

ABSTRACTS

Fourth Annual Research Night

May 15, 2007

**Ochsner Health System
Brent House Atrium
New Orleans, LA**

R1 EVALUATING BLOOD PRESSURE CONTROL IN PATIENTS WITH DIABETES

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Background: The frequent coexistence of diabetes and hypertension increases the risk of cardiovascular (CV) mortality and morbidity. Uncontrolled hypertension contributes to 75% of diabetic-related microvascular complications such as diabetic nephropathy, retinopathy, neuropathy, and macrovascular complications causing strokes, congestive heart failure, and myocardial infarctions.

Purpose: To determine how well diabetic hypertensive patients' blood pressure is being controlled in Ochsner Health System ambulatory setting.

Methodology: A retrospective chart review was conducted from January 2006 – June 2006. Patients with ICD-9 codes for hypertension 401-404 and diabetes 250 were pulled using a computerized database. The inclusion criteria were patients 18 years of age or older, on an antihypertensive or diabetic medication, and diagnosed with both diseases for at least 3 months. An analysis of how many patients received or did not receive either an ACE-I or an ARD was also assessed.

Results: Two hundred outpatient medical records were reviewed. Only 59 patients (30%) had a goal SBP of < 130mmHg; 85% of these patients received an ACE-I, ARB, or both for management. After assessing diabetes control in this same population, only 32 of 59 patients (54%) had a goal HgA1c of <7 as well.

Conclusion: Most physicians are using the appropriate agents to treat their diabetic hypertensive patients; however, continuous efforts are needed to reach therapeutic goals. Patients need to be educated on the risks associated with uncontrolled hypertension and diabetes. The importance of medication compliance and appointment follow-up needs to be conveyed to the patients. It is recommended that the physicians continue to remain assertive with hypertension and diabetes management.

R2 PANCREATIC CANCER IN BREAST CANCER PATIENTS: INCIDENCE AND RELATION WITH HORMONE RECEPTOR STATUS

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Background: There has been a long-standing interest in the role of estrogens in pancreatic tumors. Several reports regarding the expression of hormone receptors in pancreatic tumors and the relation between estrogen stimulation and the development of pancreatic cancer have been inconsistent. This raises questions about the increased risk of pancreatic cancer among breast cancer survivors and the possible role of antihormonal therapy in the prevention and treatment of these malignancies.

Methods: The Tumor Registry at the Ochsner Clinic Foundation in New Orleans was queried to identify new cases of pancreatic cancer among patients previously diagnosed with breast cancer. This was done by matching data on pancreatic and breast cancer diagnosed between January 1996 and January 2006. For each case of pancreatic cancer, data were collected from the initial breast cancer pathology report, which included: cancer type, grade, estrogen receptor status, progesterone receptor, HER-2 receptor status, BRCA gene mutation, and cancer stage on diagnosis. Clinic notes and radiology reports were also reviewed to determine the presence of risk factors for pancreatic cancer, the interval of time between the two diagnoses, and the stage of breast cancer at the time of diagnosis of pancreatic cancer.

Results: A total of 2,669 breast cancer cases were reviewed and 5 cases of pancreatic cancers were found among patients with a previous diagnosis of breast cancer. In all of these cases, the breast cancer tumor was positive for estrogen and progesterone receptor and negative for Her2 overexpression. The incidence of pancreatic cancer in this subgroup of patients (breast cancer, ER+, PR+, HER2-) was 1% higher than in the general female population.

Conclusions: In our experience, patients with breast cancer may have a higher risk of developing pancreatic cancer. This is especially true for patients whose tumors over-express the estrogen and progesterone receptors and do not over-express the Her2 receptor. Further studies are needed to evaluate the overall incidence of pancreatic cancer in this population and to determine the role of antihormonal therapy in the prevention of these cancers.

R3 ANTINUCLEOSOME ANTIBODIES ARE HIGHLY PREVALENT AND APPEAR TO BE A USEFUL MARKER OF DISEASE ACTIVITY IN AFRICAN-AMERICAN (AA) AND HISPANIC (H) POPULATIONS WITH SLE

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Background: SLE is characterized by the presence of multiple autoantibodies, including ds-DNA antibodies that appear to be specific markers of disease activity. More recently, antinucleosome (anti-NCS) antibodies have also been shown to correlate with renal disease activity and lupus flares, particularly in ds-DNA, antibodies-negative SLE patients.

Objective: We investigated the prevalence, clinical and serological correlations of anti-NCS antibodies in a large cohort of SLE patients of two different ethnic backgrounds.

Methods: A total of 254 SLE patients with a mean age of 38 (SD± 13.837) and mean disease duration of 8.99 (SD 7.085) years, 130 African Americans (AA) and 124 Hispanics (H), all fulfilling at least 4 of the revised ACR criteria for the classification of SLE and 70 healthy controls, age and sex matched, were studied. A semi-quantitative ELISA assay for anti-NCS antibodies was performed in triplicate; ANA, ENA panel, dsDNA, C3/C4 levels, anticardiolipin antibodies (ACL), ANCA, RF, CRP, and ESR were concomitantly done. Lupus disease activity was determined by SLEDAI and ECLAM indices. Statistical analysis was based on logistic regression.

Results: Of the total SLE cohort, 159/254 (62.6%) was seropositive for anti-NCS antibodies, while none of the healthy controls exhibited seropositivity for anti-NCS antibodies. Statistically significant correlations were found in both groups AA/H with CNS (OR: 2.803, p: 0.0043), and musculoskeletal (OR: 2.407, p: 0.0070) involvement; SLEDAI (p: <0.0001), C4 (p: <0.0001), and ACL (p: 0.0016). However, when the subsets were analyzed separately, differences in the pattern of associations emerged. Among AA serositis (OR: 4.211, p: 0.0084), ECLAM (OR: 1.581, p: 0.0007), SS-A/SS-B (OR: 4.149, p: 0.0093), C4: (p: 0.0267), Sm (p: 0.0384), dsDNA (p: 0.0122) were found significantly correlated. In Hispanics significant associations were found with the musculoskeletal system (OR: 2.812, p: 0.0415), SLEDAI (OR: 1.107, p: 0.0001), C4 (p: 0.0002), and SS-A/SS-B (p: 0.0472).

Conclusions: Antinucleosome antibodies are highly prevalent in SLE and also appear to be useful markers of disease activity, CNS, and musculoskeletal involvement in African-American and Hispanic populations. In addition, anti-NCS antibodies exhibit positive correlation with serologic markers including anticardiolipin and ds-DNA antibodies.

R4 LONG-TERM POST-PLACEMENT COST AFTER ENDOVASCULAR ANEURYSM REPAIR

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Objectives: To define the long-term expenses of endovascular aneurysm repair (EVAR) and determine specific components and contributors to post-placement costs.

Background: Previous studies demonstrate initial hospital cost of EVAR is approximately \$20,000. However, cost of long-term surveillance and secondary procedures is poorly characterized.

Methods: 259 patients underwent EVAR for infrarenal aneurysms between December 1998 and June 2006. Follow-up costs were calculated using a relative-value unit cost accounting system. Institutional overhead costs were included, while costs for professional services were determined by a cost-to-charge ratio. Outpatient visits were calculated with a time-based formula. Year 2006 costs were applied to prior years. Patients with less than one year follow-up were excluded. Data are expressed as mean ± standard error (SE).

Results: One-hundred and thirty-six patients who had EVAR had a mean follow-up of 34.7 ± 1.8 months. Cumulative 5-year, post-placement cost per patient was \$11,351. Patients with secondary procedures (n=27, 19.9%) had a 5-year cumulative cost increase of 8.6 fold greater (\$31,696), compared to those without secondary procedures (\$3,668; n=109; P<.05). Patients with endoleak had a 4.7 fold increase in 5-year costs (\$26,739) compared to those without endoleak (\$5,706; P<.05). Major cost components were 57.4% for secondary procedures and 32.5% for radiological studies.

Conclusions: Long-term, post-placement cost of EVAR increases global cost by 44%. The subgroup of patients with endoleaks, and those requiring secondary procedures generate a disproportionate share of post-placement costs. Efforts at minimizing costs should emphasize technical and device modifications aimed at reducing endoleaks and the need for secondary procedures.

