Methods: Retrospective analysis of chronic pancreatitis patients in Healthcare Cost and Utilization Project Florida State Inpatient Database 2007–2011 using revisit variables. Patients with malignancy or congenital abnormalities excluded. Surgical interventions and complications of chronic pancreatitis identified using ICD-9 codes. Univariate analysis of sex, Elixhauser score, race, insurance, complications, receipt of surgery by chi-square. Number of readmissions, time to surgery by Wilcoxon rank sum. Multivariate analysis of operative management by logistic regression.
Results: 21,448 chronic pancreatitis patients. 6.18% (1,325) underwent surgery including 629 with drainage procedures, 275 with pancreatectomies, 735 with cholecystectomies. Procedures decreased from 8.65% in 2007 to 3.10% in 2011 ($p < 0.0001$). 12.95% (2,778) developed pancreatitis-related complications: pancreatic cysts or pseudocysts (4.40%), diabetes (10.02%). Pancreatic exocrine insufficiency in <11 patients. Median number of readmissions 1 (IQR 0–4) and 5 (IQR 2–9) among non-surgical and surgical patients, respectively ($p < 0.001$). Median number of admissions prior to pancreatectomy was 2 (IQR 1–4) and drainage procedure was 2 (IQR 1–6). Predictors of surgical intervention displayed in table.
Conclusions: Chronic pancreatitis leads to numerous inpatient readmissions and difficult to manage complications. Surgical intervention occurs in a declining minority of cases. Complicated patients are more likely to undergo surgery; operative patients experience more admissions than nonoperative patients. The complexities of chronic pancreatitis management warrant early multidisciplinary evaluation and ongoing consideration of surgical and nonsurgical options.

Univariate and multivariate logistic regression models of receiving surgery for chronic pancreatitis

	Unadjusted			Adjusted		
	Odds Ratio	95% Confidence Interval		Odds Ratio	95% Confidence Interval	
Female (vs. Male)	0.974	0.871	1.089	1.020	0.909	1.143
Elixhauser Score (vs. 0)						
1	0.932	0.728	1.192	1.011	0.787	1.299
2	0.793	0.625	1.006	0.916	0.718	1.169
≥3	**0.636**	**0.511**	**0.792**	**0.778**	**0.620**	**0.976**
Low Income (vs. High)	0.934	0.831	1.051	0.982	0.870	1.109
Age (in years)	**0.979**	**0.976**	**0.983**	**0.982**	**0.978**	**0.987**
Insurance (vs. Private)						
Medicare	**0.505**	**0.439**	**0.581**	**0.748**	**0.637**	**0.878**
Medicaid	**0.821**	**0.690**	**0.977**	**0.830**	**0.692**	**0.994**
Missing/Other	**0.678**	**0.580**	**0.793**	**0.657**	**0.559**	**0.771**
White Race (vs. Non-white)	0.962	0.851	1.089	0.942	0.829	1.070
Pancreatic Cyst or Pseudocyst	**4.739**	**4.012**	**5.598**	**4.412**	**3.725**	**5.225**
Diabetes Mellitus	**1.379**	**1.168**	**1.629**	**1.412**	**1.190**	**1.676**

FRIDAY, MARCH 13, 2015, 4:30PM–6:30PM
LONG ORAL E – LIVER ONCOLOGY

LO-E.01 NEOADJUVANT CHEMOTHERAPY DOES NOT IMPAIR LIVER REGENERATION FOLLOWING MAJOR HEPATECTOMY OR PORTAL VEIN EMBOLIZATION FOR COLORECTAL LIVER METASTASES

E. Simoneau[1], N. Molla[1], R. Alanazi[2], J. Alshenaifi[2], M. Aljiffry[3], A. Medkhaly[2], L. Boucher[1], P. Metrakos[1], M. Hassanain[1,2]
[1]Department Of Surgery, McGill University, Montreal, QC; [2]Department Of Radiology, McGill University, Montreal, QC; [3]Department Of Surgery, College Of Medicine, King Saud University, Riyadh, SA; [4]Department Of Surgery, Faculty Of Medicine, King Abdulaziz University, Jeddah, SA; [5]Department Of Oncology, McGill University, Montreal, QC

