of cases; 17.1% occurred during emergency cholecystectomy. At the initial surgery, cholecystectomy was described as a difficult procedure in 42.5% of the cases. The main indication in 78% of the patients was symptomatic cholelithiasis. In 4 patients (9.8%) an attempt at repair was made after intraoperative detection, and 10 patients (24.4%) underwent reoperation prior to referral to our unit.

The highest percentage of lesions were located in the common bile duct 58.5%, according to the Strasberg classification, the most common type of lesion was E2 in 31.7% followed by E3 in 19.5%. The repair performed in 78% of the cases was hepatieojunostomy. Postoperative complications occurred in 43.9% of patients, with severe Clavien-Dindo ≥ III complications in 17.1%. Two patients (4.8%) died postoperatively. Survival free of biliary complications was 89.8%. The median time from iatrogenic to repair was 21 days. No differences were found between patients operated on before or after 3 weeks post injury (45% vs. 42.9%; p = 0.75).

**Conclusion:** The most frequent site of injury was the common bile duct. Hepatieojunostomy was the most frequently technique used. Long-term results of surgical repair are satisfactory. We did not find differences between repair before three weeks or later.

**EP225**

**SINGLE CENTER EXPERIENCE OF SURGICAL TREATMENT OF PERIHILAR CHOLANGIOCARCINOMA WITH PORTAL VEIN INVASION**


National Institute of Surgery and Transplantology, Liver Surgery and Transplantation, Ukraine

**Aim:** The aim of our study was to asses results of surgical treatment of perihilar cholangiocarcinoma with (Group 1) and without (Group 2) portal vein invasion.

**Materials and Methods:** From 2003 to January 2021 in the Department of Surgery and Liver Transplantation of the Ukrainian National Institute of Surgery and Transplantation, 166 patients with perihilar cholangiocarcinoma underwent major extended liver resections. We compared 78 (47%) patients who received extended liver resection...
with portal vein resection with 88 (53%) patients who underwent liver resections without vascular reconstructions. 103 (62%) patients were male, 63 (38%) patients were female. The average age of patients in the group 1 was 57 (37 – 81) years in the group 2 of 57.1 (26 – 74) years. The average Ca 19 – 9 in the group 1 was 288 (8 – 1000) U/ml, in the group 2 – (10 – 612) 262 U/ml. The level of total bilirubin in patients of the group 1 was 312 (43 – 621) mcmmol/l, in the group 2 – 267 (10 – 612) mcmmol/l. In view of this, in the preoperative period, 116 (88.5%) patients underwent decompression of the bile ducts, using percutaneous transhepatic cholangiostomy (PTBD) or retrograde endobiliary stenting. For patients with small remnant liver volume less than 40 %, in 58 cases we did preoperative PVE of a resected part of the liver. In 9 cases we made simultaneous PVE and PTBD. When choosing the volume of surgical intervention, we proceeded from the tumor type of Bismuth-Corlette classification, invasion into the portal vessels and the depth of the liver lesion. The portal vein reconstruction was in all cases performed in an “end-to-end”. In all cases we made extended lymphadenectomy. According to a histological study, metastatic lesion of 1-3 cm in size was detected in 9 (14.7%) patients. However, there were no significant differences in rares of recurrent cholecystitis, choledocholithiasis, colangitis, gallstone pancreatitis or cholecystectomy between both groups.

According to a histological study, metastatic lesion of 1-3 cm in size was detected in 9 (14.7%) patients. However, there were no significant differences in rares of recurrent cholecystitis, choledocholithiasis, colangitis, gallstone pancreatitis or cholecystectomy between both groups.

The RC group had fewer days to drain removal, although this difference did not reach statistical significance. Only one case suffered complications after drain removal, an hemoperitoneum in RC group. RC identified 2 patients with cystic duct filling defects and 6 patients with common bile duct filling defects. In this group only 3 patients were symptomatic so they underwent endoscopic retrograde cholangiopancreatography (ERCP) and 2 in NC group.

Conclusion: RC following PC for acute cholecystitis identified biliary pathology in asymptomatic patients but it doesn’t provide clinical benefit. However it’s necessary to make further studies to determine the best time to have a selective cholangiography and remove the drainage.

**EP226**

**ROUTINE CHOLANGIOGRAPHY FOLLOWING PERCUTANEOUS CHOLECYSTOSTOMY: A CASE-CONTROL STUDY**

S. Aguas Blasco, A. Llantero García, C. Vallejo Bernad, N. Pérez-Serrano, I. Fernández Marzo, B. Romero Fernández and A. García Tejero

**Hospital San Pedro, General Surgery, Spain**

**Introduction:** Percutaneous cholecystostomy (PC) is an effective procedure to treat moderate or severe acute cholecystitis at high-risk patients for operative morbidity and mortality. However, there is not agreement about the necessity for routine cholangiography (RC) or the propitious time to remove the drainage.

Our objective was determine if there is necessary performing a routine cholangiography previous remove the tube.

**Methods:** We performed a retrospective analysis of 57 patients managed with PC for acute cholecystitis. 31 patients were grouped as routine cholangiography and 26 patients were grouped as non cholangiography (NC) before drain removal. We analyzed the differences about average hospital stay, drainage length and complications.

**Results:** Baseline comorbidities, severity of illness, improvement following PC tube placement and hospital length of stay were similar between both groups. There were no significant differences in rares of recurrent cholecystitis, choledocholithiasis, colangitis, gallstone pancreatitis or cholecystectomy between both groups.

**Conclusion:** The RC group had fewer days to drain removal, although this difference did not reach statistical significance. Only one case suffered complications after drain removal, an hemoperitoneum in RC group.

RC identified 2 patients with cystic duct filling defects and 6 patients with common bile duct filling defects. In this group only 3 patients were symptomatic so they underwent endoscopic retrograde cholangiopancreatography (ERCP) and 2 in NC group.

**Conclusion:** RC following PC for acute cholecystitis identified biliary pathology in asymptomatic patients but it doesn’t provide clinical benefit. However it’s necessary to make further studies to determine the best time to have a selective cholangiography and remove the drainage.

**EP227**

**INTRACHOLECYSTIC PAPILLARY-TUBULAR NEOPLASM AFTER CHOLECYSTECTOMY: WHAT SHOULD WE DO?**

A. Fernández-Candela, A. Mompel Porras, I. Caravaca García, A. Calero Amaro, Curtis Martínéz, M. Bosch Ramírez, D. Triguero Cánovas, J. A. Barreras Mateos, F. J. Lacueva and A. Arroyo Sebastián

**Hospital General Universitario de Elche, Spain**

**Purpose:** Gallbladder cancer (GBC) is the most common cancer of the biliary tract and 60-70% are discovered incidentally by the pathologist following cholecystectomy. Less than 0.5% are intracholecystic papillary-tubular neoplasms (ICPN), a relative indolent neoplasia when compared to pancreatobiliary-type gallbladder carcinomas. Since literature evidence is limited, the aim of this work is to present an ICPN case and its surgical management.

**Methods:** A 64-year-old women with ulcerative colitis, which is associated with primary sclerosing cholangitis and cholangiocarcinoma, is scheduled a laparoscopic cholecystectomy due to adenomyomatosis. Anatomopathological exam showed a papillary neoplasia with microfocus of invasive carcinoma, without cystic lymph node in the piece (pT1bpNx) (Figure 1). According to guidelines recommendations and tumor committee decision, extension study is performed and unresectable disease is ruled out. A radical surgery (4b/5 normal liver margin) and regional lymphadenectomy is indicated.

**Discussion:** In ICPN, high-grade dysplasia, cell type (biliary or foveolar) and papilla formation are factors associated with invasion. Bibliography shows 90% of 3-year survival for cases without invasion, meanwhile, for cases with invasion, it decreases to a 60%. Hence, an aggressive approach is necessary. Nevertheless, ICPN with invasion had a far better clinical outcome compared with pancreatobiliary-type GBC (27% 3-year survival).

**Conclusions:** ICPN is a rare neoplasm of the gallbladder with a relative better prognosis than gallbladder carcinomas, even when invasive carcinoma is found. It should be kept in mind that when invasive carcinoma is identified,
it should be staged, and if the disease is resectable, a radical surgery is mandatory.

EP228

LEARNING CURVE OF THE LAPAROSCOPIC APPROACH TO THE MAINBILE DUCT AS A TREATMENT FOR CHOLEDOCHOLITHIASIS.

RESULTS OF THE RECENT IMPLEMENTATION PROGRAM

P. J. Gil Vázquez, D. Ferreras Martínez, B. Gómez Pérez and F. Sánchez Bueno

Hospital Clínico Universitario Virgen de la Arrixaca, Spain

Introduction: The standard treatment of choledocholithiasis is endoscopic retrograde cholangiopancreatography (ERCP) and laparoscopic cholecystectomy (LC), but laparoscopic common bile duct exploration (LCBE) complete treatment with a single intervention. One of the reasons to low acceptance of LCBE approach is the complexity of the surgical technique.

Method and Purpose: We designed this prospective study to understand the learning curve of the recent implementation of an LCBE program in our center.

