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PREOPERATIVE RISK FACTORS ASSOCIATED WITH CONVERSION OF LAPAROSCOPIC TO OPEN CHOLECYSTECTOMY.

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Laparoscopic cholecystectomy (LC) is the treatment of choice for symptomatic gallstones. Conversion of LC to open cholecystectomy remains a possibility, however predisposing factors are unclear. We aimed to determine risk factors associated with conversion of LC to open cholecystectomy in unselected patients. *Methods:* Medical records of 564 patients undergoing LC in 1995 and 1996 were reviewed. Patients were assigned to 2 groups — 1) acute cholecystitis defined by presence of gallstones, fever, elevated WBC>10^4, acute inflammation on ultrasound and/or histology and 2) chronic choleycystitis that included all other patients with symptomatic gallstones. Patient demographics, history and physical exam, laboratory/radiology data, operative note, and pathology report were reviewed. *Results:* 161 patients (29%) had acute (AC) and 403 patients (71%) had chronic cholecystitis (CC). 16 of the AC patients (10%) were converted from LC to open cholecystectomy (AC-conv) and 17 of the CC patients (4%) had LC converted to open (CC-conv). *Conclusions:* AC-conv was associated with a higher WBC and gangrene. In acute *and* chronic cholecystitis patients, older men with heart disease have increased risk for conversion of laparoscopic to open cholecystectomy. Importantly, these risk factors can be determined preoperatively, permitting the surgeon to better inform patients of the risk for converting laparoscopic to open cholecystectomy. While acute cholecystitis was associated with more than a two-fold increased conversion rate, only 10% of patients with acute cholecystitis could not be completed laparoscopically. Acute cholecystitis alone should not preclude an attempt at laparoscopic cholecystectomy.

	AC-LC	AC-conv	CC-LC	CC-conv
Age yr	44±16	58±13*	46±15	54±15♦
WBCx10^3	12.2±4.4	16.5±6.7*	8.3±3.0	12.4±4.2
% male	25	63†	20	41‡
% CV disease	19	44†	23	53‡
% gangrene	14	50†	0	0

values are mean±SD
*P≤.05 vs AC-LC & ♦P<.05 vs CC-LC, t-test
†P≤.05 vs AC-LC & ‡P<.05 vs CC-LC, χ^2 analysis

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SERUM AMYLASE AND LIPASE ACTIVITIES IN NORMAL PREGNANCY: A PROSPECTIVE STUDY.

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The diagnosis of acute pancreatitis is mainly based on the measurement of serum amylase and lipase activities, particularly during pregnancy. The aim of this study was to define any changes in such activity during normal pregnancy. The study involved 103 pregnant women and 103 age-matched nonpregnant women not receiving oral contraception, recruited during a routine preventive health workup. Fasting levels of serum amylase and lipase activities were measured. The results are summarized in the Table (means ± SD, range). These results show that serum amylase activity does not change during pregnancy and that serum lipase activity is reduced during the 1st trimester. We conclude that, in clinical practice, an increase in serum amylase and lipase activities during pregnancy should be taken into account as well as in nonpregnant women.

		Trimester		
		First (n=34)	Second (n=36)	Third (n=33)
Amylase(IU/L)				
	Pregnant	33.7±9.6(18-55)	35.6±12.3(14-68)	39.3±13.4(18-85)
	Nonpregnant	35.6±12.7(20-92)	34.0±11.2(20-68)	39.2±13.1(14-70)
	P	NS	NS	NS
Lipase (IU/L)				
	Pregnant	48.6±27.6(5-109)*	63.0±36.9(8-157)	76.3±35.8(21-169)
	Nonpregnant	59.2±29.3(5-121)	75.8±33.8(12-151)	78.6±37.8(17-170)
	P	<0.05	NS	NS

*P<0.001 versus third trimester

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ENDOTHLIAL CELL ADHESION MOLECULE (ECAM) EXPRESSION FOLLOWING PARTIAL HEPATECTOMY IN MICE.

