### PATTERNS OF RECURRENCE AND PERI-OPERATIVE PREDICTORS OF LIVER METASTASIS AFTER PANCREATIC CANCER RESECTION


**Background:** Pancreatic ductal adenocarcinoma (PDAC) is one of the most lethal malignancies. A large proportion of surgically-treated patients develop early liver metastasis (LM). We aimed to characterize the incidence of LM and extrahepatic (EH) recurrence and examine peri-operative factors that may affect the liver microenvironment.

**Methods:** We reviewed records of consecutive patients who had R0/R1 pancreatic resection from 2005 to 2009. Based on first recurrence site(s) and timing of LM, patients were classified as: EH only; liver only; EH first-then liver; liver first with EH. Cumulative incidence of first recurrence and time to LM were estimated using competing risks methods. Fine and Gray regression method was used to examine association between peri-operative factors such as BMI, tumor location, biliary obstruction (BO)/drainage, margin status, lymph node ratio and tumor grade with time to LM. Overall survival (OS) from date of surgery was estimated using Kaplan—Meier methods.

**Results:** 277 PDAC patients (median age = 70; male = 47%; BO = 67%, of which 76% had drainage procedure; R1 = 22%) were included, with median follow up among survivors of 6 years [range: 0.1–11.3]. A total of 226 deaths were observed at the end of follow up, with 5-year OS of 21% [95% CI: 16%–26%]. 212 patients had recurrence with cumulative incidence of 76% at 5 years. Cumulative incidence of first recurrence at 5 years was 36%, 18%, 11%, and 11% for EH only, liver only, EH first-then liver, and liver first with EH, respectively. Patients with first recurrence in the liver had the worst OS (Figure). In univariate analysis, only poor tumor differentiation was associated with risk of LM (HR 2.35 [CI: 1.58–3.48]; p < 0.01).

**Conclusion:** Patients with liver first recurrence represent a particularly poor outcome group, and efforts should be made to better identify these patients.

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### ORGAN PRESERVING PANCREATECTOMY FOR PANCREATIC BENIGN OR LOW-GRADE MALIGNANT TUMOR: A REPORT OF 66 CASES IN A SINGLE INSTITUTION


**Background:** Traditional pancreatectomy procedures such as pancreaticoduodenectomy and distal pancreatectomy with splenectomy, usually require resection of pancreas and surrounding organs, which have a disadvantage of major trauma, long hospital stay and high morbidity. The aim of...
this retrospective study was to the clinical value of organ preserving pancreatectomy in the treatment of benign or low-grade malignant pancreatic tumor in a single institution.

Methods: The clinical data of 66 patients with pancreatic benign or low-grade malignant tumor underwent organ preserving pancreatectomy from January 2009 to December 2016 were retrospectively analyzed, including 34 tumor enucleation, 10 middle segmental pancreatectomy, 13 spleen-preserving distal pancreatectomy, 6 pylorus preserving pancreatoduodenectomy and 3 duodenum-preserving pancreatic head resection.

Results: The mean operative time was (163.6 ± 77.4) min. The mean intraoperative blood loss was (234.4 ± 242.7) mL, and the mean postoperative hospital stay was (11.3 ± 8.1) d. The incidence of overall complications, pancreatic fistula, bleeding, abdominal infection and delayed gastric emptying were 36.3%, 25.8%, 1.5%, 6.1% and 3.0%, respectively. Excluding patients with insulinoma, the incidence of post-operative new-onset diabetes mellitus was 3.1%. The incidence of requiring pancreatic enzyme replacement therapy was 1.5%. All patients had no recurrence or metastasis with the mean follow-up period of 47.2 months.

Conclusion: Organ preserving pancreatectomy can maximally preserve the pancreatic parenchymal and adjacent organs, avoid the excessive loss of pancreatic endocrine and exocrine functions, and preserve the function of spleen. It should be considered as the first option in the treatment of benign or low-grade malignant pancreatic tumor.