Results: There are 118 patients in the study (67 women; mean age of 69.8 ± 17.3 years old). Sixty-six patients received ERCP+LC management. Fifteen of them failed to clean the bile duct. LCBE was carried out in 59 patients (49 plus 11 ERCP failure). Seven of them required conversion to open surgery. No statistically were found in terms of clinical-demographic terms. LCBE was more effective cleaning the bile duct (88.1% vs. 72.7%; p = 0.032) with no differences in terms of morbidity or mortality.

We need over 6 months and at least 10 laparoscopic procedures after the start of the program to reduce the number of conversions from LCBE to open surgery to exceptional cases (figure 1). The decision to propose an open approach initially decreased to 0% in this period of time.

Conclusions: Learning curve of LCBE influenced the decision to initiate open surgery directly or the failure of the laparoscopic approach and subsequent conversion to open surgery. It is necessary over 10 procedures to overcome the learning curve.

EP229

INTRADUCTAL PAPILLARY NEOPLASM OF THE BILE DUCT: CASE SERIES


1Hospital General Universitario de Alicante ISABIAL, Surgery and Liver Transplantation, and 2Hospital Universitario Miguel Servet, Surgery, Spain

The intraductal papillary neoplasm of the bile duct (IPNB) traditionally called “biliary papillomatosis” is an extremely rare entity, regarded as the biliary equivalent of intraductal papillary mucinous neoplasm of the pancreas. It is considered a premalignant lesion, which progresses in a multistep fashion towards invasive cholangiocarcinoma. IPNB can occur in any segment of the bile duct. The most common radiological findings are dilatation of the bile duct and the presence of intraductal masses. Free margin resection is the treatment of choice for IPNB but could require extreme HPB surgery including liver transplantation. Published papers about IPNB are usually from Asia.

Methods: Retrospective study 2014-2020 made in two HPB Units. We checked our prospective database looking for IPNB. We studied patient data, diagnostic methods, surgical procedures performed, pathologic findings and follow-up.

Results: We found three cases. After several diagnostic methods, we found intraductal biliary mass and dilatation of the bile duct. Results are in Table I.

**EP229 Table I**

<table>
<thead>
<tr>
<th>Case</th>
<th>Age/Gender</th>
<th>Main Symptom</th>
<th>Diagnostic Methods (DM)</th>
<th>Location</th>
<th>Multifocal/Unique</th>
<th>Type of Surgery</th>
<th>Clavien</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>68 Female</td>
<td>Jaundice</td>
<td>US,CT,CPRE, SPYGLASS</td>
<td>Extrahepatic BD</td>
<td>Multifocal</td>
<td>BD resection + HJ</td>
<td>IIIA</td>
</tr>
<tr>
<td>2</td>
<td>62 Female</td>
<td>Abdominal pain</td>
<td>US,CT,USE,MRI</td>
<td>Extrahepatic BD</td>
<td>Unique</td>
<td>BD resection + HJ</td>
<td>II</td>
</tr>
<tr>
<td>3</td>
<td>73 Male</td>
<td>Jaundice</td>
<td>US,CT,USE</td>
<td>Extrahepatic BD+ Pancreas</td>
<td>Multifocal</td>
<td>Pancreatoduodenectomy</td>
<td>II</td>
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</table>

<table>
<thead>
<tr>
<th>Case</th>
<th>Size Big Tumor</th>
<th>TNM/R</th>
<th>Final Histology</th>
<th>Follow-Up (M)</th>
<th>Relapse</th>
<th>Disease Free Survival (M)</th>
<th>Overall Survival</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1,5 CM T1N0M0 R1</td>
<td></td>
<td>Colangiocarcinoma on IPNB Pancreatobiliary</td>
<td>4</td>
<td>NO</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>2 CM - R0</td>
<td></td>
<td>IPNB Gastric</td>
<td>44</td>
<td>NO</td>
<td>44</td>
<td>44</td>
</tr>
<tr>
<td>3</td>
<td>2,5 CM T2N2M0 R1</td>
<td></td>
<td>Colangiocarcinoma on IPNB Pancreatobiliary</td>
<td>14</td>
<td>SI</td>
<td>9</td>
<td>9</td>
</tr>
</tbody>
</table>
Conclusions: IPNB is an extremely rare disease. Diagnosis is not easy and many diagnostic methods are needed to obtain a correct preoperative diagnosis. Extrahepatic bile duct was the most frequent location. In two patients, cholangiocarcinoma was present in surgical specimen, one of them with lymph node spread who implied short survival. Multifocal and unique mass cases are two very different scenarios of the same entity. A European retrospective multicentric study could give information about incidence and characteristics of European patients with IPNB.

EP230
IMPORTANT OF HEPATICO-PANCRETO-BILIARY UNIT IN TREATMENT OF IATROGENIC BILE DUCT INJURY
S. Lapsa, A. Ozoliņš, M. Pavārs and J. Gardovskis
Pauls Stradiņš Clinical University Hospital, Latvia

Purpose: Laparoscopic cholecystectomy is one of the most common surgeries, but complications in case of iatrogenic bile duct injury (BDI) are associated with significant impacts on quality of life. Management of these patients require multidisciplinary approach and preferably treatment in hepatopancreato-biliary (HPB) unit.

Methods: In a retrospective observational study from 2014-2016 there were only type E injuries treated — 7 patients. After implementation of HPB unit there were increase in total number of treated patients and the variety in type of injury. Anastomotic stricture is a common complication and long-term follow-up should be continued to monitor these patients.

Results: Average age of patients was 57.21 (range 24-80). Of those 21 (63%) were female and 12 (36%) male patients. In period 2014-2016 there were only type E injuries treated — 7 patients. After implementation of HPB unit there were increase in treated patients with other types of injuries — type A (n=7) and type D (n=6), as well as type E (n=13).

Biliodigestive anastomosis was required in 19 patients. Five patients (83%) treated prior 2017 has stricture of biliodigestive anastomosis, but after 2017 only 5 patients (38%) have stricture. All strictures were managed by percutaneous transhepatic cholangiography on average 2 times (range 1-5).

All the patients had a planned 1-month follow-up after treatment but most of them have a long-term follow-up — up to 6 years.

Conclusions: After implementation of HPB unit there were increase in total number of treated patients and the variety in type of injury. Anastomotic stricture is a common complication and long-term follow-up should be continued to monitor these patients.

EP231
KLATSKIN MIMICKING LESION: CASE REPORT
P. Vanerio, A. Ettlin, G. San Martin, M. Abelleira, M. Harguindeguy and F. Rodriguez
Hospital Central de las Fuerzas Armadas, Uruguay

Purpose: Klatskin tumors account for 50-70% of cholangiocarcinomas. Diagnosis is not always possible, several benign conditions mimic clinical and imagenologic presentation of these tumors. A remarkable number of patients with hilar tumors turn out to have a benign lesion (mimicking lesion). Current diagnostic tools are still not reliable to differentiate benign or malignant tumors at portal hilum. 5 to 15% of resected lesions were benign. Detailed history of symptoms, past medical, surgical and familial history are key. In young patients, other disorders such as sarcoidosis, primary sclerosing cholangitis, connective tissue disorders, IgG4-related disease, amongst others should be considered through biochemical, serological, and radiological evidence.

Method: 36 year old male, no comorbidities, progressive jaundice 1 month previous to referral. No other symptoms. Total bilirubin 5.27mg/dL, cholestatic pattern. Normal CA 19-9. MRI with MRCP found a portal hilum mass. Mild dilatation of left intra hepatic bile duct, atrophy of the left hepatic lobe, left portal vein thrombosis and encasement of both hepatic arteries. Initial diagnosis was irresectable hilar cholangiocarcinoma. A week after admission patient had complete clinical and humoral remission. Serology, IgG4 and other tests were all negative. New MRI similar to previous. Surgery was proposed.

Results: Laparoscopic exploration, no portal hilum mass, liver lesions, or peritoneal disease. Liver and portal hilum lymph nodes biopsy were taken. Cholangiography showed a regular distensible stenosis at distal left bile duct and biliary convergence. Diffuse intrahepatic dilatation.

Lymph node biopsy showed inflammatory cells and no evidence of malignancy. Liver biopsy was suggestive of primary sclerosing cholangitis, concentric rings of fibrosis around bile ducts. Fibrous plug. Mild lymphocytic infiltrate. No elements of cirrhosis were found. 18 months of initial symptoms patient is asymptomatic.

Conclusion: We present the case of a young patient who was referred to our institution. Irresectable hilar cholangiocarcinoma was diagnosed by imaging methods, but with clinical spontaneous remission. All tests were negative.
for differential diagnosis, and definitive diagnosis of primary sclerosing cholangitis was made through histopathological analysis, no resection was performed. According to international articles, Klatskin mimicking lesions are not rare and should be considered as differential diagnosis.

**EP232**

**CHOLEDOLCHAL CYSTS SURGICAL MANAGEMENT: RETROSPECTIVE AND HISTORICAL COMPARATIVE ANALYSIS**

Hospital Universitario Ramón y Cajal, Spain

**Introduction:** Choledochal cysts are rare bile duct dilatations, which have higher prevalence in Asian population. The aim of the study was to analyze clinical and surgical results about biliary cysts management. In addition, a comparative historical analysis was performed.