R5 DULOXETINE VERSUS PREGABALIN IN CONTROLLING PERIPHERAL NEUROPATHIC PAIN IN DIABETIC PATIENTS

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Background: Diabetic peripheral neuropathy affects about 50% of diabetic patients. An estimated 11% of these patients will develop chronic and painful symptoms that are characteristic of diabetic peripheral neuropathic pain (DPNP), which diminishes quality of life, disrupts sleep and can lead to depression. Both duloxetine (an antidepressant known as a serotonin and norepinephrine reuptake inhibitor) and pregabalin (an anticonvulsant known as an alpha-2-delta calcium channel modulator) are the only FDA-approved agents for the treatment of DPNP. Currently there are no trials that compare these agents to each other or to traditional non-FDA approved therapies of DPNP.

Objective: To evaluate the effectiveness of duloxetine and pregabalin versus traditional therapies in controlling DPNP and to assess resource utilization for both agents.

Methods: Patients with a history of DPNP visiting Ochsner outpatient clinics with comparable baseline measures of pain scores are separated into three different groups: the duloxetine, pregabalin, or traditional treatments of DPNP, depending on other additional factors. Chart reviews will be utilized for these groups to determine the most effective and least cost-utilized treatment of DPNP.

Results: From the 86 DPNP patients evaluated, 10, 11, 11, 14, 11, and 9 were on duloxetine, pregabalin, gabapentin, TCAs, a combination TCA with other medications, or other treatments (lamotrigine, 3; tramadol, 2; and antidepressants, 4), respectively. Although control of pain on all treatments was documented, only two patients had pain scale documentation and among agents used to treat DPNP, the percentage of antidepressant use was 11%, 77%, and 22% with duloxetine, pregabalin, and gabapentin, respectively. For resource utilization, there were a total of 15, 17, 11, 11, 9, and 9 clinic visits for duloxetine, pregabalin, gabapentin, TCAs, combination with TCAs, or other treatments, respectively. There were 4 hospital admissions for DPNP from the duloxetine group.

Conclusion: Even though the utilization of duloxetine and pregabalin was low, the number of patients using duloxetine or pregabalin for DPNP was similar. In this study both duloxetine and pregabalin had similar efficacies in controlling pain. However, antidepressant use was more prominent in the pregabalin group than the duloxetine. For resource utilization, pregabalin resulted in more clinic visits than duloxetine, but duloxetine resulted in more hospital admissions.

R6 EVALUATING TREATMENT, COST, AND OUTCOMES OF ACUTE MIGRAINE REQUIRING HOSPITALIZATION

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Background: Updated guidelines to standardize care, reduce cost, and improve treatment outcomes are needed for patients with acute migraines requiring hospitalization.

Objectives: To evaluate current practices for treating migraines at Ochsner, compare current treatment options for migraine treatment and prophylaxis, and develop guidelines for treating migraines in an institutional setting.

Methods: Retrospective chart reviews were performed for patients who required hospitalization due to acute migraine. Comparisons were made among the medications used during hospitalization, the cost of medications and the outcome of that treatment. Treatment outcomes were analyzed by measuring length of stay, frequency of dosing, medication utilization, and side effects experienced with specific medications.

Results: 76% of the 63 cases reviewed, showed prior history of migraine attacks. Of this 76%, over 75% of the cases revealed use of prophylactic therapy. Drug therapy ranged from the use of traditional NSAIDs to triptans and butalbital combination products. Our physicians still rely heavily on narcotics to alleviate symptomatic relief of migraines both during hospitalization and upon discharge.

Conclusions: Analysis of the current practices for treating migraines at Ochsner helped create practice guidelines that could be incorporated into other institutional settings. Comparison of current treatment options available shows that patients can receive relief during acute attacks using some agents that were once considered part of prophylactic therapy. A moderate portion of patients receiving prophylactic therapy at home can reduce the number of attacks tremendously, optimizing self-care and reducing the need for extraneous resources.

R7 ANTINUCLEOSOME ANTIBODIES (ANTI-NCS) IN RHEUMATOID ARTHRITIS (RA) PATIENTS ON TNF BLOCKERS AND METHOTREXATE (MTX): PREVALENCE, CLINICAL AND SEROLOGICAL ASSOCIATIONS

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Background: Apoptotic cells are an important reservoir of autoantigens; exposure to apoptotic cells might be expected to result in autoab production. Up to 50% of patients treated with TNF antagonists develop antinuclear antibodies, and 3-10% of them are anti-dsDNA positive. Studies have shown that TNF antagonists induce apoptosis of autoreactive T lymphocytes.

Objective: We investigated the prevalence, clinical and serological correlations of anti-NCS in RA patients treated with TNF antagonists or MTX followed up for 5 years.

Methods: A total of 88 RA patients, mean age 48.7 (SD 16.5) and mean disease duration 8.2 (SD 8.1) years, all fulfilling ACR criteria for RA, and 70 healthy controls matched in age and sex were studied. 26 RA patients were treated with TNF antagonists and 62 with MTX. A semi-quantitative ELISA assay for anti-NCS was performed in triplicate; ANA, dsDNA, ANCA, RF, CRP, and ESR were concomitantly done. Clinical and serological evaluations were performed before and after the use of MTX or biological agents. Also number of swollen joints, physician (PGA) and patient global assessment (GAP), functional class and disease activity were evaluated. Statistical analysis was based on logistic regression.

Results: Among RA patients 36/88 (40.9%) were seropositive for antinucleosome antibodies, as compared to none in the healthy controls ($p < 0.0001$). At time 0, 33 RA patients were analyzed, 8/33 (24%) showed anti-NCS seropositivity. After a 5-year follow-up, 12/26 (46%) in the TNF group, and 24/62 (38.7%) under MTX were antinucleosome antibodies positive. Statistically significant correlations were found in both groups with ANA (OR: 4.8 p : 0.0003), PGA (p : < 0.001), GAP (p : < 0.001), number of swollen joints (p : < 0.001), and functional activity (p : < 0.05). When the variable time was included dsDNA positivity was significant (p : 0.0283); also statistically significant were treatment over time (MTX vs TNF) and disease activity (p : 0.0063), meaning that patients treated with MTX have 3.5 likelihood to be active at 5 years on comparison with the ones treated with TNF antagonists. Analysis of disease activity in anti-NCS positive treated with TNF or MTX showed that anti-nucleosomal seropositivity was associated with anti-TNF induced remission (p : 0.0348). In this population anti-NCS emerged prior to dsDNA antibodies.

Conclusion: Approximately half of the RA patients exhibit anti-NCS, and its presence inversely correlates with disease activity.

R8 NORMATIVE DATA REGARDING VOIDING DYSFUNCTION IN WOMEN: A PRELIMINARY STUDY

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Objectives: To determine normative data for validated questionnaires commonly utilized in areas of urinary incontinence and pelvic organ prolapse research, including the Urogenital Distress Inventory (UDI-6), Pelvic Organ Prolapse/ Urinary Incontinence Sexual Function Questionnaire (PISQ-12), Incontinence Questionnaire (I-QOL), and the Incontinence Impact Questionnaire Short Form (IIQ-7).

Materials and Methods: Nonpregnant, female patients of all ages, ethnicity, and parity who presented to the OB/GYN clinic for annual benign gynecologic examinations were selected as a "control," asymptomatic population. These women were asked to complete a survey that included the UDI-6, PISQ-12, a modified version of the I-QOL, and the IIQ-7. Responses were scored and then statistically analyzed using Spearman's nonparametric correlations to compare questionnaire results among subject groups.

Results: A total of 84 surveys have been collected to date. Of the total number, 39% of surveys were incompletely or incorrectly filled out, with a higher percentage of incorrect or incomplete surveys in the African-American (50%, $n=30$), compared to the Caucasian, population (25%, $n=43$). As patient age increased, the I-QOL total score ($n=78$, $r=0.31$, $p=0.0046$), avoidance behavior sub-score ($r=0.32$, $p=0.0038$), psychosocial impact sub-score ($r=0.23$, $p=0.0402$), and social embarrassment sub-score ($r=0.27$, $p=0.0146$) increased, implying more bother. Patients with greater parity had higher I-QOL total scores ($n=72$, $r=0.24$, $p=0.0419$), avoidance behavior sub-scores ($r=0.23$, $p=0.0428$), psychosocial impact sub-scores ($r=0.28$, $p=0.0146$), and IIQ-7 total scores ($n=65$, $r=0.27$, $p=0.0321$). The UDI-6 total was nearly significantly correlated with age ($n=78$, $r=0.22$, $p=0.0521$). There was no correlation between age and PISQ-12 score, or between age and IIQ-7 score. The average, normative score for urinary incontinence is nearly zero. Complaints of sexual and/or pelvic symptoms are more common in asymptomatic females than complaints of urinary incontinence.

