

and 10.5%, and 31.7% and 19.0%, respectively. No survival difference was shown between bypass surgery and palliative resection group. All other factors did not affect the outcomes.

Conclusions: Bypass surgery group with high dose RT showed similar survival outcome to palliatively resected group. These results might suggest that dose escalation after bypass surgery in unresectable extrahepatic bile duct cancer patients could achieve comparable survival to R2 resection.

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POSTER

Cardiopulmonary Exercise Testing (CPET) as a Predictor of Outcome in a Mixed Hepatobiliary Surgical Cohort

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Background: Cardiopulmonary exercise testing is a non-invasive method of quantifying a patients' level of fitness. Studies in mixed surgical populations have looked at the predictive value of CPET derived variables such as anaerobic threshold (AT). Anaerobic threshold has been shown to be useful in identifying patients at risk of increased post operative morbidity, mortality and those at risk of prolonged hospital stay. An AT <11 has been found to predict increased postoperative morbidity and mortality in series reporting on other types of major intra-abdominal surgery, but the predictive value of an AT < 11 in a hepatobiliary group of patients has not been identified.

Methods: We identified all patients who underwent preoperative CPET and subsequent hepatobiliary surgical intervention. Data recorded included demographic data, surgical procedure, postoperative length of stay (LOS), postoperative morbidity score (POMS) at day 5 and 8, incidence of elective critical care admission, reoperation, and readmission to critical care.

Results: 78 patients underwent CPET and Hepatobiliary surgical intervention between May 2008 and October 2010. Median age of patients was 70 (intra-quartile range (IQR) 63–75). 35 Liver Resection (Colorectal Liver metastasis), 16 Liver resection (Other malignant), 4 Liver resection (Benign), 6 radical cholecystectomy, 4 cholecystectomy, 3 open and close (irresectable), 2 other hepatobiliary. There was no statistically significant difference in the BMI or age of patients with an AT <11. Patients with AT <11 had a median LOS of 7 days (IQR 6–9), AT >11 median LOS 6 days (IQR 5–10) (p 0.432). Patients with an AT <11 had no increase in postoperative morbidity, elective critical care admission, readmission to critical care or reoperation. There was only one death within 90 days, due to malignant disease progression.

Conclusions: In a group of patients undergoing heterogeneous hepatobiliary surgical intervention, patients with an AT <11 have no significant increase in postoperative morbidity, elective critical care admission, readmission to critical care or reoperation. This highlights that the level of fitness patients require to undergo surgical intervention is procedure and patient specific, and that quantitative CPET data should be interpreted as such, rather than using arbitrary cut offs.

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POSTER

The Value of Cardiopulmonary Exercise Testing in Liver Resection

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Background: Liver resection is the treatment of choice for many liver lesions. Historically resection was associated with a mortality of >10%, now this is below 5%. Advances in patient selection, surgical technique and post-operative care have contributed to this improvement. Despite improved mortality rates, current literature suggests morbidity rates remain high, ranging from 23%–56%. Various methods are used pre-operatively to try to identify patients at higher perioperative risk; however debate remains regarding the most appropriate method.

Cardiopulmonary exercise testing (CPET) has been used in mixed surgical populations. CPET detected variables including anaerobic threshold (AT) have used to identify patients at higher risk of post-operative morbidity, mortality and prolonged hospital stay. The value of CPET in patients undergoing liver resection has not been studied.

Methods: We identified patients who underwent preoperative CPET and subsequent Liver resection in our unit between 1/5/2008 and 1/10/2010. Notes, hospital computer system and a prospectively maintained database were reviewed retrospectively. Data recorded included demographic data, surgical procedure, postoperative length of stay (LOS), postoperative

morbidity score (POMS) at day 5, reoperation, and readmission to critical care.

Results: Full datasets were obtained on 55 patients who underwent CPET and liver resection. 35 male, 20 female. Mean age 70 years. Resections were carried out for Colorectal Liver metastasis 35, cholangiocarcinoma 9, hepatocellular carcinoma 4, Other malignancy 2, Benign disease 5. Mean 11.9 ml/kg/min, Mean Vo2 peak 18.5 ml/kg/min. 17 patients had an AT <11. Those with AT <11 had a mean LOS of 13 days, compared to 10 days in those with AT 11+ (p = 0.46). Patients with an AT <11 were more likely to have a POMS of 1 or greater at day 5 (p = 0.03). There were no significant differences in the age, BMI, or critical care readmission in either group. There was no mortality. There was a trend towards higher reoperation in those with an AT < 11 (p = 0.08).

Conclusions: CPET can be used to identify patients at higher risk of postoperative complications when undergoing Liver resection. This was not due to increased age or increased BMI. This could be used to better allocate critical care bed utilisation. There appeared to be a trend towards longer LOS, and higher reoperation rates in those with an AT <11, in a larger series this may become statistically significant.

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POSTER

Predictors of Recurrence After Pancreaticoduodenectomy for Ampullary Carcinoma

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Introduction: The prognosis for patients with carcinoma of the ampulla of Vater (AVC) is improved relative to other periampullary neoplasms, but recurrence of disease remain possible. The overall 5-year survival after radical resection is 50%. The aim of this study was to determine the clinicopathologic factors that influence long-term survival and type and curability recurrence after pancreaticoduodenectomy.

Methods: We reviewed 34 patients who underwent pancreaticoduodenectomy (PD) between August 2003 and August 2010 for AVC. Demographic, clinical, and pathologic data, recurrence rate and treatment were collected. The correlation between clinicopathologic factors and survival of patients after resection was examined by the Kaplan–Meier method, the log-rank test, and Cox proportional hazards regression.

Results: The mean follow-up was 23 month. The overall actuarial survival rates at 1, 3, and 5 years were 73.2%, 63.1%, 62.1% respectively. Nine patients recurred (7 month to 42 month). Factors that significantly influenced survival were perineural invasion (P < 0.001), lymph node status (P < 0.001), and degree of differentiation (P < 0.001) on univariate analysis. On multivariate analysis, both perineural invasion and lymph node status were the independent determinants of survival after resection. Histologic type (pancreatobiliary vs intestinal-type of tumour) was not a statistically significant factor for recurrence (p > 0.1). 4 patients underwent R0/R1-R2 resection for recurrence, 5 – chemotherapy.

Conclusions: Perineural invasion and lymph node status is associated with recurrence after pancreaticoduodenectomy for AVC and may identify candidates for adjuvant therapy. Recurrence after surgery can occur late and long follow-up it is usefulness after PD for AVC. Some patients with recurrence, especially with isolated liver metastases may be candidate for surgical treatment.

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POSTER

Results of Surgical Treatment for Hepatocellular Carcinoma Invading the Major Portal Vein or Inferior Vena Cava

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Background: Patients with hepatocellular carcinoma invading the main trunk of the portal vein and the inferior vena cava have a dismal prognosis. The only hope for cure for such advanced cancer is an aggressive hepatectomy, but the best strategy for treatment is not well determined.

Methods: We retrospectively reviewed the medical records of 641 patients treated for hepatocellular carcinoma. In this series, 84 (13%) patients had hepatocellular carcinoma with a tumour thrombus invading the main trunk or the first-order branch of the portal vein, or the inferior vena cava. Thirty-four patients underwent hepatectomy and 50 patients underwent transcatheter arterial chemoembolization (TACE) alone. For time-to-event outcomes, the distribution of time to the first event were compared using the log-rank test, while the Kaplan–Meier method was used to estimate the absolute risk of each event for each group, and hazard ratios and 95% confidence intervals (CI) were estimated by the Cox proportional hazards model. To identify the baseline and clinical variables associated with the