**Methods:** Patients who underwent surgery between January 1988 and December 2019 in a single tertiary level center were retrospectively included. Demographic and clinical patient data; cyst types; diagnostic methods and surgical technique were analyzed, as well as short and long-term follow-up complications. A comparative descriptive study focus on the main historical series was also carried out.

**Results:** A total of seventeen patients were identified; 58.8% were men. The mean age at diagnosis was 39.9 years (SD: 20.54). The median follow-up was 5 years (IQR 1-15). The most frequent cysts were type I (41.2%). Abdominal pain was the most common presenting symptom (58.8%).

**Conclusion:** Choledochal cysts are an uncommon disorder whose diagnosis requires a high level of suspicion. Surgical treatment depends on type of cyst. In most patients with choledochal cysts disease, complete cyst excision with bilio-enteric anastomotic reconstruction is the treatment of choice.

**EP233**

**XANTHOGANULOMATOUS CHOLECYSTITIS UNDERGONE LAPAROTOMY MAY GO THROUGH TROUBLEsome CLINICAL COURSE: REFLECTION OF SEVERE INFLAMMATION**

K. Y. Paik and H. J. Kim
Yeouido St. Mary’s Hospital, Catholic Univ. Korea, Republic of Korea

**Introduction:** Xanthogranulomatous cholecystitis (XGC) show aggressive behavior which is indistinguishable from those of gallbladder cancer. Sometimes it was suspected simple cholecystitis and diagnosed only after surgery. The aim of current study is to present the perioperative clinical outcome according to the surgical methods for XGC which may reflect inflammatory degree.

**Methods:** Of 21 patients who underwent surgery at our hospital between January 2011 and October 2020, retrospective analysis was conducted to compare clinical outcomes according to the type of surgery which correlates with degree of inflammation.

**Results:** 21 patients were divided into two groups with regards to laparoscopic completion. Among them, thirteen underwent laparoscopic surgery (61.9%) and eight underwent radical surgery under laparotomy (38.1%). Laparotomy group was more suspected XGC or gallbladder cancer and laparoscopic group diagnosed more cholecystitis preoperatively.

Laparotomy group needed more aggressive resection and showed higher intraoperative bleeding, conversion rate, longer operation time, longer stay in hospital and higher readmission rate perioperatively. Overall complication rate was not different on both groups.

**Conclusion:** Laparotomy with extended surgery associated with poorer perioperative outcomes rather than laparoscopic surgery for XGC which may reflect aggressiveness of XGC. The patients undergone laparotomy need more comprehensive management even after surgery.
The patient was discharged from hospital on the first postoperative day.

**Conclusions**: LCBE is a good approach to treat cholecdocholithiasis in pregnant patients and sometimes, the only option to avoid X-Ray and open surgery in these patients.

**EP235**

**GALLBLADDER METASTASIS FROM CHOANA MALIGNANT MELANOMA**


*Hospital General Universitario de Alicante ISABIAL, Surgery and Liver Transplantation, Spain*

Metastasis from malignant Melanomas (MM) are usually located in lungs, liver and skin. When they occur in gastrointestinal usually appear in the small bowel (67%) and they are very rare in the gallbladder (GB).

**Methods**: We present a female patient, 68 year-old. In 2012 she started having anosmia and rhinorrhea. In physical examination, a mass was found in her right choana.

**Results**: It was excised and final diagnosis was MM. In 2013, she presented a local recurrence with a maxillary fistula, we performed complete excision of the recurrence and postoperative radiotherapy. The pathological exam showed MM (positivity for MELAN-A, HMB45, VIMETINA and S-100; negativity for CK AE1/AEB, B-RAF and C-kit).

Nivolumab as systemic treatment was begun. In February 2016, she consulted due to abdominal swelling. The computerized tomography revealed a gallbladder tumor. In April 2016, she went under laparoscopic cholecystectomy. Histological exam showed a GB MM.

In 2017, inframammary subcutaneous metastasis and a new local recurrence were resected.

In October 2017 she participates in the MTIG7192A monotherapy or associated with atezolizumab Ia/Ib phase clinical trial which is effective but poorly tolerated, so she leaves the trial. Six months later our patient dies due to progressive disease. The survival after cholecystectomy is 24 months, one of the longest reported.

**Conclusions**: MM in the GB incidence is 5.2-8%, usually in patients with disseminated disease. Patients are asymptomatic, but they can also present abdominal pain, jaundice or haemobilia. CT is the bst method for diagnosis. A cholecystectomy combined with systemic treatment is recommended, because improves quality of life and survival.

**EP236**

**TODANI I BILE DUCT CYST: AN INFREQUENT ABDOMINAL PAIN CAUSE**

F. Acebes-García, P. Pinto-Fuentes, D. Pacheco-Sánchez, E. Choolani-Bhojwani, P. Marcos-Santos, A. Bueno-Cañones and S. Veleda-Belanche

*Hospital Universitario de Río Hortega, Spain*

Biliary cysts are very infrequent congenital dilatations, commonly associated to an abnormality in the junction of the common bile duct with the pancreatic duct, which allows the reflux of the pancreatic fluid into the biliary ducts. The elective treatment is the complete resection of the biliary ducts, which avoids malignant degeneration, being the worst complication of these abnormalities.

We present a 72-year-old man, with occasional and unspecific episodes of epigastralgia. Abdominal echography and CT showed cholelithiasis and the suspect of a common bile duct cyst, which was finally confirmed with a colangio-sonance.

A laparotomy was performed, detecting a 3 cm dilatation of the whole biliary ducts, including the cystic duct, in context of Todani’s type Ia biliary cyst. A cholecystectomy and a resection of the whole biliary ducts were made. Finally, the procedure ended with a reconstruction with hepaticojejunostomy and jejuno-duodenostomy.

Biliary cysts are rare conditions that can involve intra and extrahepatic biliary ducts. Although most of the patients are children, some of them may stay asymptomatic until adult age. The most used classification is Todani’s, with five types depending on which part of the biliary duct is dilated. The worst complication of these cysts is the malignant degeneration, so this is why the complete resection is the elective treatment.

**EP237**

**IMPLEMENTATION OF AMBULATORY LAPAROSCOPIC CHOLECYSTECTOMY ON PATIENTS IN SUGICAL WAITING LIST FOR GALLSTONES**

I. Gemio Del Rey, M. Picardo Gomendio, E. Casado Silvestre, R. Latorre-Fragua, C. Ramiro, A. Medina, B. Gonzalez-Sierra, D. Diaz-Candelas, V. Arteaga, R. De la Plaza and J. M. Ramia

1Hospital Universitario de Guadalajara, Surgery, and 2Hospital General Universitario de Alicante ISABIAL, Surgery and Liver Transplantation, Spain

One of the biggest problems about public sanitary systems are Surgical Waiting Lists (SWL). Getting an appropriate balance between an acceptable time on SWL and sanitary...
costs relies on multiple variables. Laparoscopic cholecystectomy on ambulatory basis (LCA), may result in a better use of resources without an impact on assistance quality. Nevertheless, this is not a widespread procedure on Spanish surgical services. Our objective is to determine the theoretical applicability of LCA within patients included in SWL in a level II hospital prior carrying out a LCA program.

Methods: Observational study. Exclusion criteria for LCA are: >65 years old, ASA>II, acute cholecystitis, acute pancreatitis or previous ERCP, living >50 km from hospital, impossibility to undergo laparoscopic surgery or the need to undergo more than one surgery at a time.

Results: There are 242 patients on SWL for LCA. 156 are women. Median age is 57.36. The main cause of exclusion is >65 years old (31% from all patients), followed by distance home-hospital >50km (15.7%), previous acute cholecystitis (14.05%) or biliary pancreatitis (7%), anesthetic risk (ASA III) (11.16%), ERCP prior to surgery (11.16%), and the need to perform another surgery on the same act (0.83%). Patients candidate for LCA are 124, which entails that the 51.24% of patients on SWL for cholecystectomy are potentially aspirant for LCA.

Conclusion: Potential LCA in our hospital is 51.24%, which may result on an important decreasing of hospital admissions without detriment on theoretical surgical results. In our series, main limiting factor is age that reflects characteristics of our Department population.

EP238
GALLBLADDER NEOPLASM:
ADVANCING IS DIFFICULT. STUDY OF 41 CASES

M. C. Lama, C. Parada, S. Alonso, E. Galvez and A. Magdaleno
1Hospital General y Universitario de Elda, Department of Surgery, 2Hospital General y Universitario de Elda, Department of Pathology, and 3Hospital General y Universitario de Elda, Department of Oncology, Spain

Introduction: Gallbladder neoplasm is the most common biliary tract neoplasm. The overall prognosis remains poor with a 5-year actuarial survival of less than 15%.

Objective: Describe our series of gallbladder neoplasm with a review of the critical points that can determine the results.

Material and methods: From May 2009 to June 2020, 41 patients with gallbladder neoplasm have been diagnosed in our center. All cases were discussed in a multidisciplinary committee and prospectively included in a database for further analysis.