Conclusions: Preliminary analysis of the data collected suggests that the average female patient presenting for benign gynecologic examinations is not emotionally troubled by urinary incontinence, but these same patients appear to have more impact from pelvic symptoms in the form of pain, sexual dysfunction, and urinary frequency. The unexpected difference in the number of incorrect or incomplete surveys among different ethnic groups raises the question of whether the validity of these tools applies in varying patient populations.

R9 GABA RECEPTOR ASSOCIATED PROTEIN, GABARAP, BINDS TO THE AT_{1a} RECEPTOR AND REGULATES ITS EXPRESSION AND SUBCELLULAR LOCALIZATION

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Objectives: GABARAP was previously identified by yeast two-hybrid screening in this laboratory as a protein that binds to the carboxy-terminus of the rat AT_{1a} receptor (AT_{1R}). The present study was designed to further characterize this interaction and its effect on AT_{1R} expression and subcellular localization.

Methods: GST pull-down assays were utilized to assess the interaction between AT_{1R} and GABARAP in mammalian cells. Yeast two-hybrid analysis of AT_{1R} C-terminal deletion mutants was used to further localize the site of GABARAP/AT_{1R} interaction. Co-transfection experiments using tagged expression constructs were carried out to determine the effects of GABARAP on AT_{1R} expression in mammalian cells. Proteins were evaluated by immunoblotting and by deconvolution microscopy.

Results: The carboxy terminus of GABARAP is known to bind to the γ -subunit of the pentameric GABA_A receptor and to mediate trafficking of the GABA_A receptor, via microtubule arrays, to the plasma membrane. The amino-terminus of GABARAP possesses a tubulin-binding motif. Our data suggest that GABARAP is involved in AT_{1R} protein trafficking, either in the biosynthetic pathway or the internalization pathway.

Conclusions: GABARAP has been shown to influence cell-surface expression, membrane clustering properties, and activation of the GABA_A receptor by GABA. GABARAP may perform similar functions for the AT_{1R}. Moreover, GABARAP may serve as a link for co-regulation of the AT_{1R} with the GABA receptor.

Clinical Relevance: Given that hypertension is a major risk factor for myocardial infarction, heart failure, and stroke, modulation of the renin-angiotensin system (RAS) is a major pharmaceutical objective. Understanding the mechanisms of action, physiological significance, and complex interplays of the components of the RAS is vital to effective drug development.

R10 INTRACRINE FUNCTION IN THE VASCULATURE

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Objectives: To identify the physiological principles regulating intracrine function.

Background: Intracrine is a term we introduced to refer to the action of an extracellular signaling protein at an intracellular site. Although not much appreciated, such action is common. Intracrine function has been associated with a wide variety of protein hormones (e.g., angiotensin II, prolactin, PTHrP), growth factors (e.g., bFGF, VEGF, EGF), enzymes (e.g., angiogenin, phosphoglucose isomerase, PLA2-I, renin) and DNA binding proteins (e.g., homeodomain transcription factors, HMGB1, and IL-33). There is good evidence indicating that renin, angiotensinogen, angiotensin II, angiotensin (1-7), ACE, and endothelin are intracrines. Intracrine function has been shown to be important in such processes as development, angiogenesis, and carcinogenesis.

Methods: Cell fractionation and binding studies; transfection of fluorescent angiotensin and AT-1 fusion proteins; deconvolution microscopy; transfection of constructs encoding nonsecreted angiotensinogen; and literature review.

Results: These studies demonstrate (i) the nuclear binding of angiotensin II; (ii) the intracellular growth regulatory role of angiotensin II through the study of nonsecreted angiotensinogen constructs, as well as by the direct intracellular synthesis of an angiotensin II fusion protein; (iii) the fate of cell-membrane and intracellular AT-1 angiotensin receptor, including the proteolytic cleavage of the receptor in some cases; (iv) the effects of intracellular angiotensin on gene transcription and cellular proliferation; (iv) common principles of intracrine action across many intracrine domains.

Conclusions: These results support the intracrine hypothesis we have recently described, which proposes that finite-gain positive feedback intracrine networks play an important role in cellular and tissue differentiation, hormonal responsiveness, memory, angiogenesis, and tumor cell proliferation.

R11 IN VITRO TESTING OF DAPTOMYCIN PLUS RIFAMPIN AGAINST OXACILLIN-RESISTANT STAPHYLOCOCCUS AUREUS (MRSA) RESISTANT TO RIFAMPIN

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Objective: To determine if rifampin plus daptomycin is synergistic or antagonistic in vitro against rifampin-resistant MRSA.

Background: The combination of a cell-wall active antimicrobial, such as a beta-lactam or vancomycin plus rifampin, is used in the empiric treatment of some MRSA infections such as of implanted devices or bone. There is no information on the combination of daptomycin and rifampin when used to treat MRSA infections before susceptibilities are reported (i.e., rifampin resistance).

Methods: Six clinically and genetically unique, rifampin-resistant MRSA isolates were identified out of 489 (1.2%) collected during 4/2003-8/2006 from Ochsner Medical Center patients. Synergy testing was performed by an Etest[®] method and time-kill assay. Etest[®] MICs (μ g/ml) were > 32 (resistant) for rifampin and 0.5 - 1.5 (susceptible) for daptomycin. Etest[®] synergy (performed in triplicate) was defined as Σ FIC \leq 0.5, indifference as >0.5 - 4, and antagonism as > 4. Time-kill assay was performed in triplicate for discordant results. Fingerprinting of the isolates was done by pulsed-field gel electrophoresis (PFGE).

Results: The daptomycin plus rifampin combination was indifferent by Etest[®] for all isolates. Time-kill assay results were in agreement, with the exception of one antagonistic isolate. Concordance between the two methods was 83%.

Conclusion: This in vitro study failed to demonstrate synergy of rifampin + daptomycin against our rifampin-resistant MRSA isolates using both methods. Daptomycin plus rifampin was antagonistic by time-kill assay but not by Etest[®] for one isolate. More rifampin-resistant MRSA isolates should be tested to determine if other isolates demonstrate in vitro daptomycin + rifampin antagonism.

R12 TIMP-3 DOWN REGULATES HEPATIC mRNA EXPRESSION OF EXTRACELLULAR MATRIX PROTEIN AND ADHESION MOLECULES GENES IN ISCHEMIA/REPERFUSION INJURY ANIMAL MODEL: AN RT-PCR ARRAY STUDY

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Objective: We have demonstrated that tissue inhibitor of metalloproteinase-3 (TIMP-3) ameliorated hepatic ischemia/reperfusion (I/R) injury through inhibition of TNF-alpha converting enzyme (TACE) in an animal model (Tang Z, Loss GE, Carmody IC and Cohen AJ. Transplantation 2006, 82:1518-1523). Since TIMP-3 has been reported to inhibit the activity of matrix metalloproteinases (Mmps), it is necessary to investigate whether Mmps and other cell adhesion molecules and extracellular matrix proteins are involved in this circumstance.

Methods: RNA was extracted from liver tissues of animals treated with TIMP-3 (1000 ng/Kg BW) or control (0.9% NaCl). Four RNA samples from each group were pooled and subsequently subjected to real-time RT-PCR array, which simultaneously detects 90 genes (RT Profiler PCR Array Rat Extracellular Matrix and Adhesion Molecules, SuperArray Bioscience Cooperation, Frederick, MD).

Results: After TIMP-3 treatment, hepatic mRNA expression of many cell adhesion molecules and extracellular matrix protein genes were down-regulated (2-5 folds). Several Mmps (Mmp1a, Mmp8, Mmp9, Mmp10, Mmp11, Mmp12, Mmp13, Mmp14 and Mmp16) were down-regulated (2-3 folds), but not Mmp2, Mmp3, Mmp7 and Mmp15. The expression of TIMPs (TIMP-1, TIMP-2, and TIMP-3) was not affected.

