specimens' examination, based on a single-centre analysis of incidence, clinical and histopathological aspects of IGC.
**Method:** Patients who underwent cholecystectomy, between July 2010 and January 2020, were considered. Exclusion criteria were age under 18 and preoperative diagnosis of GB carcinoma. Demographic, clinical and histopathological data were retrospectively collected, continuous variables with a normal distribution were evaluated with Student's t-Test and ANOVA.
**Results:** Some 5779 patients were included. The female/male ratio was 2.5:1. Chronic cholecystitis (CC) was the most common finding on specimens (99.3%), IGC was found in 6 cases (0.1%). In the latter group, there were 5 women and patients were older than those with benign disease − 73.7 ± 5.38 years vs 55.8 ± 0.79 years ($p<0.05$). In all the cases, the GB was abnormal on intraoperative inspection and beside cancer, histopathology showed associated CC and/or dysplasia. Upon diagnosis, disease was at advanced stage − one stage II, one stage IIIA, one stage IIIB, three stage IVA. Two patients are alive, three died of disease progression − median survival was 7 months (range 2-14).
**Conclusion:** In this series, ICG was rare, occurred most commonly in old adult women and was diagnosed at an advanced stage. In all the cases, the GB was abnormal intraoperatively, therefore macroscopic GB anomalies demand histopathological assessment of the specimen.

**TP01.04_Table** . Characteristics of patients with Incidental Gallbladder Cancer

| Patient | Gender | Age | Indication of surgery | GB[a] on preoperative imaging | Histopathology | AJCC[c] Stage | Treatment | Alive | Survival (months) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | M | 53 | Biliary colic | Thick-walled | CC[b] | II | Surgery | Y | 17 |
| 2 | F | 80 | Pancreatitis | Thick-walled | CC[b] | IVA | Chemotherapy | N | 2 |
| 3 | F | 80 | Cholangitis | Normal | CC[b] + Dysplasia | IVA | | N | 7 |
| 4 | F | 72 | Biliary colic | Normal | CC[b] | IIIB | Chemotherapy | N | 7 |
| 5 | F | 66 | Cholangitis | Normal | Dysplasia | IVA | Chemotherapy | N | 14 |
| 6 | F | 91 | Biliary colic | Adenomyomatosis | CC[b] + Dysplasia | IIIA | | Y | 23 |

[a] Gallbladder
[b] Chronic Cholecystitis
[c] American Joint Committee on Cancer

## TP01.05
## ARTIFICIAL INTELLIGENCE IN THE DETECTION, CHARACTERISATION AND PREDICTION OF HEPATOCELLULAR CARCINOMA

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**Purpose:** Hepatocellular carcinoma (HCC) is a significant cause of morbidity and mortality worldwide. Despite significant advancements, the diagnosis and management of HCC remains a challenge. This review aims at exploring artificial intelligence (AI) solutions applied to HCC.
**Methods:** A review of the literature from Embase, MEDLINE and Cochrane Library was conducted to determine the role of AI in HCC, across three domains: detection, characterisation and prediction. 56 relevant original research studies were identified and included in a qualitative synthesis.
**Result:** AI models can be implemented into the detection of HCC, as they excel at analysis and integration of large datasets. Moreover, AI outclasses traditional statistical models at tumour characterisation based on radiological and pathological images. Predicting treatment outcomes and survival using AI can shape future HCC guidelines and support clinical decision-making, especially treatment choice. AI in HCC has limitations, hindering its clinical adoption. Small sample size, single-centre data, non-transparent reporting, lack of external validation, and overfitting all results in low generalisability of findings.
**Conclusion:** AI has immense potential; however, interdisciplinary collaboration is needed to improve, validate and implement it across all aspects of HCC. AI has a multifaceted role in HCC and its importance can increase in the future, as more sophisticated technologies emerge.

## TP01.06
## BELGIAN PROSPECTIVE REGISTRY ON LAPAROSCOPIC LIVER SURGERY COMPARED TO OPEN PROCEDURES: 3 YEAR SNAPSHOT OF MULTICENTRIC ACTIVITY

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The Belgian Registry on Laparoscopic Liver Surgery is a prospective, non-compulsory, online registry of laparoscopic (LLS) and open (OLS) liver procedures, endorsed in 2016 by the Belgian Section of Hepato-Biliary and Pancreatic Surgery. The primary aim is to assess the evolution of laparoscopic liver surgery compared to the standard open approach in Belgium.