Results: Of 41 patients, 9 (22%) were men and 32 (78%) women, with a mean age of 75.74±7.7 years (range 60-87). In 17 cases (41%) there was clinical suspicion, 7 being operated on and radical surgery performed in 2. The diagnosis was incidental in 24 patients (59%), 3 with intraoperative suspicion and 21 after the analysis of the piece. In 10 cases the surgery was radical. Therefore, of the 41 patients, 12 (29%) received the appropriate treatment according to their stage (simple cholecystectomy or Ivb-V bisegmentectomy + hilar lymphadenectomy). There was no postoperative mortality and morbidity was 16.6% (2 patients). Stages 0 and I (9/41 patients) were not considered chemotherapy tributaries. Only 6 of the 32 remaining cases received gemcitabine-based chemotherapy. Disease-free survival (excluding T in situ) was 76%, 51%, 51%, and 51% at 1, 3, 5, and 10 years, respectively. Actuarial survival (excluding T in situ) at 1, 3, 5, and 10 years was 29%, 19%, 14%, and 14%, respectively.

Conclusions: Currently, improving gallblader neoplasm survival should be based on selecting patients for radical surgery through an individualized multidisciplinary assessment, considering current surgical results and their morbidity and mortality, as well as complementary neoadjuvant and adjuvant therapies.

EP239
COMPLICATION IN TIME OF COVID-19: BILOMA

M. De Armas Conde, B. Reyes Correa, P. Sanz Pereda, J. Padilla Quintana, P. E. González de Chaves Rodríguez and M. Á. Barrera Gómez
H. U. Nuestra Señora de la Candelaria, Cirugía General y del Aparato Digestivo, Spain

Purpose: After declaration of international health alert for COVID-19 pandemic, the diagnosis of non-viral diseases has decreased. "Stay at home" advice and the risk of coronavirus infection makes the patient afraid to approach hospital emergency department.

Here is presented a rare complication related to gallbladder perforation with fistula to abdominal wall. A consequence of a subacute cholecystitis which the patient did not came earlier to hospital because of the risk of virus infection.

Methods: A 64-year-old woman developed an asymptomatic abdominal tumour located in the right hypochondrium, measuring 20 centimetres, which had been present for 3 weeks.

A CT scan was performed showing an intermuscular cystic tumour in abdominal wall and hepatic subcapsular region. They were identified a perforation of the gallbladder fundus with a fistulous trajectory towards the abdominal wall and a dilatation of the left intrahepatic bile duct, secondary to extrinsic compression.

Subsequently, percutaneous drainage of the collection was performed. Followed by scheduled cholecystectomy, which revealed a perforated and inflamed gallbladder and a large cavity with a pyogenic capsule.

The anatomical pathology of the specimen was described as chronic cholecystitis. The patient evolved satisfactorily after operation and was discharged on the 2nd postoperative day.
Results: After the start of quarantine, there has been a decrease in the number of visits to the emergency department. Acute pathologies such as cholecystitis present at diagnosis with more advanced and severe degrees of evolution compared to those diagnosed before the pandemic. Gallbladder perforation occurs in 12% of acute cholecystitis, with a mortality rate of 16%. In our case, according to Neimeier’s classification, it is a subacute perforation type II (frequency 45.9%) with a pericholecystic collection and fistulization towards the abdominal wall, an unusual presentation.

Conclusion: The new global epidemiological situation causes fear of infectious-contagious state to prevail over the appearance of new symptoms. This favours a delay in the diagnosis and treatment of acute and chronic pathologies, which then manifest in the patient in more advanced stages and require more complex treatments.

EP240

LAPAROSCOPIC CHOLECYSTECTOMY-INDUCED BILE DUCT INJURIES – SURGICAL REPAIR EXPERIENCE AT A REFERRAL CENTER

J. O. Silva1, C. Robalo2, J. Teixeira Oliveira2, C. Silva3, C. Branco1, V. Simões1, A. Canha1, P. Soares3, D. Sousa Silva1, J. Daniel1 and J. Davide1

1Instituto Português de Oncologia do Porto Francisco Gentil, 2Centro Hospitalar Universitário do Porto, and 3Centro Hospitalar Universitário do Porto, HEBIPA - Hepatobiliary and Pancreatic Unit, General Surgery, Portugal

Purpose: Bile duct injuries (BDI) are amongst the most feared iatrogenic injuries associated with laparoscopic cholecystectomy (LC) and entail high morbidity. Early diagnosis is crucial to improve surgical repair success which should be performed at high volume specialized centers. The authors review the surgical repair of laparoscopic cholecystectomy-induced BDI (LC-BDI) performed at their institution.

Method: A retrospective analysis of the surgical repair of LC-BDI from January 2005 to May 2017 was performed. The following parameters were evaluated: type of injury; time from LC to BDI diagnosis and to surgical repair; surgical repair procedure; and postoperative morbidity and mortality.

Results: During the study a group of 35 patients was identified, from which 57.1% were referred from other hospitals. Mean age was 56.1±14.4 and 60% of the patients were female. Intra-operative BDI diagnosis was made in 9 patients (25.7%); early after the surgery (<6 days) in 15 patients (42.9%) and late after the surgery (>6 days) in 11 patients (31.4%). Classification of the BDI according to the Bismuth classification: type I, 15%; type II, 50%; type III, 19%; type IV, 12%; and type V, 4%. Median time to surgical repair was 20 days. The following surgical repair procedures were performed: hepaticojejunostomy, 16 (45.7%); hepaticocholedocostomy, 6 (17.1%); choledochocolecostomy, 3 (8.6%); choledococholedocostomy, 3 (8.6%); bilioenterostomy, 2 (17.2%); and choledococholedocostomy, 1 (8.6%). The initial surgical repair was curative in 77.1% patients, with the remaining patients needing additional procedures (endoscopic, percutaneous, or surgical). There were 2 deaths (5.7%).

Conclusion: Despite the decrease in LC-BDI rate they remain a significant complication and many times recognized at a late time and carrying higher morbidity. Prevention should be the main focus, but in case of an injury early diagnosis and treatment in a specialized center are fundamental.

EP241

SYNCHRONOUS GALLBLADDER CANCER AND CHOLANGIOCARCINOMA: BAD LUCK OR GOOD CHANCE?

J. Marques Antunes1, S. Pereira1, T. Fonseca1, D. Rodrigues1, H. Scigliano1, T. Ferreira1 and M. Nora1
1CHEDV, General Surgery, and 2Unilabs, Portugal

Introduction: Biliary cancers are a diverse group of tumors that arise from the bile duct epithelium, that includes intrahepatic or extrahepatic cholangiocarcinoma to gallbladder cancer. Despite improvements in treatment and diagnosis, they are often diagnosed at an advanced stage and associated with poor prognosis with limited treatment options. Simultaneous presence of cancer in the gallbladder and in the biliary tree could be due synchronous malignancies, local invasion (peri-neural, lymphatic or vascular) or to metastasis.

Methods: Case report of synchronous gallbladder cancer and cholangiocarcinoma and literature review.

Results: The authors present a clinical case of a 68 years old male patient referred to our hepatobiliary surgery unit because of an suspicious polyp on the anterior wall of the gallbladder diagnosed by ultrasound. MRI described a simple gallbladder polyp and no other doubtful findings. Patient was submitted to a laparoscopy cholecystectomy. Histopathology reveled a gallbladder adenocarcinoma. Patient was proposed to hepatoduodenal ligament lymphadenectomy and hepatic segmentectomy, of IV and V segments. There were no metastatic lymph nodes but a intrahepatic cholangiocarcinoma was noticed. Histopathology and metastatic workup revealed a moderately differentiated gallbladder adenocarcinoma (T2a G2 N0 ILV0 IPN0 M0) and moderately differentiated intrahepatic cholangiocarcinoma (T1a N0 ILV0 IPN0 M0).

Conclusion: It is possible for two different foci of malignancy to arise within the same dysplastic environment. In this case, the absence of continuousness between the two tumors, the nonexistence lymph node extension, vascular or peri-neural invasion favors the hypothesis of synchronous neoplasms. It is essential for the clinician, as well as, the pathologist to maintain a high index of suspicion while evaluating such lesions.

EP242

SUCCESSFUL RECONSTRUCTION OF BILE DUCT INJURY IN COVID 19 PATIENT: A CASE REPORT

K. Estrada-Herrera1, J. Ixcayau2,1, J. Contreras2,1 and D. Porras2,1
1Universidad de San Carlos de Guatemala, Maestría Cirugía General, and 2Instituto Guatemalteco de Seguridad Social, Cirugía Hepato Pancreato Biliar y Trasplante Hepático, Guatemala

Conclusion: Despite the decrease in LC-BDI rate they remain a significant complication and many times recognized at a late time and carrying higher morbidity. Prevention should be the main focus, but in case of an injury early diagnosis and treatment in a specialized center are fundamental.
A 37-year-old woman presented to the emergency room with a 1-week history of abdominal pain. On examination, she had pain in the right upper quadrant that worsened after meals and was febrile with a temperature of 38.3°C. Laboratory studies demonstrated leukocytosis (white blood cell count of over 13,000), elevated inflammatory markers, and normal liver function tests. An ultrasound confirmed acute cholecystitis and pericholecystic fluid. Per hospital protocol, COVID-19 PCR was performed despite no respiratory symptoms. The PCR detected SARS-CoV-2. The risk-benefit was analyzed and the patient was taken to the operating room for an open cholecystectomy.