Conclusions: This pilot study shows that TIMP-3 down regulates hepatic expression of many cell adhesion molecules and extracellular matrix protein genes, especially the Mmps, implying that TIMP-3 may reduce hepatic I/R injury through inhibition of cell adhesion molecules and extracellular matrix proteins, in addition to TACE. Further studies of the activity of Mmps and other important molecules are required. Real-time RT-PCR array is a cost-effective and feasible method to study gene expression.

R13 SYNTHETIC TACE INHIBITOR Y-41654 IMPROVES HEPATIC ISCHEMIA-REPERFUSION INJURY

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Objective: Our previous study demonstrated that hepatic TACE expression is increased in a pattern similar to the pro-inflammatory cytokine TNF- α and IL-6 expression following ischemia/reperfusion injury to the liver. This implies that TACE plays an important role in liver ischemia-reperfusion injury (Tang Z, Loss GE, Carmody IC and Cohen AJ. *Transplantation* 2006, 82: 1518-1523). In this study, we applied a synthetic TACE inhibitor Y-41654 to our hepatic ischemia-reperfusion injury rat model and found that Y-41654 improves hepatic ischemia-reperfusion injury.

Methods: Male Wistar rats received an IV injection of Y-41654 at a dosage of 12 mg/Kg body weight (experimental group, n=8) or saline (control group, n=8) at a speed of 1 ml/hour. One hour later, the animals underwent 30 minutes of partial warm ischemia followed by 6 hours of reperfusion. Hepatic TACE and TNF- α were assessed by RT-PCR. Serum TNF- α was measured by ELISA. Liver function (ALT level) was tested.

Results: Serum TNF- α levels (92.5 \pm 16.34 vs 106.16 \pm 8.1 pg/ml, p<0.05) and ALT levels (1900.83 \pm 212.88 vs 2153.96 \pm 153.65 units/L, p<0.05) were significantly reduced in the Y-41654 treated group compared to the control group, but hepatic levels of TACE and TNF- α mRNA were unchanged with Y-41654 treatment.

Conclusion: Synthetic TACE inhibitor Y-41654 may improve hepatic ischemia-reperfusion injuries presented as reduction of ALT levels and depression of circulating levels of TNF- α , demonstrating that TACE inhibition may play an important role in preventing liver ischemia/reperfusion injuries. Besides TACE inhibition, Y-41654 may also have effects on some other biomarkers such as MMPs, which warrants further study.

R15 COMPARISON OF PRE-ROBOTIC AND ROBOTIC HYSTERECTOMY OUTCOMES IN COMMUNITY PRACTICE

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Objective: To compare gynecologic practice and perioperative outcomes of patients undergoing hysterectomy in a community hospital setting before and after implementation of a robotics program.

Background and Methods: By chart review, 200 consecutive hysterectomy cases completed prior to and after implementation of a robotics program were compared retrospectively. All patients requiring hysterectomy for benign indications between November 2004 and January 2007 were considered. Patients were either candidates for total laparoscopic hysterectomy (TLH), total abdominal hysterectomy (TAH) or total vaginal hysterectomy (TVH) prior to February 2006 and were candidates for TLH, TAH, TVH or da Vinci hysterectomy (dVH) after February 2006.

Results: 100 patients treated by hysterectomy prior to the implementation of a robotics program were compared to 100 patients treated by hysterectomy after robotic implementation. The pre-robotic cohort had longer operative times as compared to the last 25 robotic cases (92.4 min versus 81.7 min p=0.03). The average blood loss in the pre-robotic cohort was twice that of the robotic cohort (110 cc versus 61.1cc p< 0.0001) and the length of hospital stay was on average half a day longer in the pre-robotic cohort than in the robotic cohort. The incidence of adverse events was the same in both groups.

Conclusions: Reduced operative time and shortened length of stay may be achieved in patients who are treated robotically versus a non-robotic approach. Robotics may facilitate the minimally invasive treatment of patients with uterine weight above 500g. In addition, blood loss with robotic hysterectomy is significantly less than with non-robotic hysterectomy.

R14 MAGNETIC RESONANCE IMAGING FOLLOWING INTERSTIM™ THERAPY

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Objectives: To evaluate patient safety and InterStim function after MRI in patients with an InterStim unit in place.

Methods: A retrospective analysis of our InterStim database was undertaken. After implantation of InterStim, 11 patients underwent MRI [including both open (0.6 Tesla (T)) and closed machines (1.5 T)]. In 10/11 patients, the following InterStim settings were used: the voltage amplitude was set to zero, the IPG was turned off, and the magnetic switch on the IPG was turned off (disabled). Following the MRI, we assessed the following: patient safety, interference of IPG device with radiologic interpretation, any change in function of the InterStim device, and any change in a patient's perceived efficacy.

Results: Between 1998 and 2006, 11 patients underwent a total of 13 MRIs following implantation of InterStim™. The first patient experienced device failure. The following table is the summary of the results.

Patient No.	MRI	Safety (Adverse events)	Device Problems	Outcome
1.	Lumbar	no AE	non-functioning	removed
2.	Lumbar	no AE	none	unchanged
3.	Brain	no AE	none	unchanged
4.	Brain, cervical	no AE	none	unchanged
5.	Lumbar, pelvic	no AE	none	unchanged
6.	Lumbar	no AE	none	unchanged
7.	Lumbar	no AE	none	unchanged
8.	Lumbar	no AE	none	unchanged
9.	Lumbar	no AE	none	removed*
10.	Lumbar	no AE	none	unchanged
11.	Lumbar	no AE	none	unchanged

Conclusion: Although MRI following placement of InterStim therapy has not been approved by Medtronic or the FDA, in our experience with the settings described above, MRI appears feasible under controlled conditions.

R16 EFFECTS OF A DISASTER: MEDICATION ADHERENCE IN OLDER ADULTS WITH HYPERTENSION

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R17 HOME-BASED EXERCISE IMPROVES OUTCOMES IN PATIENTS WITH TYPE 2 DIABETES: A FEASIBILITY TRIAL

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R19 USE OF SODIUM HYALURONATE/CARBOXYMETHYLCELLULOSE BIORESORBABLE MEMBRANE (SEPRAFILM®) IN LOOP ILEOSTOMY CONSTRUCTION FACILITATES STOMA CLOSURE

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Objective: To assess the affect of sodium hyaluronate/carboxymethylcellulose bioresorbable membrane (SH/CMC) placement during loop ileostomy creation on stoma closure operating time.

Background and Methods: Patients who underwent loop ileostomy creation and closure between September 1999 and October 2005 were identified by CPT coding data. Retrospective review of medical records was performed, with data abstracted pertaining to age, gender, primary diagnosis, reason for ileostomy creation, length of surgery, staff surgeon, interval between surgeries, post-operative morbidity, and whether a SH/CMC wrap was utilized in ostomy formation. Patients were stratified according to SH/CMC placement around the ileostomy at the time of ostomy creation. Statistical analysis was performed using unpaired t-tests and ANOVA models.

Results: 180 patients were included in this review. Group 1 (with SH/CMC) included 70 patients, and group 2 (no SH/CMC) included 110 patients. The average time required for stoma closure was significantly shorter in group 1 (52.4 ± 24.1) compared to group 2 (64.2 ± 26.9) ($p = .0034$). This difference was not observed after inclusion of the operating surgeon as an additional variable ($p = .49$). While each surgeon demonstrated a trend toward shorter operative times for stoma closure in group 1 patients, the difference was not statistically significant (surgeon 1: $p = .45$; surgeon 2: $p = .80$; surgeon 3: $p = .12$; surgeon 4: $p = .17$; surgeon 5: $p = .48$; surgeon 6: $p = .52$).

Conclusions: The SH/CMC wrapping technique in loop ileostomy creation significantly decreases operative time required for stoma closure overall. Results vary according to techniques employed by individual surgeons.

R18 RECTAL PROLAPSE: A 10-YEAR EXPERIENCE

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Objective: To compare perineal to abdominal procedures for rectal prolapse over a 10-year period at a single tertiary-care level institution.

Background and Methods: Between May 1, 1995 and January 1, 2005, 75 patients underwent surgical intervention for primary rectal prolapse at a tertiary referral center. Surgical techniques included perineal-based repairs (Altemeier and Delorme procedures) and abdominal procedures (open and laparoscopic resection and/or rectopexy). Medical records were abstracted for data pertaining to patient characteristics, signs and symptoms at presentation, surgical procedure, postoperative length of hospitalization, morbidity and mortality, and recurrence of rectal prolapse.