**Methods:** Participating centers included, through a secured SSL server (www.brells.org), all consecutive liver surgeries from 2017 to 2019. Demographic, pre- intra- and post-operative data of all consecutive LLS and OLS were recorded.

**Results:** In total 13 centers participated to the study. 1531 procedures were recorded (841 LLS and 690 OLS) in 1408 patients. Demographics of patients were similar between LLS and OLS. Indication for surgery were 57% liver metastases (49% LLS, 51% OLS), 29% primary liver tumors (57% LLS, 43% OLS) and 16% benign diseases (73%LLS, 27% OLS). Exclusive local thermal ablation (LA) accounted for 118 procedures. Excluding LA from analysis, rate of major hepatectomies was 18,2% (n=258) and median Ghent difficulty score was 5,6 (4,8 LLS vs 6,5 OLS). LLS were converted to OLS in 3,3% of cases. Overall morbidity and mortality were significantly lower in LLS compared to OLS respectively 27% vs 53% and 0,6% vs 2,9%. Length of hospital stay was significantly shorter in LLS (Median 4 vs 7 days).

**Conclusions:** LLS are wide spreading in Belgium accounting globally to 55% of all liver surgeries. In selected patients, LLS are safe, advantageous and reproducible in major HPB centers. A low morbidity has been prospectively confirmed.

## TP01.07
## BRANCHING PATTERNS OF THE LEFT PORTAL VEIN AND CONSEQUENT IMPLICATIONS IN LIVER SURGERY: THE LEFT ANTERIOR SECTOR

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**Purpose:** There are still some open issues regarding the division in anatomo-functional units within the left liver. The aim of this study was to investigate the anatomy of the left portal vein (LPV) with particular attention to its branching patterns in a functional/surgical perspective.

**Methods:** A retrospective systematic review of 204 triphasic MDCT abdominal scans was performed.

**Results:** Normal anatomy with at least 1 independent portal pedicle for each of S2, S3, S4a, S4b (pattern I) and anomaly with common pedicle for S2-S3 (pattern II), for S4a-S4b (pattern III) or for both S2-S3 and S4a-S4b (pattern IV) were respectively found in 74.5%, 5%, 18.5%, 2% of patients. In 79.5% of cases, independent portal pedicles for S4a and S4b were found. The subdivision of the left liver in medial and lateral sectors following the Brisbane Classification appeared to respect the principle of independence of sectorial pedicles only in 33% of patients. Alternatively, it was proposed the concept of "left anterior sector", a portion of liver independently supplied by the distal part of the LPV; its prevalence in the population analysed was 98%.

**Conclusions:** S4a and S4b should be considered 2 functionally independent subsegments; the "left anterior sector" could be considered a new anatomic entity of the left liver consistent with the branching of the LPV.

# Talking Poster 2 - Biliary

## TP02.01
## BILE BACTERIAL FLORA AND ITS CLINICAL INFERENCES WITH SENSITIVITY PATTERN FROM A TERTIARY CARE CENTRE

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**Background:** Though preoperative biliary drainage (PBD) has been linked with increased perioperative morbidity, it is still practiced widely. We studied the association of PBD and positive biliary culture with surgical site infection and also analyzed the common pathogens and their antibiotic sensitivity spectrum.

**Methods:** Prospectively maintained data of patients who underwent various pancreatobiliary surgeries from 2017 to 2019 was analyzed. Patients whose intraoperative bile culture reports were available were included in the study. Various factors associated with surgical site infection (SSI), microbial spectrum of bile culture and their sensitivity pattern were analyzed.

**Results:** Out of 68 patients whose bile culture report were available, PBD was done in 65% (n=44). Among patients with infected bile (n=51), biliary stent was present in 78.4% (n=40). On univariate analysis, the factors associated with SSI were low albumin level (<3.5 mg%), long operative time (>6 hours), duration of abdominal drain (>4 days), length of hospital stay, intraoperative bile spillage and infected bile. However, on multivariate analysis, only presence of drain for >4 days (p=0.04) and positive bile culture (p=0.02) was linked with increased risk of SSI. Most common organism isolated was E coli (73.2%) with 100% sensitivity to Colistin and Tigecycline by gram negative isolates.

**Conclusion:** Preoperative biliary stenting alone did not increase the risk of SSI, but the positive bile culture correlated with SSI irrespective of PBD. Most biliary