Introduction: Treatment strategies for colorectal liver metastasis (CRCLM) such as major hepatectomy and portal vein embolization (PVE) rely on the regenerative capacity of the liver. Neoadjuvant chemotherapy is most often used with patients undergoing these procedures. We aimed to investigate the effect of neoadjuvant chemotherapy on liver regeneration after PVE and after major hepatectomy.
Methods: All CRCLM patients undergoing PVE or major resection (without PVE) with 3D liver volumetry measurements were included. Liver regeneration (expressed as future liver remnant (FLR) and percentage of liver regeneration(% LR)), total liver volume (TLV) and clinical characteristics were collected from our CRCLM database.
Results: Between 2003–2013, 226 patients were included (85 major resections, 141 PVE). Mean age was 63 ± 12 years old and median number of cycles was 6(5–8). In each group, overall adequate regeneration was observed (+96.5% in FLR ($p < 0.001$) post PVE and +45.8% in FLR ($p < 0.001$) post resection). In the PVE group, chemotherapy variables did not show significant association with the amount of liver regeneration (number of cycles ($p = 0.435$), timing ($p = 0.563$), chemotherapy agent ($p = 0.116$)). Similarly in the major hepatectomy group, neoadjuvant chemotherapy administration did not show a significant association with %LR ($p = 0.592$) or with other treatment variables (number of cycles, $p = 0.114$; agent, $p = 0.061$, timing, $p = 0.126$). In both groups, the predicted FLR was inversely correlated with the % in liver regeneration only ($p < 0.001$).
Conclusion: Neoadjuvant chemotherapy does not seem to affect the liver regeneration. The predicted FLR only is inversely correlating with the amount of LR occurring after major resection or after PVE.

LO-E.02 HIGH-DOSE STEREOTACTIC BODY RADIOTHERAPY (SBRT) FOR PRIMARY AND METASTATIC LIVER TUMORS

A. Kirichenko, D. Parda, K. Tom, P. Abrams, J. Oliva, M. Szramowski, N. Thai
Allegheny Health Network, Pittsburgh, PA

Purpose: SBRT has emerged as an effective non-invasive radiation therapy to precisely target liver tumors with ablative doses of radiation while avoiding surrounding liver tissue. We report our single center experience on the efficacy and tolerability of high-dose SBRT in the management of inoperable primary and metastatic liver tumors from 2007–2013.

Patients and Methods: Patients with 1–4 hepatic lesions and tumor diameter ≤8 cm received liver SBRT of 40–60 Gy delivered in 4–6 fractions. The primary end point was local control with at least 8 months of radiographic follow-up, and secondary end points were toxicity and survival.

Results: 68 patients (79 lesions) completed high-dose liver SBRT for HCC (31) or oligo-metastases (37). 22 patients underwent hepatic resections or liver transplant in combination with SBRT. With median followup 22.5 months (range, 8–67 months) overall survival was 78% for patients with hepatic oligometastases and 60% in HCC patients (including 11 patients who completed SBRT prior to liver transplant). No incidence of >grade 2 treatment toxicity or accelerated MELD score migration was observed. Overall local control within radiation field at two years after SBRT was 94% and for lesions with diameter of ≤4 cm was 100%.

Conclusion: In this retrospective analysis we demonstrate that liver SBRT is safe and effective for the treatment of hepatic malignancies providing local control rates similar to hepatic resection.

LO-E.03 THE ROLE OF LYMPHOCYTE TO NEUTROPHIL RATIO (LNR) AND PLATELET TO LYMPHOCYTE RATIO (PLR) AS PROGNOSTIC MARKERS IN METASTATIC COLORECTAL CARCINOMA: A REVIEW OF DATA FROM A RANDOMIZED CONTROLLED STUDY

P. Philips[1], C. R. Scoggins[1], R. D. Tomalty[2], M. T. Schreeder[3], J. Kaugh[4], K. Kim[4], W. R. Rilling[5], C. J. Laing[6], C. M. Tatum[7], L. R. Kelly[7], R. D. Garcia-Monaco[8], V. R. Sharma[1], R. A. Redman[1], T. S. Crocenzi[1], S. M. Strasberg[1], R. C. Martin[1]
[1]University Of Louisville And James Graham Brown Cancer Center, Louisville, KY; [2]Huntsville Hospital Interventional Radiology, Huntsville, AL; [3]Clearview Cancer Institute, Huntsville, AL, USA, Huntsville, AL; [4]Winship Cancer Institute – Emory University, Atlanta, GA; [5]Froedtert Medical College, Milwaukee, WI; [6]Radiological Associates Of Sacramento (RAS), Sacramento, CA; [7]Norton Radiology Associates, Louisville, KY; [8]Hospital Italiano, Buenos Aires, ARGENTIAN

Background: Recent evidence suggests that elevated neutrophil-lymphocyte ratio(NLR) and platelet-lymphocyte ratio(PLR) are adverse prognostic markers for survival in various cancers including colorectal carcinoma.