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Partial hepatectomy (PHx) is often used for the treatment of hepatobiliary malignancies and this surgical therapy is restricted by the capacity of the liver to regenerate. It is becoming increasingly appreciated that T-lymphocytes (T-cell) play an important role in immunological control of liver regeneration following PHx. However, little is known about the molecular determinants that control T-cell-endothelial cell interactions in the regenerating liver. The objective of this study was to quantify ECAM expression in liver as well as in different organs following PHx in mice. Sham or partial (70%) hepatectomy was performed in anesthetized C57BL/6 mice. Following PHx, ICAM-1, VCAM-1, and ICAM-2 expression in different organ systems were quantified using the dual radiolabeled monoclonal antibody technique (Am J Pathol 151: 205, 1997) in both hepatectomized and sham-operated mice. Twenty-four hours following PHx, VCAM-1 expression in regenerating liver significantly increased (1.5-fold increase) compared to hepatic VCAM-1 expression in control mice or mice subjected to sham operation and then returned to baseline levels at 48 hours following PHx. There was no significant difference in hepatic ICAM-2 expression at 24 hours following PHx compared to either control or sham-operated mice suggesting that the increase in VCAM-1 expression in PHx mice was due to increased endothelial cell surface expression rather than increased vascularity in the regenerating liver. Interestingly, VCAM-1 expression in organs distant to the site of surgery (e.g. lung, pancreas, and mesentery) was significantly enhanced at 48 hours following PHx compared to control levels of VCAM-1 expression. We failed to observe significant differences in ICAM-1 expression in the regenerating liver or other organs in hepatectomized vs. sham-operated mice at any time point after PHx. Interestingly, we did observe significant decreases in ICAM-1 expression in regenerating liver in hepatectomized mice with severe jaundice compared to hepatectomized mice without jaundice at 24 hours following PHx. These data suggest that enhanced VCAM-1 expression may provide a receptor for T-cell-associated VLA-4 ($\alpha_4\beta_1$) thereby promoting T-cell adhesion to the hepatic microvascular endothelium early in the regeneration process. We suggest that this adhesive interaction as well as T-cell extravasation and activation may play important roles in liver regeneration.

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IS PORTAL VEIN OBSTRUCTION WITH CAVERNOMATOUS TRANSFORMATION OF THE PORTAL VEIN A CONTRAINDICATION FOR SURGICAL THERAPY OF CHRONIC PANCREATITIS?

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Complete portal vein occlusion is considered a major risk factor in the surgical therapy of chronic pancreatitis.We therefore evaluated prospectively 10 consecutive patients with complete portal vein obstruction and cavernomatous transformation of the portal vein due to chronic pancreatitis, that underwent duodenum preserving resections of the pancreas. Methods:All 10 consecutive patients suffering from chronic pancreatitis and with angiographically proven complete obstruction of the portal vein behind the pancreas were prospectively recruited, starting 12/96. The pancreas was not divided on top of the portal vein. The body and the uncinate processs were cored out extensively. No patient required a mesenterico-caval bypass. 6 patients had previously been operated on the pancreas. The microcirculation of the liver was evaluated by reflectance spectroscopy prior to visualisation of the pancreas and after resection. Postoperative flow of the portal vein was monitored sequentially by Doppler sonography. Results:Recruitement was completed after 28 months. None of the patients died in the postoperative period. The following postoperative complications (n) were recorded: reoperation (0), postoperative transfusions (1)(2units), pancreatic fistula (0), wound infection (1), pneumonia (0), delayed gastric emptying (2), decreased hepatic function (0). Perioperative transfusions were required of up to 8 units (median 2). Operative times ranged from 255 min to 470 min (median 345 min). Microcirculation of the liver was not altered by division of portal collaterals. 2 patients died 2 (fulminant pneumonia) and 13 months (undiagnosed hepatocellular carcinoma) after surgery. The remaining 8 patients are currently completely free of pain (6 patients) or require occasionally NSAIDs (2 patients). Median follow-up is currently 15 months. In 62,5% of the patients a flow in the portal vein was demonstrated under the pancreas in the latest follow-up. Conclusion:Portal vein occlusion is a technical challenge in surgical therapy of chronic pancreatitis. This is reflected by comparatively long operative times and comparatively more transfusions. Portal vein occlusion seems to be partially reversibel in a signifcant amount of the patients. The rare perioperative complications do not argue against duodenum preserving resections that deliver freedom from pain at a low risk for these patients.