Results: Seventy-five patients underwent surgical intervention for rectal prolapse during the study period. The average patient was 60.8 years old. Sixty-two patients (82.7%) underwent perineal-based repair (Altemeier $n = 48$, Delorme $n = 14$), 8 patients (10.7%) underwent open abdominal procedures (resection and rectopexy, $n = 4$; rectopexy only $n = 4$), and 5 patients (6.7%) underwent laparoscopic repair (laparoscopic LAR, $n = 3$; laparoscopic resection and rectopexy, $n = 2$). Average hospitalization was shorter with perineal procedures (2.6 days) than with abdominal procedures (4.8 days) ($p < 0.0031$). Postoperative complications were observed in 13.3% of cases. With a median follow-up of 39 months (range 6-123 months), there was no mortality for primary repair, a postoperative morbidity occurred in 13%, and the overall rate of recurrent prolapse was 16% (16.1% for perineal-based repairs, 15.4% for abdominal procedures).

Conclusion: Perineal resections were more common, performed in significantly older patients and resulted in a shorter hospital stay. Minimal morbidity and similar recurrence rates make perineal procedures the preferred option.

R20 ACETAMINOPHEN, PHENACETIN, AND DIPYRONE DO NOT MODULATE PRESSOR RESPONSES TO ARACHIDONIC ACID OR TO PRESSOR AGENTS

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Objective: The purpose of the present study was to determine if an acetaminophen-sensitive pathway plays a role in the generation of vasoactive products of arachidonic acid or in the modulation of vasoconstrictor agents in the pulmonary and systemic vascular bed of the intact chest rat.

Background: In contrast to non-steroidal anti-inflammatory drugs (NSAIDs), the non-opioid analgesics phenacetin, acetaminophen, and dipyron exhibit weak anti-inflammatory properties. An explanation for this difference in pharmacologic activity was provided by the recent discovery of a new cyclooxygenase isoform, cyclooxygenase (COX-3), that is reported to be inhibited by phenacetin, acetaminophen, and dipyron. However, it is uncertain if this COX-3, renamed (COX-1b), isoform or putative acetaminophen-sensitive pathway plays a role in the generation of vasoactive prostaglandins. NSAIDs increase systemic blood pressure by inhibiting the formation of vasodilator prostanoids. Angiotensin II, norepinephrine, and other vasoconstrictor agents have been reported to release prostaglandins. It is possible that this acetaminophen-sensitive pathway also modulates pressor responses to these vasoconstrictor agents.

Methods: Prior approval for this study was obtained from the animal care committee of Tulane University Health Sciences Center, and all procedures were conducted there according to Institutional Animal Care and Use Committee guidelines. Pulmonary and systemic arterial pressures and pulmonary pressure were measured using a right-heart catheterization procedure.

Results: In the present study, the non-opioid analgesics did not attenuate changes in pulmonary or systemic arterial pressure in response to injections of the prostanoid precursor (arachidonic acid) to the thromboxane A2 mimic (U46619) or to angiotensin II and norepinephrine.

Conclusions: The results do not provide evidence in support of a role of a functional COX-1b isoform, or an acetaminophen-sensitive pathway, in the generation of vasoactive prostanoids or in the modulation of responses to vasoconstrictor hormones in the intact chest rat.

R21 TARGETING RHO-KINASE IN CARDIOVASCULAR MEDICINE

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Objectives: We investigated the roles of Rho-kinase and nitric oxide (NO) in the pulmonary vascular bed in the anesthetized, intact chest of rat.

Background: Protein kinases are phosphorylation enzymes that control cellular signaling events and when defective, may cause a wide range of diseases. One of these protein kinase pathways, the Rho/Rho-kinase pathway, has attracted much attention in the cardiovascular field. Although much is known about phosphorylation of proteins, less is known about the role of dephosphorylation of proteins in pulmonary circulation.

Methods: The Institutional Animal Care and Use Committee approved this study. The animals' care and handling was also in accord with National Institutes of Health guidelines. For hemodynamic studies, systemic arterial pressure was measured via femoral artery catheterization, whereas pulmonary arterial pressure was measured by a right-heart catheterization technique.

Results: Injections of L-NAME, a nitric oxide synthase inhibitor (NOS), caused a marked increase in pulmonary arterial pressure (PAP). However, this increase in PAP could be reversed by IV injections of SNP, an NO donor, or fasudil, a Rho-kinase inhibitor.

Conclusions: Experimental results indicate that pulmonary hypertension induced by NOS inhibition can be reversed and PAP can be normalized by SNP, an agent that decreases intracellular calcium levels, or by fasudil, an agent that decreases calcium sensitivity by enhancing dephosphorylation of myosin light chains in pulmonary vascular smooth muscle cells. The results of these studies show that NO is important in the normal maintenance of low resting pulmonary arterial pressure, and that pulmonary hypertension can be reversed by agents that decrease intracellular calcium levels or reduce calcium sensitivity in pulmonary artery smooth muscle cells.

R22 CARDIOVASCULAR EFFECTS OF PRORENIN BLOCKADE IN GENETICALLY HYPERTENSIVE RATS (SHR) ON REGULAR AND HIGH-SALT DIET

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Objective: To examine the role of prorenin in the pathogenesis of cardiovascular damage in SHR and in SHR in which cardiovascular damage was aggravated by sodium overload.

Background: Recent studies have demonstrated the possible role of tissue prorenin in the pathogenesis of cardiovascular and renal damage.

Methods: 20-week-old SHR males were divided into two groups of 30; one group was given regular diet, the other received food with 8% NaCl. Half of the rats in each group were implanted with osmotic mini-pumps containing prorenin inhibitor (PRAM 1, 0.1 mg/k/day), the other half received an inert vehicle. Systemic arterial pressure, left ventricular function, cardiovascular mass indices, and degree of cardiac fibrosis were examined at the end of the experiment.

Results: Arterial pressure was not affected by PRAM 1 in rats on either regular or salt-excess diets. Rats on a regular salt-diet blockade of prorenin activation consistently reduced left ventricular mass, but this did not affect any other variable. As compared to controls, salt-loaded rats demonstrated (after 8 weeks of treatment): (i) reduced proteinuria, (ii) decreased left ventricular mass, (iii) improved left ventricular function, and (iv) reduced left ventricular fibrosis.

Conclusion: The results demonstrated that blockade of nonproteolytic activation of prorenin exerts significant beneficial cardiovascular and renal effects in SHR when cardiovascular damage is aggravated by salt excess. The lack of effects in SHR on regular salt diet may indicate that activation of cardiac or renal prorenin may be a factor in mediating cardiac and renal damage in acute and more severe forms of experimentally induced disease states.

R23 INTERACTION BETWEEN COX-1 AND AT₁ RECEPTOR SUGGESTS POTENTIAL EFFECTS ON RENIN-ANGIOTENSIN SYSTEM AND HYPERTENSION

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Clinical Relevance: Hypertension affects over one-third of the U.S. adult population, placing them at increased risk for coronary artery disease, kidney failure, and stroke. The renin-angiotensin system (RAS) is a critical regulator of blood pressure and a target of anti-hypertensive drugs such as ACE inhibitors. Type 1 angiotensin receptor (AT₁R) is a key component of RAS and mediates the cellular effects of angiotensin.

Objective: The objective of the current study was to identify AT₁R interacting proteins in order to better understand the regulation and function of AT₁R and its role in hypertension.

Methods: A yeast two-hybrid screen of a mouse brain cDNA library was carried out to identify proteins that interact with the cytoplasmic carboxy-terminus of AT₁R (amino acids 306-359). Of 700,000 clones screened, 40 clones interacted with AT₁R as judged by growth on selective media. Sequence analysis revealed that one clone was identical to cyclooxygenase-1 (Cox-1). The AT₁R•Cox-1 interaction was verified by GST pulldown assays and co-immunoprecipitation. Additional analysis localized the Cox-1 interaction site of AT₁R to residues 315-320.

Conclusions: Cox-1 (and Cox-2) mediates production of prostaglandins, a chronic excess of which can lead to various inflammatory diseases. Cox-2 inhibitors are routinely used to treat several diseases, including rheumatoid arthritis, inflammatory bowel disease, and chronic obstructive pulmonary disease. Prostaglandin production in the kidney is known to be regulated by angiotensin. Our discovery of a physical association between AT₁R and Cox-1 suggests a more extensive interaction between RAS and the cyclooxygenase system with potentially important implications for the treatment of hypertension and inflammatory diseases.