The gallbladder was found with severe inflammation. A cholecystectomy was performed with a fundus-cystic technique. During the procedure, a choledochal duct injury was identified, and an intraoperative cholangiogram was requested, showing lesion Strasberg-E1. The hepatobiliary surgeon was requested who evaluated the case and decided to perform an early biliodigestive derivation (hepaticojejunal anastomosis). After the procedure, the patient developed respiratory acidosis and hemodynamic instability and was classified as having COVID-19 with severe illness. The patient was intubated for 6 days, then extubated and kept on high flow oxygen and nasal cannula as respiratory parameters improved. Eighteen days after admission, she was discharged to go home.

Results: During the subsequent follow-up visit, a postoperative day 30 there were no operative or medical complications. A Cholangioresonance was requested, on day 90 postoperative, which showed functional hepatojejunal anastomosis.

Conclusion: As described in the literature, up to 50 percent of patients with perioperative COVID-19 infection develop pulmonary complications. This patient presented metabolic and respiratory deterioration, requiring mechanical ventilation for 6 days. The case presented a surgical challenge due to the type of injury and the infectious control precautions required to operate on SARS-CoV-2 positive patients. Complex medical management was also required. Careful multidisciplinary management results in positive patient outcomes when dealing with complicated surgical cases.

EP243

ACUTE CHOLECYSTITIS AS A DIAGNOSIS OF MUCINOUS CYSTIC NEOPLASIA OF THE GALLBLADDER. A LITERATURE REVIEW

D. Triguero Cánovas, V. Aranaz, F. López Rodríguez-Arias, A. Fernández Candela, M. Bosch Ramírez and A. Arroyo Sebastián

General Hospital of Elche, General and Digestive Surgery, Spain

Purpose: Mucinous cystic neoplasms (MCNs) of the gallbladder are extremely rare, benign, unicellular or multilocular cystic tumors that contain septations. We present a case diagnosed incidentally after emergency cholecystectomy.


AP: mucinous cystic neoplasm (MCN) with low-grade dysplasia.

Results and conclusions: MCNs of the gallbladder are rare, and no established guidelines for appropriate management have been developed. Its benign cystic proliferations of the hepatobiliary epithelium. Lesions originate in the liver in 85% of cases and affect women more frequently, with a mean age at presentation of 45 years.

Its origin remains unclear. Previous studies have hypothesized that originate from ectopic remnants of embryonal gallbladder tissue and aberrant hamartomatous bile ducts. Discrepancies across the literature exist regarding the malignant potential. Some authors believe that approximately 13% of cystadenomas have dysplastic changes that can progress to a malignant form.

If suspected, ultrasound or CT-guided fine needle aspiration for biopsy is generally not recommended as it increases the chances of tumor spread in the peritoneal cavity. The only consistent consensus across the literature is that all suspected MCNs originating in the gallbladder should be imaged, surgically removed, and evaluated under the microscope to determine the nature of the disease.
EP244
INCIDENTAL GallBLadder CANCer: OUtCOMES OF A RECENTLY TREATED SINGLE-CENTER CASE SERIES
A. Perfecto, M. Prieto, E. Aranda, I. Palomares, A. Ventoso, P. Ruiz, M. Gastaca and A. Valdivieso
Crues University Hospital, Spain
Purpose: The aim of the study was to analyze the short-and medium-term survival after the diagnosis of incidental gallbladder cancer (IGC).
Methods: Retrospective study of a single-center case series. All patients referred to our HPB Unit diagnosed with IGC were included (January 1st 2016-December 31st 2020). Radical completion cholecystectomy (RCC) was indicated in cases T<2b, N+, and/or risk factors. Overall survival (OS) and disease-free survival (DFS) were estimated using the R program. Also a bivariate analysis of the main variables was carried out.
Results: A total of 10 patients were evaluated, being half of them female. Median age was 68-years (r38-86). Six patients had medical history of gallstones (60%). RCC was indicated in 7 cases (70%): 3 of them were T2b, 3 had cystic duct nodal metastasis, and one had a biliary papillomatosis (T1a). The other 3 patients were not candidates due to low staging, age or comorbidities. Major complications occurred in 1 case (10%): a biliary leak (Dindo-Clavien IIIa). The median stay after RCC was 10 days (r5-29). There were no readmissions nor mortality 30-day after surgery. Five patients received adjuvant chemotherapy (71.4%), the other 2 were not candidates due to ECOG>2. Six cases were stage III-IV (60%), 2 after cholecystectomy and 4 after RCC. After a median follow-up of 24 months, DFS at 1 and 3 years was 70% and 30%. OS at 1 and 3 years was 70% and 40%.
Conclusion: 70% of our patients with IGC needed RCC. Unfortunately, DFS and OS were low.

EP245
INTRAHEPATIC INTRADUCTAL PAPILLARY CYSTIC NEOPLASm OF THE BILE DUCT: A CASE REPORT
E. G. Ballagiannis1, C. Kalyvioti1, A. Glantzouni2, A. Batistatou3, P. Tzimas2 and G. K. Glantzounis1
1University Hospital of Ioannina and School of Medicine, University of Ioannina, Department of Surgery, HPB Unit, 2G. Hatzikosta General Hospital, Department of Radiology, 3University Hospital of Ioannina and School of Medicine, University of Ioannina, Department of Pathology, and 4University Hospital of Ioannina and School of Medicine, University of Ioannina, Department of Anesthesiology, Greece
Purpose: Intraductal papillary neoplasm of the bile duct (IPNB) is a rare tumour with a very low incidence in the Western world, characterized by a high risk of malignant transformation and unknown prognosis. It is a new entity which was adopted by the WHO in 2010 as a precursor lesion of cholangiocarcinoma. Intrahepatic bile duct is the most common site of origin for IPNB. We present a case of an asymptomatic 63-year-old man, with a complex cystic lesion on the left hepatic lobe which proved to be cystic type IPNB.
Method: A 63-year-old Caucasian man presented to our unit after a routine abdominal ultrasound which revealed a new multilocular cystic lesion in the left liver lobe. The patient has a previous medical history of metabolic syndrome with diabetes mellitus type 2, hypertension, hepatic steatosis, and chronic obstructive pulmonary disease. Further screening modalities (CT, MRI Abdo) showed a complex cystic lesion in liver segments II/IVa, with dimensions 4,7x4,5x3,3 cm. The lesion had an intrahepatic peripheral location and showed a multicellular, grape-like multi-cystic appearance, with no apparent communication with the biliary tree. Iv contrast images showed a gradual progressive enhancement of the multiple internal septa. The radiologic features were not specific.
Results: The patient underwent left hepatectomy with an uneventful recovery. Histopathology showed a cystic type intrahepatic IPNB, which was completely resected (R0). The follow up in 2 years post-operation showed no signs of recurrence.
Conclusion: The diagnosis and management of IPNB remain challenging. A multimodality imaging approach is essential in order to diagnose IPNB, assess tumour location and extent, as well as to plan the optimal treatment strategy. Complete surgical resection (R0) with close postoperative follow-up offers long-term survival.

EP246
MUCINoUS CHOLANGIOCARCINoma: REPORT OF AN EXTREMELY RARE CASE
G. Dimopoulou1, I. Katsaros1, E. Lolis1, A. Antoniou2, L. Megagiannis3, G. Kalodimos3 and D. Lytras4
1General Hospital of Volos ‘Achillopouleio’, General Surgery, 2General Hospital of Volos ‘Achillopouleio’, Radiology, and 3General Hospital of Volos ‘Achillopouleio’, Pathology, Greece
Purpose: Mucinous cholangiocarcinoma is a rare tumour, characterized by rapid growth, widespread metastasis, and poor prognosis.
Method: A 59-year-old woman underwent diagnostic evaluation for palpable cervical lymph nodes and back pain complaint. Her blood test were unremarkable. Imaging workup with Computed Tomography and Magnetic Resonance Tomography revealed a liver tumour suggestive of intrahepatic cholangiocarcinoma with disseminated lymph node metastases at the neck, thorax and abdomen. Diagnosis was established with cervical lymph node biopsy revealing a mucinous cholangiocarcinoma. Our institution’s MDT proposal was palliative chemotherapy.
Results: So far only 23 cases are reported in the literature, most of them in Asia, and only one case reported in Europe, to the best of our knowledge.
Conclusion: Mucinous cholangiocarcinoma is a rare entity, with presentation at advanced stage on time of diagnosis. Further studies are needed to detect its prevalence in Western countries.
EP247

OBSTRUCTIVE JAUNDICE, MIRIZZI SYNDROME VS GALLBLADDER CANCER?

B. Conde Inarejos, A. S. Valero Liñán, J. A. González Masiá, J. I. Miota de Llama, P. Lison Jimenez and B. Aguado Rodriguez
Complejo Hospitalario Universitario de Albacete, Cirugía General y del Aparato Digestivo, Spain

Purpose: Mirizzi syndrome is a complication of long standing cholelithiasis. The reported incidence has ranged from 0.7 to 1.4% of all patients undergoing surgery for cholelithiasis.