Methods: Data from a multicenter, prospective-randomized DEBIRI(Irinotecan-drug eluting beads) study comparing LC Bead, loaded with irinotecan plus chemotherapy and bevacizumab versus chemotherapy with bevacizumab in unresectable metastatic colorectal cancer was analyzed.

Results: There were 30 in the control arm and 41 patients (112 treatments) in the DEBIRI test arm. The median NLR and PLR for the whole cohort was 3.41 (range: 1.1–13.9, IQR: 2.9,4.2) and 187.5 (range: 77–792, IQR: 146.6,227) respectively. NLR and PLR correlated well with adjusted R^2 of 0.825 (p-0.000, F = 128). On univariate analysis, an NLR >5(median OS 31.9 vs.14.7 months, p = 0.067) and a PLR >150 (median 31.6 vs. 24 months, p = 0.046) was associated with decreased overall survival (OS). Other factors associated with decreased OS were presence of response (CR/PR or SD) to treatment (16.9 vs. 33.3 months, p0.001), ECOG score of ≥1 (33.7 vs. 17.4 months, p = 0.006), lung metastasis (18.5 vs. 33.6 months, p = 0.016), history of heart disease (16.4 vs. 28.7, p = 0.033), albumin <3.5 (10.5 vs. 31.9, p = 0.001). On multivariate analysis with Cox proportional-hazards model, only response to treatment was an independent predictor of decreased OS (hazard ratio = 0.25, 95%CI: 0.06–0.9, p = 0.044).

Conclusion: In this study, response to treatment was the most important favorable prognostic marker in metastatic colorectal carcinoma with liver dominant disease. Patients with high NLR and PLR showed a trend towards worse prognosis, albeit not independently and needs to be investigated in larger studies.

Table 1: Univariate and multivariate survival analysis

	Univariate analysis				Multivariate analysis
		Median Survival (years)	95% CI	P value	Hazard ratio, 95% CI
Age	>60 years	31.9	17.7-46.2	0.22	
	<60 years	23.4	18-28.9		
Primary	Colon	28.7	19-38	0.6	
	Rectum	24.6			
Intact primary	Yes	31.9	20.8-43.0	0.4	
	No	22.7	13.4-30.7		
Synchronous disease	Yes	24.6	17.7-31.5	0.6	
	No	40.8	20-44.2		
ECOG	0 (n=38)	33.7	27-39.8	**0.006**	
	1(n=3)	17.4	12-22.8		
	2 (n=28)	14.2	5.1-24.1		
CEA>500	Yes	24.6	13-44.7	0.810	
	No	28.7	12.9-44.4		
Lung mets	Yes (n=14)	18.5	13.1-21.9	**0.016**	
	No (n=57)	33.6	21.8-45.5		
Significant cardiac h/o	Yes (n-13)	16.4	7.1-25.6	**0.033**	
	No (n=58)	28.7	18.6-38.7		
Tobacco	Yes (n=16)	21.4	12.1-28.7	0.226	
	No (n=55)	31.9	22.1-41.7		
Innumerable	Yes (n=13)	22	15.6-28.4	0.187	
	No (n=58)	28.7	19.1-38.2		
>50%Liver involvement	Yes (n=18)	23.5	15.1-35.6	0.617	
	No (n=53)	31.9	17.9-45.9		
Albumin<3.5	Yes (n=20)	10.5	11.6-34-4	**0.001**	
	No (n=50)	31.9	21.7-42.2		
NLR	<5	31.9	18.8-45	**0.067**	
	>/=5	14.7	11.7-17		
PLR	<150	31.6	23.4-39	**0.048**	
	>/=150	24	18.6-29.5		
Response to treatment	Yes (n=39)	33.3	27.1-40.2	**0.001**	**HR: 0.25, 95% CI 0.06-0.9, p=0.044**
	No (n=27)	16.9	12.8-21		
DEBIRI	Yes (n=41)	27.3	21.6-33	0.594	
	No (n=30)	27.9	22.8-33.1		