R24 TRANSPLANTATION OF LIVERS FROM ANTI-HBC POSITIVE DONORS INTO ANTI-HBC NEGATIVE RECIPIENTS: A RETROSPECTIVE ANALYSIS

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Introduction: Without adequate immunity to hepatitis B virus (HBV) infection or anti-viral prophylaxis in the post-transplant setting of requisite immunosuppression, reactivation of latent HBV infection frequently occurs (33% to 100%). The utility of combination anti-viral therapy for hepatitis B surface antigen (HBsAg)-positive patients undergoing liver transplantation has led to an increased use of prophylactic therapy in conjunction with HBsAg negative, anti-HBc positive donors. We present our experience using anti-HBc positive donor livers in naïve recipients.

Results: Between 1/99 and 8/06, 28 anti-HBc negative patients received liver transplants from anti-HBc positive donors. Mean follow-up is 49.4 ± 24 months. Five of 28 developed de novo hepatitis B (18%) although only 3 of 26 compliant patients developed de novo hepatitis B (11.5%). All 5 patients are currently alive with good allograft function. Overall, one year survival was 96% (24 of 25) while 3 patients remain less than 12 months post-transplant. Seven of 28 patients have died, making current survival 75% at a mean follow-up of over 4 years.

Conclusions:

1. De novo hepatitis B occurs infrequently after transplanting anti-HBc positive donor livers into naïve recipients, using the prophylaxis regimen described above.
2. Pre transplant recipient anti-HB surface antibody positivity does not preclude development of de novo hepatitis B.
3. Lamivudine prophylaxis does not commonly promote the development of the YMDD mutation.
4. Tenofovir and/or HBIG are effective salvage therapies.
5. Our experience demonstrates the importance of close, life-long surveillance of these recipients.

R25 VACCINE-PREVENTABLE ILLNESSES IN INFLAMMATORY BOWEL DISEASE PATIENTS

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Objective: To determine the rate of immunization among patients with inflammatory bowel diseases (IBD) on immunosuppressive therapies, identify patients at risk for infection, and review reasons for non-immunization. This study was undertaken to improve performance at our institution.

Background: Vaccines are underutilized in immunocompromised patients including those with IBD on immunosuppressive therapy, despite published guideline recommendations. IBD patients on immunosuppressive therapies are at higher risk for infections. A recent study suggests that immunization against vaccine-preventable illnesses is uncommon in IBD patients and efforts are needed to improve vaccine administration.

Methods: Electronic medical records of all outpatients with IBD at Ochsner Clinic Foundation (Southshore) between September 2005 and August 2006 were retrieved based on ICD-9 codes between September 2005 to August 2006. Patients on immunosuppressive therapies were administered a 25-point phone survey questionnaire encompassing basic medical history, IBD related medication exposure, vaccination history, and previous infections with vaccine preventable diseases. Electronic medical records were assessed for hepatitis B serology and varicella titers (IgG; ELISA). Information was collected on exposure to known risk factors for acquiring selected vaccine preventable diseases.

Results: 798 patients were coded as having IBD during the study period. A phone survey questionnaire was administered to 189 patients on immunosuppressive therapies. Our final study population included 118 patients after 71 were excluded. 95 (81%) patients recalled tetanus immunization within the past 10 years, 53 (45%) reported annual flu shots, and 32 (27%) reported pneumococcal vaccination. One of the more common reasons for nonimmunization for influenza included lack of awareness (31%). 47 patients (40%) were at risk for HBV but only 28 (24%) were vaccinated. 27 patients could not recall a history of chicken pox; of these, 13 reported varicella immunization.

Conclusion: Immunization against vaccine-preventable illnesses is underutilized in IBD patients on immunosuppressive therapies. Efforts are necessary to improve immunization status in this at risk population.

R26 PEYRONIE'S PLAQUE EXCISION: MODIFICATIONS TO REDUCE PERIOPERATIVE MORBIDITY AND OPERATIVE TIMES

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Objective: To describe modifications to traditional surgical correction techniques for penile plaque excision which reduce perioperative morbidity and decrease operative times.

Methods: Sixteen patients with Peyronie's disease refractive to conservative treatment modalities were treated with surgical excision of their penile plaque and free grafting for correction of their curvature. The salient portions of the surgery are as follows: A circumferential incision is made proximal to the coronal sulcus, and the penis is degloved. Buck's fascia is sharply incised on either side of the neurovascular bundle, at which time bipolar electrocautery is used to dissect the neurovascular bundle off of the plaque. The plaque is then sharply removed from the erectile tissue of the corpora cavernosa. Next, either an autologous dermal graft (harvested from the inguinal region, N=8) or porcine small intestine submucosa (SIS, SURGISIS® ES, Cook Medical, Inc. Bloomington, IN) (N=8) graft is placed over the measured defect in the corpora cavernosa with a running 4-0 braided synthetic absorbable suture (SAS). An additional 30% of both width and length are added to the graft to allow for graft contracture. The neurovascular bundle is then replaced to anatomic position and Buck's fascia is reapproximated with 4-0 SAS in a running fashion. The skin is then reapproximated with interrupted 3-0 chromic gut suture. A urethral catheter is then placed, and a compressive dressing is placed around the penis with Coban® tape (3M Health Care Ltd.). Patients are placed in the hospital overnight, and the catheter and dressing are removed in the morning prior to discharge. Patients were followed with clinic visits and telephone interviews.

Results: No patients undergoing dissection of the neurovascular bundle with bipolar electrocautery experienced numbness or hyperesthesia of the penis or glans. With use of the compressive dressing, no patient has experienced hematoma formation. Use of SIS free grafting technique has decreased operative times at our institution from a mean of 189.54 minutes (range 105-251) to a mean of 123.25 minutes (range 89-143). Wilcoxon rank test was used to show OR times statistically different (p=0.039).

Conclusions: By incorporating the technique modifications of the use of bipolar electrocautery and application of a compressive dressing, the incidence of perioperative morbidity can be decreased, namely lessened incidence of penile numbness and hematoma formation. Operative times can also be shortened by the use of SIS free grafting and bipolar electrocautery dissection by avoiding the time needed for graft harvest and providing the ability to work in a relatively bloodless field. Use of SIS grafting also alleviates the morbidity of the site of graft harvest.

R27 FDG PET MYOCARDIAL EVALUATION PRE- AND POST-CARDIOTOXIC CHEMOTHERAPY

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Objective: The purpose of this study was to determine if there was a correlation between myocardial uptake of 18F-fluoro-2-deoxy-glucose (FDG) in positron emission tomography (PET) and the use of anthracycline chemotherapeutic agents, which are known to cause dose-related cardiotoxicity. The degree of myocardial uptake was compared to cardiac function tests to see if there was a correlation.

Materials and Methods: A retrospective study was conducted to review 24 consecutive cases of patients who were newly diagnosed with lymphoma and underwent PET before and after receiving chemotherapy. Myocardial uptake of FDG was measured in the pre- and post-chemotherapy PET scan. The difference in uptake was calculated in each patient and was correlated with cardiac function tests if they were available.

Results: Twenty-one (88 %) of the 24 patients demonstrated increased uptake of FDG in the post-chemotherapy scans compared to the pre-chemotherapy scan. The overwhelming majority of these patients (86%) had greater than 100% increase in uptake of FDG. Three (12%) of the 24 patients demonstrated decreased uptake of FDG in the post-chemotherapy scan. All of these patients had less than 25% decrease in uptake of FDG. Unfortunately, not enough cardiac function tests were available in these patients to determine whether increased uptake of FDG led to a decline in cardiac function.

Conclusions: The earliest manifestation of anthracycline cardiotoxicity may be at the molecular level, as evidenced by the altered myocardial metabolism of FDG after chemotherapy. Further research is needed to determine if this altered metabolism leads to a decline in cardiac function.

R28 EVALUATION OF HEMODYNAMIC CHANGES ASSOCIATED WITH INTRAVENOUS METOPROLOL ADMINISTRATION ON A STEP-DOWN UNIT

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Objective: To evaluate the frequent monitoring of blood pressure (BP), heart rate (HR), and cardiac rhythm in identifying hemodynamic changes after the administration of intravenous metoprolol.