Method: We report the case of a 84-year-old Spanish man who presented with abdominal pain and jaundice for 1 week. The results of laboratory studies TBIL 22.3 mM/L, DBIL 19.9 mM/L. CT scanning showed an atrophic gallbladder that was full of stones with thickened walls and uneven internal density, as well as dilatation of the intrahepatic bile duct and common hepatic duct. MRCP showed dilatation of the intrahepatic bile ducts and truncation of the common hepatic duct, with faint signal in both of them. Surgical findings included confirmation of the atrophic gallbladder, with a stone (2cm) impacted in the finaly of cystic duct. Therefore, cholecystectomy and commun hepaticojejunal Roux-en-Y internal drainage operation were carried out. He was discharged after an uneventful postoperative course.

Results: Mirizzi syndrome, characterized by bile duct obstruction due to stone in Hartman’s pouch or cystic duct is classified in two types. Obstruction by external compression is classified as type I and that by an eroding stone forming a cholecystobiliary fistula as type II.

Mirizzi syndrome is generally characterized by abdominal pain, jaundice and abnormal liver function tests.

Mirizzi syndrome diagnostics is difficult, despite the fact that there are various imaging techniques currently available, most of them have difficulties in identifying it before surgery, especially with preoperative fistulas and the degree of adhesion and fibrosis. Cholangiography remains the mainstay of diagnosis. An eccentric filling defect in common duct at the level of gallbladder with proximally dilated and distally collapsed bile duct suggests Mirizzi syndrome.

The reported incidence of gallbladder cancer in patients with Mirizzi syndrome ranges from 5 to 28%, these data can be must possible an intense and prolongation inflamation of the gallbladder.

The key point for patients with Mirizzi syndrome is to consider this special type of syndrome preoperatively and formulate surgical plans that will provide the best treatment and avoid incidental injuries.

Conclusion: Mirizzi syndrome diagnostics is difficult for its low prevalence. It is important a careful image tests interpretation. They can help surgeons to diagnose these syndrome accurately and provide optimal treatment.

EP248

A UK SURVEY ON VARIATION IN PRACTICE OF MANAGEMENT OF CHOLEDOCHOLITHIASIS AND LAPAROSCOPIC COMMON BILE DUCT EXPLORATION (ALICE SURVEY)

A. Tanase1, S. Aroori1, A. Dhandha2, M. Cramp2 and A. Streeter1
1University Hospitals Plymouth NHS Trust, Peninsular HPB Unit, 2University Hospitals Plymouth NHS Trust, South West Liver Unit, Derriford Hospital, and 3University of Plymouth, Peninsula Medical School (Faculty of Health), United Kingdom

Background: The practice of managing suspected/confirmed common bile duct stones (CBDS) can vary significantly between surgeons in the UK. The survey was aimed to assess the variation in the management of suspected/confirmed CBDS amongst surgeons in the UK

Methods: An electronic survey containing 40 questions on various aspects of management of CBDS was sent to general surgeons who perform cholecystectomies via five surgical Associations (AUGIS, GBHPBA, ASGBI, ALSGBI and RCS England). The questions asked in the survey are outlined in Table 1.

Results: 132 surgeons responded to the survey within 3 months. Half of the responders were oesophagogastric (OG) surgeons, 18.2% were hepatopancreatico-biliary (HPB), 18.2% general surgeons, 12.1% colorectal and 1.6% other. 85.6% of surgeons had more than 4-year experience as a consultant. In the case of suspected CBDS, 80.3% of surgeons would choose a magnetic resonance cholangiopancreatography (MRCP) as the investigation of choice. Only 14.4% would proceed to LC and intra-operative imaging. In terms of treatment of CBDS, 62.1% would choose an endoscopic retrograde cholangiopancreatography (ERCP) preoperatively and 33.4% of surgeons would choose laparoscopic cholecystectomy and laparoscopic common bile duct exploration (LC+LCBDE). In terms of method of intra-operative imaging to detect CBDS, 82.9% preferred IOC and only 17.1% of surgeons preferred using intraoperative ultrasound (IOUS). Less than a quarter of responders will perform more than more than 10 LCBDEs a year. There was considerable variation in the diameter of the common bile duct surgeons would be comfortable to perform a transcystic CBD exploration, but over 92.8% of responders
would perform a trans-choledochal exploration if CBD diameter were over 8mm.

**Conclusion:** The practice of managing choledocholithiasis and performing LCBDE is incredibly variable in the United Kingdom. We need nationwide consensus on standardisation of practice to improve outcomes and encourage a wider distribution of this procedure.

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**EP249**

**ADENOMYOMA OF THE COMMON HEPATIC DUCT**

A. Ntalagiorgos1, D. Magouliotis2, P. Zotos3, E. Tatsios4, I. Paraskeva5, M. Fergadi6, E. Vasileiadis Drakotou1, D. Symeonidis7 and D. Zacharoulis8

1General University Hospital of Larissa, 2University Hospital of Larissa, Cardiothoracic Surgery, 3General University Hospital of Larissa, Cardiothoracic Surgery, 4University Hospital of Larissa, 5General University Hospital of Larissa, of General Surgery, 6General University Hospital of Larissa, Radiology, 7Ygeia Iatriki Apikoni, and 8General University Hospital of Larissa, General Surgery, Greece

**Background:** Adenomyoma occurs most commonly in the fundus of the gallbladder, seldomly in other parts of the gallbladder and rarely in the extrahepatic biliary tree, where most lesions are localised to the common bile duct or papilla of Vater. Adenomyoma of the common hepatic duct is extremely rare. To the best of our knowledge, only three cases have been reported so far. Most tumors of the intrahepatic bile ducts are malignant, but benign tumors may occasionally occur. The surgeon should be aware of this fact since surgical over-treatment of this kind of tumors is inappropriate.

**Case outline:** A 65 years old woman presented with a two months history of right upper abdominal pain, nausea, vomiting, jaundice and fever. MRI, EUS confirmed intrahepatic duct dilatation due to a tumor that invades (blocks) the common hepatic duct extending to the convergence of the hepatic duct. Cholecystectomy was performed with excision of common bile duct including the convergence of the hepatic ducts plus lymphadenectomy and Roux-en-Y hepaticojejunostomy (Hepp Couinaud). Frozen section histology showed the benign nature of the lesion and a tumor -free resection line. Final histology showed adenomyoma. The patient has remained symptom free for more than 38 months.

**Case report:** A 65 years old woman presented with a two months history of right upper abdominal pain, vomiting, jaundice and fever. On examination, there was a right upper abdominal tenderness. Blood tests showed an elevated alkaline phosphatase (130 U/L; N.R 30-90 U/L) and gamma glutamyl transpeptidase (785 U/L; N.R < 35 U/L). MRCP demonstrated a focal lesion causing abrupt cessation and filling defect of the intrahepatic duct at the convergence extending into the common hepatic duct, 2cm in length. The gallbladder was normal without stones with a polyp on a wall. Intraoperative a solid mass in the common hepatic duct was found close to the hilum of the intrahepatic bile duct. As the hepatoduodenal lymph nodes were enlarged, malignancy was strongly suspected. Cholecystectomy was carried with resection of the suprapancreatic part of the common bile including the convergence of the hepatic ducts and a lymphadenectomy. The intrahepatic ducts were joined and then anastomosed to a retrocolic Roux-en-Y jejunal limb (Hepp Couinaud). The resected specimen contained the gallbladder and origin of the common hepatic duct as well as lymph nodes. A squamous polyp was found on the wall of the gallbladder and a focal lesion (3x2.6x1.9 cm).

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**EP250**

**DA VINCI REST-CHOLECYSTECTOMY: A SINGLE CENTRE EXPERIENCE**

A. Gijsen and D. Lips

Medisch Spectrum Twente, Surgery, Netherlands

**Purpose:** Biliary complaints after cholecystectomy may be caused by gallstones in a residual gallbladder or cystic duct stump (post-cholecystectomy syndrome, PCS). Laparoscopic resection of a gallbladder remnant or long cystic duct stump is associated with an increased risk of vascular and/or bile duct injury.

We assume that the use of robot-assisted laparoscopic assistance and bile duct fluorescence (fire fly) would limit iatrogenic injury in redo-cholecystectomy.

**Methods:** Between 2019 and 2021 patients with imaging confirmed symptomatic cholelithiasis caused by a residual gallbladder or long cystic duct stump were included. Surgery was performed with the Da Vinci X surgery robot by one single surgeon. The bile ducts were visualised using the Firefly fluorescence mode after administering 5 mg indocyanine green (ICG) intravenously.

**Results:** Twenty patients with a mean age of 51 years of which 12 (60%) woman were included. Mean time between complaints and diagnosis was 6 months, and between diagnosis and surgical treatment 9 weeks. ICG illuminated the bile ducts adequately in all cases.

There were no per- or postoperative complications or conversion to open surgery. The mean duration of surgery was 55 minutes. Mean hospital admittance was 1 day; 9 (45%) patients could be discharged the day after surgery. Two patients (10%) had additional postoperative choledocholithiasis successfully treated by ERCP 10 and 20
days after surgery. Three patients (15%) had persistent abdominal complaints without clear cause. At imaging none of these patients had a residual gallbladder, cystic duct stump or choleodocholithiasis. In all patients the residual gallbladder or cystic duct-stump was confirmed by pathology.

**Conclusion:** These results show that redo-cholecystectomy in PCS can safely be done with robot-assisted laparoscopy in combination with ICG bile duct illumination. We show it can be done predominately in day-care with a low percentage of vascular or bile duct injury and a low conversion rates.