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LAPAROSCOPIC LIVER RESECTION FOR METASTATIC MELANOMA

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Background: Stage IV metastatic melanoma carries a poor prognosis. In the case of melanoma liver metastasis (MLM), surgical resection may improve survival and represents a therapeutic option, with varying levels of success. Laparoscopic liver resection (LLR) for metastatic melanoma is poorly studied. The aim of this study was to analyze the outcomes of LLR in patients with MLM.

Methods: Between April 2000 and August 2013, 11 (1 cutaneous, 9 ocular and 1 unknown primary) patients underwent LLR for MLM at Oslo University Hospital – Rikshospitalet and 13 procedures in total were carried out. Perioperative and oncologic outcomes were analyzed. Postoperative morbidity was classified using the Accordion classification. Kaplan–Meier method was used for survival analysis.

Results: A total of 23 liver specimens were resected. The median operative time was 137 (65–470) min, while the median blood loss was less than 50 (<50–900) mL. No intraoperative unfavorable incidents and 30-day mortality occurred. Median follow-up was 33 (9–92) months. Ten patients (91%) developed recurrence within a median of 5 months (2–18 months) and two patients underwent repeat LLR for recurrent liver metastases. One-, three- and five-year overall survival rates were 82%, 45% and 9%, respectively. The median overall survival was 30 (9–92) months.

Conclusion: Perioperative morbidity and long-term survival after laparoscopic liver resection for melanoma liver metastasis seems to be comparable to open liver resection. Thus, LLR may be preferred over open liver resection due to the well-known advantages of laparoscopy, such as reduced pain and improved possibility for repeated resections.

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LIVER ABSCESS PATHOLOGY AND MANAGEMENT IN WESTERN SYDNEY

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Background: Liver Abscesses (LA) are a highly morbid, life-threatening condition requiring prompt intervention. Pathologically they are grouped as Pyogenic (PLA), Amoebic (ALA), Hydatid (HLA) or Cryptogenic (CLA). This is the first analysis of LA in the changing population of Western Sydney.

Methods: A retrospective analysis of data from 2012 to 2017 was conducted. Primary outcomes were incidence, pathogenicity, length of inpatient hospital stay (LOS), duration of antibiotic therapy (DABx) and mortality. Secondary Outcomes analyzed included comorbidities, intervention types and rates, number of interventions, analysis of culture frequencies and concomitant disease.

Results: A total of 133 patients were admitted with LA, average age 57 years (17–90) and 2.25:1 male predominance. The average annual incidence of 24 cases (range 19–29). The pathogenicity was 52% PLA, 16% ALA, 0% HLA and 16% CLA. Median stay was 11 days (range 1–98) and median DABx was 19 days (range 2–98). There were 19 (14%) readmissions and 5 (4%) mortalities. Comorbidities in the patient population included Diabetes 25%, Viral Hepatitis 8%, Immunosuppression 8%, IVDU 4%. Primary intervention was 18% antibiotic therapy only, 68% percutaneous drainage insertion, 5% percutaneous aspiration and 8% operative intervention. 23(17%) required a second intervention, whilst 5% required a third. All were by percutaneous drainage. Overall operative intervention rate was 5%. PLA analysis of culture frequency was “K. pneumonia” 23% (30), “E. coli” 9% (12) and “S. anginosus” 8% (11). PLA concomitant biliary infection rate was 41% (55) and concomitant malignancy 18% (24); 9 primary liver (8 cholangiocarcinoma, 1 HCC) and 11 secondary malignancies.

Conclusion: Liver abscess remains a rare condition despite the changing demographics of the Western Sydney region. Non-operative interventional drainage remains the mainstay of treatment.

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MAJOR PANCREAS RESECTION FOR ADENOCARCINOMA IN THE ELDERLY PATIENTS; DOES AGE IMPACT THE OUTCOME?


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Background: Our Objective was to evaluate the safety and survival benefit of curative resection (CR) of borderline