Background: The benefit and clinical indications for beta-blockers have been clearly described for their effectiveness in reducing coronary events in high risk patient groups. Intravenous beta-blockers are ordered in doses ranging from 5 mg to 15 mg every four to six hours. Insufficient monitoring guidelines during administration led to hemodynamic monitoring after each milligram. Most patients do not exhibit hemodynamic instability. However, this frequent monitoring practice has been associated with nurses spending from 15 to 30 minutes at the bedside.

Methods: A retrospective analysis of medical records from all that received intravenous metoprolol during a one-week period was completed. Abstracted data included: dosage, administration frequency, and hemodynamics (BP, HR, and cardiac rhythm).

Results: Data were collected for a total of 165 doses of metoprolol from 11 patients. The data reflected that three doses were given: 5 mg, 7.5 mg, and 10 mg. There were no significant changes in HR or cardiac rhythm during the entire monitoring time (range 1 to 15 minutes) for all 165 doses. Eighty-three/165 doses failed to demonstrate more than a 10mmHg drop in BP within 15 minutes of administration. Although 82/165 (7/11 patients) dose-related responses exhibited a BP drop (range 11 to 23mmHg) they did not require any intervention.

Conclusion: Findings suggest that patients may be safely monitored at 15 minute intervals rather than more frequently.

R29 ACUTE KIDNEY REJECTION IN COMBINED LIVER AND KIDNEY TRANSPLANT DURING 1996-2005

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Background: Combined transplantation of two organs has been a reality since 1967 (first combined kidney and pancreas transplant). In general allograft survival is inferior for kidney when transplanting with other solid organs. There is limited information regarding acute rejection for kidneys when combined with liver transplant.

Methods: Retrospective review of United Network for Organ Sharing (UNOS) database from January 1996-November 2005 to address acute kidney rejection rates in two different eras 1996-2000 and 2001-2005, in combined liver and kidney transplants.

Results: 566 combined liver and kidney transplants were performed between 1996-2000 and 1190 from 2001-2005. No data are available for 54.6% of the transplants for the era 1996-2000 and 38.4% for the era 2001-2005. Acute kidney rejection rates during the first year were 11.7% for the era 1996-2000 compared to 5.7% for the era 2001-2005. The kidney rejection alone for the same era was 19.2% and 9.7%, respectively.

Conclusion: There is an advantage in acute kidney rejection during the era 2001-2005 compared with 1996-2000, which can be in part due to the use of the new immunosuppressive agent including induction therapy. Acute kidney rejection rate in combined liver and kidney transplants profile, in fact, seems to be better compared with kidney transplantation alone.

R31 CUMULATIVE 5-YEAR KIDNEY ALLOGRAFT REJECTION IN COMBINED KIDNEY AND LIVER TRANSPLANTATION COMPARED WITH KIDNEY TRANSPLANT ALONE FROM JANUARY 1996-2000, BASED ON ORGAN PROCUREMENT AND TRANSPLANTATION NETWORK DATA AS OF DECEMBER 2000

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Background: Since renal failure was introduced as a criterion to assign points in the MELD score, there is a significant increment in the number of combined kidney and liver transplants. Limited data are available in the accumulative 5-year rejection rate for kidney allograft when transplanted in combination with liver allograft.

Methods: Review of United Network for Organ Sharing (UNOS) database from 1996-2000.

Results: The acute rejection rate was 26.5% compared with 16.2% when the kidney was transplanted in combination with a liver allograft.

Conclusion: The 5-year acute rejection rate for kidney transplants alone was higher when compared with kidneys transplanted in combination with livers during the period of 1996-2000.

R30 IS HEART FAILURE MORE PREVALENT IN PATIENTS WITH PERIPHERAL ARTERIAL DISEASE? A META-ANALYSIS

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Background: Peripheral arterial disease is an important risk marker for ischemic cardiac events. The development of heart failure represents a late event in the cardiovascular continuum and largely results from the concerted influence of risk factors that mediate atherosclerosis. Since risk markers for heart failure cluster in those with peripheral arterial disease, we conducted a meta-analysis to examine the possible increased prevalence of heart failure in those with peripheral arterial disease, a hypothesis that has not been previously investigated.

Methods: Detailed computerized searches in MEDLINE (1966-July 2003), manual reference checks of pertinent articles, and personal communication with experts were performed to review all clinical trials in peripheral arterial disease. Articles were included for data extraction if they reported on the presence of heart failure or left ventricular dysfunction. Two blinded reviewers extracted demographic data including prevalence of heart failure. Expected prevalence rates of heart failure to serve as population controls were derived from the age- and gender-specific National Health and Nutrition Examination Survey (NHANES) epidemiological database.

Results: Of >500 potentially eligible studies, 9 investigations met the final inclusion criteria to yield 11,304 evaluable patients. The average age was 67 +/- 5 years. The prevalence of heart failure in patients with peripheral arterial disease was 7.9% (range 5.3-13.9%) compared with an expected prevalence of 4.1% (range 3.7 - 4.5%). The absolute increase in the prevalence of heart failure was 3.8% (range 1.6-9.4%). The relative risk for increased heart failure prevalence among those with peripheral arterial disease was 1.9 (range 1.35-3.10, p<0.001). The number needed to screen peripheral arterial disease patients to detect 1 case of heart failure is 13 (range 7-19).

Conclusions: Numerous studies in the medical literature have demonstrated that coronary artery disease and peripheral artery disease cluster together in patients. Today, coronary artery disease is the number one cause of heart failure in the United States population. Our research suggests peripheral arterial disease is associated with a nearly two-fold increase in the prevalence of heart failure. It is our contention that strategies that use peripheral arterial disease as a potent risk marker for underlying heart failure might serve to further enhance the cost effectiveness of general screening criteria for the detection of heart failure.

R32 INCIDENCE OF DELAYED RENAL ALLOGRAFT FUNCTION IN COMBINED LIVER AND KIDNEY TRANSPLANTATION COMPARED WITH KIDNEY TRANSPLANT ALONE BASED ON ORGAN PROCUREMENT AND TRANSPLANTATION NETWORK DATA AS OF DECEMBER 2006

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Background: In combined liver and kidney transplantations, multiple perioperative comorbidities mostly related with end-stage liver disease may negatively impact the short- and long-term kidney allograft survival in combined transplantation. There are limited data available to compare the incidence of delayed graft function (DGF) for kidney transplant in combination with liver versus delayed graft function in kidney transplant alone.

Methods: Review of United Network for Organ Sharing (UNOS) database for the years 2004, 2005, and 2006 addressing the incidence of delayed graft function in combined liver and kidney transplantation versus kidney transplant alone.

Results: The incidence of delayed graft function for the years 2004, 2005, and 2006 was 20%, 16%, and 47.7%, respectively for kidneys transplanted in combination with livers versus 24%, 23.8%, and 22.2%, respectively, for kidneys transplanted alone.

Conclusion: The incidence of delayed graft function for kidneys transplanted in combination with livers is lower compared with kidneys transplanted alone.

R33 PULMONARY RESECTION OF HEPATOCELLULAR CARCINOMA AFTER LIVER TRANSPLANT

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Objectives: To investigate the efficacy of pulmonary resection of hepatocellular carcinoma (HCC) recurrence after liver transplant.

Background: Orthotopic liver transplantation is a well-established therapy for HCC. The primary limitation to long-term survival following liver transplantation for HCC is recurrence of the tumor. Pulmonary resection for metastatic HCC prolongs survival in patients following liver resection. This success may be extrapolated to the transplant population in the treatment of pulmonary recurrence of HCC following orthotopic liver transplantation.

Methods: Between 1/2000 and 1/2006 five patients who underwent orthotopic liver transplantation for HCC were identified on routine follow-up with pulmonary recurrence of HCC. They all underwent resection of the pulmonary recurrence of HCC and were retrospectively studied as a group for their respective characteristics and clinical course.

Results: The time from transplant to diagnosis of pulmonary recurrence ranged from 150 days to 880 days with a mean of 500 days. All of the recurrences were single pulmonary nodules amenable to complete resection. Two patients developed a second tumor. One patient had a second contralateral pulmonary nodule which was found to be a new primary of SCC. Another patient had a bony recurrence of HCC in the ninth rib. Four of the patients are still alive, and there was one late death from hepatic failure. The stage of the tumor in the explanted liver ranged from II to IVb. The average time for survival from transplant was 44 months, and the average time from pulmonary resection was 27.5 months.