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**EP252**

**GALLBLADDER CARCINOMA IN PORTUGAL: A SINGLE CENTER EXPERIENCE AND PROGNOSTIC FACTORS FOR SURVIVAL**

M. J. Amaral1,2, F. Ramalhosa1, M. Serôdio1,2, R. C. Oliveira1,2,3, M. A. Cipriano1 and J. G. Tralhão1,2,4

1Centro Hospitalar e Universitário de Coimbra, General Surgery, 2Faculty of Medicine, University of Coimbra, 3Centro Hospitalar e Universitário de Coimbra, Pathology, and 4Coimbra Institute for Clinical and Biomedical Research (ICBR) Area of Environment Genetics and Oncobiology (CIMAGO), Faculty of Medicine, University of Coimbra, Portugal

**Purpose:** To identify clinicopathological prognostic factors for survival in patients with gallbladder carcinoma (GBC) submitted to surgery in our institution—a tertiary centre.

**Methods:** 41 patients underwent surgical treatment for GBC between 2008-2019. 26(63.4%) were female, 28(68.3%) had associated cholelithiasis and the majority of tumours, 35(85.4%), were adenocarcinomas. 41.5% were diagnosed incidentally, 65.9% had symptoms and 26.8% presented with acute cholecystitis. 46.3% were stage III (AJCC) or higher. 39% were submitted to cholecystectomy alone and 61% were also submitted to hepatic resection. 46.3% had vascular invasion, 26.8% hepatic parenchyma invasion and 9.8% bile duct invasion. Survival analysis was conducted on SPSS. Our institution ethics committee approved this work.

**Results:** Median overall survival (OS) was 20.5 months (IQR 8.8-53.8). 3-year and 5-year survival rates were of 43.2% and 39.6%, respectively. On immunohistochemistry analysis, 6 patients (14.6%) were HER2+, but the HER2 status didn’t show influence on OS (median OS 18 vs 20 months, p=0.649); all had microsatellite stability. There was no association between HER2 expression and staging (p=0.35). On univariate regression, the following factors were associated with worse OS: acute cholecystitis(HR 2.59 (95%CI 1.11-6.06), p=0.028), jaundice(HR 3.18 (95%CI 1.37-7.334), p=0.007), other carcinomas (HR 3.32 (95% CI 1.19-9.23), p=0.022), stage ≥ III (HR 10.35 (95%CI 2.34-45.75), p=0.002), N+ (HR 6.55 (95%CI 2.38-18.03), p<0.001), vascular invasion (HR 8.96 (95%CI 2.78-28.89), p<0.001), hepatic invasion (HR 6.86 (95%CI 2.51-18.75), p<0.001), bile duct invasion (HR 3.50 (95%CI 1.11-11.02), p=0.033), ≥R1 resection (HR 11.79 (95%CI 3.8-36.6), p<0.001), CA 19.9 ≥500 U/mL (HR 2.5 (95%CI 1.05-5.98), p=0.039), CEA ≥5 ng/mL (HR 2.99 (95%CI 1.10-8.14), p=0.032); hepatic resection was associated with better OS(HR 0.24 (95%CI 0.11-0.67), p<0.001). On multivariate regression, stage ≥ III (HR 8.58 (95%CI 1.786-41.171), p=0.007), hepatic resection (HR 0.288, (95%CI 0.091-0.910), p=0.034) and vascular invasion (HR 4.06, (95%CI 1.035-15.918), p=0.045) were independently associated with OS.

**Conclusions:** This study on GBC is, as far as the authors know, the first in Portugal. Surgery is still the gold standard for curative treatment and some patients with favourable prognosis may be identified. The overexpression of HER2 could select patients for targeted treatment and prompt tissue sampling in unresectable patients.

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**EP253**

**INFECTIVE COMPLICATIONS FOLLOWING LIVER SURGERY FOR PERIHILAR-CHOLANGIOCARCINOMA**

F. Bagante, L. Alaimo, A. Ruzzenente, M. Caputo, M. De Bellis, S. Conci, T. Campagnaro and A. Guglielmi

University of Verona, Department of Surgery, Italy

**Purpose:** The incidence of infective complications (inf-comp) after liver surgery for perihilar-cholangiocarcinoma (PHCC) has been reported to range between 28 and 61%. The optimal perioperative management of infective complication is still debated. The aim of the present study was to investigate the pre-operative patients’ characteristic associated with the risk of inf-comp following surgery for PHCC.

**Method:** This retrospective single-center study included patients undergone surgery for PHCC from 2010 and 2020. Perioperative microbiological data were collected with rectal swabs, biliary, and blood cultures, and from surgical-site infection (SSI) samples.

**Results:** A total of 98 patients undergone surgery, preoperative biliary drainage (PBD) was performed in 74 (75.6%) patients. A total of 50 (51.0%) patients had postoperative inf-comp. Univariate and multivariate analysis confirmed that patients with a preoperative neutrophil/lymphocyte ratio ≥3.4 (OR, 4.68), an endoscopic sphincterotomy (OR, 3.97), and preoperative acute cholangitis (OR, 3.53) had an increased risk of inf-comp (all p<0.013). In 74 (75.6%) patients the presence of preoperative multiple drug resistance (MDR) bacteria was confirmed postoperatively (p<0.001). As expected, patients with PBD had a higher incidence of: MDR bacteria, positive intraoperative biliary cultures with ≥3 micro-organisms, SSI, and major complications compared with patients who did not receive PBD (all p≤0.044). Interestingly, patients who developed inf-comp had an increased risk of ICU admission (p=0.03), length of stay ≥20 days (p<0.001), 90-day readmission (p=0.003), major complications (p<0.001) but not 90-day mortality (p=0.52).

**Conclusions:** Several preoperative factors resulted associated with a inf-comp including NLR ≥ 3.4, endoscopic sphincterotomy, and acute cholangitis. Interestingly, the occurrence of preoperative MDR was associated with postoperative MDR inf-comp. These factors should be included in a personalized management of PHCC patients undergoing liver surgery to decrease the incidence of inf-comp.
EP254
IS EMERGENCY PERCUTANEOUS
CHOLECISTOSTOMY STILL VALID IN
THE MANAGEMENT OF ACUTE
CHOLECYSTITIS? ANALYSIS OF A
SERIES OF 145 PATIENTS
M. Pujante Menchón, M. Mella Laborde,
R. Rumenova Smilevska, B. Madrid Baños,
C. F. Fernández Mancilla, L. Rius Acebes,
J. Aparicio Navarro and A. F. Compañ Rosique
San Juan de Alicante University Hospital, General and
Digestive Surgery, Spain
Introduction: Laparoscopic cholecystectomy is the treat-
ment of choice for acute cholecystitis (AC), but may be
inappropriate in elderly high-risk patients. The aim of the
study was to assess the accordance of the indications for
percutaneous cholecystostomy with the 2018 Tokyo
Guidelines (TG18) and compare the outcomes with con-
servative and surgical treatment.
Method: A retrospective observational study of patients
diagnosed with AC in the period from 01/2019 to 03/
2020 was conducted. Clinical, epidemiological and
perioperative characteristics were compared depending
on the treatment (conservative, surgical or
cholecystostomy).
Results: 145 patients were included: 87 (60%) underwent
cholecystostomy, 47 (32,4%) were treated conservatively
and 11 (7,6%) by cholecystostomy, with mean age
respectively 63, 75 and 86 years (p<0,0001). 55% of
the cholecystostomies met the TG18 criteria. Multivariate
analysis showed that medical history of cardio and cere-
brovascular disease, CKD, anticoagulant treatment and
high levels of creatinine, Quick index and CRP, multiplies
by 5.2, 6.4, 10.9, 4.6, 1.2 and 1.1 the probability of chol-
ecystostomy versus cholecystectomy (p<0,005). Both the
length of hospital stay and antibiotic treatment were longer
in the cholecystostomy group compared to conservative
and surgical treatment (15 vs 7 vs 5, p<0,0001 and 12 vs 9
vs 6 days p=0,011). Only one patient with cholecystostomy
underwent subsequent elective surgery compared to 50% in
the conservative group. There was no difference in mor-
tality (4,2% cholecystectomy, 3,4% conservative, 9%
cholecystostomy, p=0,655).
Conclusion: More than half of the cholecystostomies
performed were compliant with the TG18. Patients under-
going cholecystostomy were older, pluripathological and
presented greater systemic involvement (KD, coagulopathy
and elevated APR). They required longer hospital stay and
duration of antibiotic treatment.

EP255
LOCKING VERSUS NON-LOCKING
CLIPS FOR CYSTIC DUCT CLOSURE IN
LAPAROSCOPIC CHOLECYSTECTOMY
AND THE RISK OF CYSTIC DUCT
LEAK: A SYSTEMATIC REVIEW AND
META-ANALYSIS
T. Arkle1, S. Lam1,2, D. Watson3 and B. Kumar1,2
1Norwich Medical School, 2Norfolk and Norwich Univer-
sity Hospital, Upper Gastrointestinal Surgery, and
3Flinders Medical Centre, Flinders University Discipline
of Surgery, Australia
Purpose: Cholecystectomy is one of the most performed
operations in general surgery, yet evidence is currently
lacking regarding the most effective method of securing the
cystic duct to reduce the risk of bile leak. Whilst non-
locking, metallic, clips are very commonly used, observa-
tional evidence suggests that clips with a locking mecha-
nism reduce the risk of bile leak from the cystic duct
compared to non-locking clips. However, such studies are
small and unlikely to be adequately powered. Therefore,
there is uncertainty in clinical practice regarding the most
effective method of bile duct closure. The aim of this
review was to pool available observational data to improve
the effect estimate of current evidence and help inform
surgical practice.
Methods: We undertook a systematic search of PubMed,
EMBASE, MEDLINE and the Cochrane Library from date
of inceptions to 23rd July 2020 for articles that compared the
use of locking and non-locking clips and reported the inci-
dence of early postoperative bile leak from the cystic duct.
Results: A total of 6 studies were deemed eligible for in-
clusion. Three of these studies reported data suitable for
inclusion in a meta-analysis. Meta-analysis estimated that
non-locking clips were associated with an increased odds of
bile leak from the cystic duct compared to locking clips
OR=9.59 (95% CI 1.74-52.81). However, most studies
were small and retrospective and unlikely to be adequately
powered, this is reflected in the imprecision of the pooled
effect estimate.
Conclusions: There is low level evidence suggesting that
locking clips may reduce the risk of cystic duct leak after
cholecystectomy compared to the use of non-locking clips.
An adequately powered prospective study, preferably a
randomised controlled trial, is required to determine the
best method of cystic duct closure during cholecystectomy.

EP256
OUTCOMES OF THE
IMPLEMENTATION OF A
LAPAROSCOPIC COMMON BILE DUXT
EXPLORATION PROGRAMME IN A
HEPATOMBILIARY DEPARTMENT
R. Termes Serra1, C. Ginestà2, V. Turrado3,
R. García1 and C. Fondevila2
1Hospital Clínic de Barcelona, General and Digestive
Surgery, 2Hospital Clínic de Barcelona, Hepatobiliary
Surgery, and 3Hospital Clínic de Barcelona, Gastrointes-
tinal Surgery, Spain
Introduction: Common bile duct stones are present in 3%
to 16% of the patients with symptomatic gallbladder stones.
There is still debate in whether the single step approach
(laparoscopic cholecystectomy (LC) and laparoscopic
common bile duct exploration (LCBDE)) is more efficient
than the two-step approach (ERCP + LC).
The aim of this study was to analyse the effect of the
learning curve in the implementation of a LCBDE
programme in a hepatobiliary department experienced in LC.
Methods: A retrospective analysis of a prospectively
maintained database was performed. A comparison be-
tween two chronological groups was performed in terms of
demography, surgical and postoperative outcomes.
Results: A total of 44 patients operated between October 2018 and January 2021 were identified. There were no differences in baseline characteristics of both groups.

Preoperatively confirmed cholecystolithiasis was found in 57.2% of the patients. A transcystic approach was used in 70.5% of the patients, without differences between groups. There were no differences regarding length of surgery nor hospital stay.

Eight patients had postoperative complications in the whole series, of them, five patients belonged to the first group. Among the five complications of the first group, four of the cases were incomplete clearance, thus, a complete clearance was achieved in 81% of the patients in the first group and 100% in the second group, reflecting the learning curve.

Conclusions: The implementation of a LCBDE is safe and feasible in groups with experience in LC, with low and easily treated complications and a short learning curve.

EP257
SINGLE CENTRE RETROSPECTIVE STUDY ON INTRADUCTAL PAPILLARY NEOPLASM OF THE BILE DUCT: INCIDENCE: ARE WE REPORTING ALL CASES?

M. Achalandabaso Boira1, C. Gómez-Gavara1, C. Dopazo1, M. T. Salcedo2, M. Caralt1, L. Blanco1,

Methods:

We analysed its incidence in our centre.

Stage easily treated complications and a short learning curve.

Feasible in groups with experience in LC, with low and

The implementation of a LCBDE is safe and

Conclusions: The implementation of a LCBDE is safe and feasible in groups with experience in LC, with low and easily treated complications and a short learning curve.

EP257 Table 1
Clinicopathological data of the included patients.

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>PMH</th>
<th>CA 19.9</th>
<th>Bilirubin</th>
<th>Symptoms</th>
<th>Preoperative diagnosis of IPNB</th>
<th>Location</th>
<th>Surgery</th>
<th>TNM</th>
</tr>
</thead>
<tbody>
<tr>
<td>74</td>
<td>M</td>
<td>PBC</td>
<td>normal</td>
<td>↑</td>
<td>Abdominal pain</td>
<td>yes</td>
<td>intrahepatic</td>
<td>Right H</td>
<td>pTisN0</td>
</tr>
<tr>
<td>69</td>
<td>F</td>
<td>Breast ca</td>
<td>normal</td>
<td>↑</td>
<td>Incidental finding</td>
<td>no</td>
<td>intrahepatic</td>
<td>II-III</td>
<td>pTisNx</td>
</tr>
<tr>
<td>66</td>
<td>F</td>
<td>Colon ca</td>
<td>normal</td>
<td>↑</td>
<td>Incidental finding</td>
<td>yes</td>
<td>intrahepatic</td>
<td>Left H</td>
<td>pT1bNx</td>
</tr>
<tr>
<td>77</td>
<td>M</td>
<td>Bladder ca</td>
<td>normal</td>
<td>↑</td>
<td>Abdominal pain</td>
<td>no</td>
<td>intrahepatic</td>
<td>Left H</td>
<td>pTisN1</td>
</tr>
<tr>
<td>54</td>
<td>F</td>
<td>Ovarian ca</td>
<td>normal</td>
<td>↑</td>
<td>Abdominal pain</td>
<td>yes</td>
<td>intrahepatic</td>
<td>Right H</td>
<td>pTisN0</td>
</tr>
</tbody>
</table>

PMH: previous medical history, ca: cancer, H: hepatectomy

EP258
THE NEUTROPHIL-TO-LYMPHOCYTE RATIO AS A SIMPLE TOOL TO PREDICT SEVERE ACUTE CHolecystitis AND MORTALITY


University Hospital Arnau de Vilanova, Spain

Purpose: Acute cholecystitis (AC) is a common cause of the acute abdomen. The present study evaluates whether the Neutrophil-to-Lymphocyte Ratio (NLR) could be a simple and useful predictor tool to discriminate the severity in patients with AC, as well as the mortality associated.
**Methods:** We retrospectively analyzed the database from January 2019 to April 2020. 214 patients were admitted to our center with the diagnosis of AC based on the criteria of the Tokyo 2018 Guidelines. The NLR was calculated in all cases at admission by dividing the absolute neutrophil count between the absolute lymphocyte count. The Receiver Operating Characteristic (ROC) curve analysis was used to identify the optimal value in relation to the severity of AC. Finally, the differences in relation to clinical presentation and mortality according to the chosen NLR cut-off value were investigated.

**Results:** The population of our study comprised 187 patients with non-severe CA (87.4%) and 27 with severe CA (12.6%). The NLR cut-off of 12.48 was able to predict severe AC with 70% sensitivity and 70% specificity. A NLR value ≥ 12.48 was significantly associated with older age (p <0.001), severe AC (p<0.001), less cholecystectomies (p<0.001), more cholecystostomies (p <0.001), higher grades of complications (p<0.05), prolonged hospital-stay (p<0.05) and higher mortality (p <0.05). In the multivariate analysis, NLR>12.48 was a factor independently associated with mortality OR 2.29 (95% CI: 1.20-2.79).

**Conclusions:** In our series, NLR ≥ 12.48 was significantly associated with severe AC and higher mortality.

**EP258 Table 1** Variables and characteristics of patients grouped by NLR

<table>
<thead>
<tr>
<th>Nº</th>
<th>NLR &lt; 12.48 (n=132)</th>
<th>NLR ≥ 12.48 (n=82)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>68.1 yrs (+/- 36.6)</td>
<td>77.3 yrs (+/-26.4)</td>
<td>P&lt;0.001</td>
</tr>
<tr>
<td>Mild AC</td>
<td>56 (42.4%)</td>
<td>19 (23.2%)</td>
<td>P&lt;0.001</td>
</tr>
<tr>
<td>Moderate AC</td>
<td>68 (51.5%)</td>
<td>44 (53.7%)</td>
<td></td>
</tr>
<tr>
<td>Severe AC</td>
<td>8 (6.1%)</td>
<td>19 (23.2%)</td>
<td></td>
</tr>
<tr>
<td>Cholecystectomy</td>
<td>89 (67.4%)</td>
<td>37 (45.1%)</td>
<td>P&lt;0.001</td>
</tr>
<tr>
<td>Cholecystostomy</td>
<td>7 (5.3%)</td>
<td>18 (22%)</td>
<td>P&lt;0.001</td>
</tr>
<tr>
<td>Clavien-Dindo &gt; II</td>
<td>8 (6%)</td>
<td>13 (15.9%)</td>
<td>P&lt;0.05</td>
</tr>
<tr>
<td>Mean stay</td>
<td>5.8 days</td>
<td>7.4 days</td>
<td>P&lt;0.05</td>
</tr>
<tr>
<td>Mortality</td>
<td>4 (3%)</td>
<td>9 (11%)</td>
<td>P&lt;0.05</td>
</tr>
</tbody>
</table>