Conclusion: The patients in this study demonstrate similar survival times to patients with HCC treated without liver transplant. Although the size of the study population is small, the long survival times in the patients is encouraging. The advanced stage and invasive natures of the primary tumor may contribute to subsequent pulmonary recurrence.

R34 PREVALENCE AND PREDICTORS OF POST-TRAUMATIC STRESS DISORDER AMONG HEMODIALYSIS PATIENTS FOLLOWING HURRICANE KATRINA

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Objectives: This study aimed to determine the burden of post-traumatic stress disorder (PTSD) among hemodialysis patients who were receiving treatment in the New Orleans area when Hurricane Katrina made landfall. Additionally, we assessed demographic, dialysis-related and evacuation features associated with PTSD in this population.

Background: With Hurricane Katrina, New Orleans suffered the worst urban disaster in modern American history. Patients with chronic illnesses such as end-stage renal disease, reliant on hemodialysis, may be particularly susceptible to developing PTSD after a natural disaster.

Methods: Patients receiving hemodialysis treatment at nine New Orleans metropolitan area dialysis units prior to Hurricane Katrina making landfall on August 29, 2005 were recruited for a structured telephone interview between April and October 2006. Patients were asked about their evacuation experiences and administered a 17-item checklist to assess PTSD.

Results: Overall, 391 patients completed the interview (participation rate=86%). At the time of the interview, 134 of the participants remained displaced across 18 states. The prevalence of PTSD was 23.8%. After adjustment for age and gender, African American hemodialysis patients were 1.92 times more likely (95% confidence interval: 1.17-3.16) than their white counterparts to have PTSD. After age, race, and gender adjustment, PTSD was more common among hemodialysis patients who evacuated less than two days before the hurricane made landfall, evacuated initially to a shelter, and missed three or more dialysis treatments in the immediate aftermath of the hurricane. Additionally, hemodialysis patients who reported being afraid of losing their lives in the week following the storm; who were hospitalized in the one month following Hurricane Katrina; and who remained displaced for three or more months, were more likely to have PTSD.

Conclusions: A substantial burden of PTSD was present among hemodialysis patients approximately one year after Hurricane Katrina. Emergency planning for hemodialysis patients, and possibly other chronically ill populations, should include the identification and treatment of PTSD during future disasters.

R35 EVALUATION OF THE IMPACT OF HMG-COA REDUCTASE INHIBITORS ON RENAL FUNCTION IN PATIENTS WITH SHOCK

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Introduction: Patients who develop shock while taking an HMG-CoA reductase inhibitor were found to have a greater decline in renal function. This is contrary to most literature regarding this drug class.

Objective: To compare the renal function of patients in shock who are, or are not, on an HMG-CoA reductase inhibitor and to determine the need for dialysis.

Methods: A retrospective chart review was conducted using 2005-2006 records to identify patients with shock who may or may not have taken an HMG-CoA reductase inhibitor. Inclusion criteria were:

- 18 years of age or older
- diagnosed with shock

An electronic report was created to identify all patients with ICD-9 code for shock while in the hospital; codes included Shock 785.50, cardiogenic 785.51, circulatory 785.59, and gram-negative 785.52. Whether or not the patient was or was not on a statin was determined. Data were analyzed to determine if there was a correlation between patients taking statin drugs and a decline in renal function.

Results: There were 178 patients that met the inclusion criteria of the study. In patients who were on a statin (53), 27 (51%) survived and 26 (49%) expired. The percentage of these patients requiring dialysis was 28.3% and the percentage of these patients not requiring dialysis was 71.7%. In patients not on a statin (125), 63 (50.4%) survived and 62 (49.6%) expired. The percentage of these patients requiring dialysis was 28% and the percentage not requiring dialysis was 72%.

Conclusion: In our population of critical care patients, we did not see any reno-protective properties associated with statins nor did we see a decrease in mortality.

R36 THORACIC ENDOGRAFT: A MINIMALLY INVASIVE SOLUTION FOR A MULTITUDE OF AORTIC DISEASES

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Objectives: To demonstrate the multiple types of aortic pathology treatable with thoracic endografts and determine the technical success, morbidity, and mortality of a single institution's early experience with thoracic endograft placement.

Background: Thoracic endografts provide a less invasive surgical option for treatment of descending aortic pathology. We present our early thoracic endograft experience with endovascular management of aneurysms, penetrating aortic ulcers, and traumatic injuries.

Methods: Fifteen consecutive patients scheduled for endograft placement at a single institution were evaluated on an intent-to-treat basis. Retrospective record review was used to determine each patient's demographics, surgical indications, and operative and follow-up care.

Results: Fourteen of 15 patients (93.3%) had successful endograft implantation. Thirty-day survival was 100%, with a 0% rate of spinal cord ischemia. Morbidity included access complications in 2 patients (13.3%) and a myocardial infarction in 1 patient (6.7%).

Conclusions: Descending thoracic aortic pathology can be treated with low morbidity and mortality using endografts, even in high-risk patients. Continued post-placement surveillance is necessary.

R37 EFFECT OF NATURAL DISASTER ON ROUTINE SURGERY

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Objectives: We undertook this study to investigate the effect of Hurricane Katrina on routine surgery using laparoscopic cholecystectomy (LC) as an index case.

Background: As reported after Hurricane Andrew, the ripple effects of a major hurricane on a hospital can be persistent, and include staffing difficulties and shifts in payer mix. This study examines the ripple effects of a major disaster on routine surgery at our institution.

Methods: All inpatients with LC (DRG 493 & 494) and outpatients with principal procedure code 51.23 LC were included in the study. The time periods used were the seven months prior to Katrina compared to a seven-month period after Katrina (starting three months after the storm). Data points collected were operative time, length of stay, operating room turnover time, cost, revenue, and surgery staff levels pre- and post-storm. We also collected data on payer mix pre- and post-storm.

Results: Total cases were 196 pre- and 167 post-storm for outpatient LC and 62 pre- and 64 post-storm for inpatient. Operative time, length of stay, and turnover time did not change significantly, despite staffing difficulties in the operative area. Post-storm cost decreased for both inpatient and outpatient LC. Revenue was down for inpatient LC and up slightly for outpatient. Decreased costs were largely due to loss of veteran (higher paid) staff and, therefore, overall decrease in salary. Our better payers decreased by 10.5% and Medicare, Medicaid and uninsured patients increased by 1, 3.5, and 6%, respectively.

Conclusions: Hurricane Katrina opened the door to cost efficiencies for LC. However, revenue is down due to increases in uninsured and fewer outpatient LCs. Efficiency remained stable despite loss of staff. In planning for this type of disaster, a hospital must be ready for large staff turnovers, potential increase in uninsured, a diminished employment pool, and decreased outpatient surgery.

R38 PORCINE SIS GRAFTS VS AUTOLOGOUS DERMAL GRAFTS IN THE SURGICAL MANAGEMENT OF PEYRONIE'S DISEASE: A COMPARATIVE STUDY

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Objective: To compare operative time and results of small intestinal submucosa (SIS) and dermal grafts in surgical correction of acquired penile curvature due to Peyronie's disease.

Methods: From 2002-2006, 17 patients with penile curvature had excision of plaque with either dermal (N=9 patients) or SIS (Cook Surgisis® ES™, Cook Medical, Inc. Bloomington, IN) (N=8 patients) at our institution. Preoperative work-up included photo documentation or penile injection-induced erections to document deformities. Surgery involved excision of plaque with grafting of the defect. Postoperatively, patients were evaluated with clinic visits, exams, photos, and telephone interviews. Failure is defined as recurrence of deformity greater than 45°, deterioration of erection, or an IIEF-5 score of <10.

Results: Mean patients' age was 57 years (range 46-70). Mean penile curvature was 69 degrees (range 50-90). Operative time in dermal graft was 187 minutes, and in SIS graft it was 143 minutes (p < 0.039). After a mean follow-up of 25.1 months (range 5-59) in dermal graft patients and 7.5 months (range 4-12) in SIS patients, 66.7% and 62.5% had successful correction of curvature, respectively. Mean IIEF-5 score was 15.6 for dermal grafts and 12.5 for SIS grafts (p < 0.47). There were no postoperative hematomas.

Conclusion: In this small series of dermal and SIS grafts, the use of SIS grafts saves operative time and avoids donor site morbidity. Larger populations are needed, but results for SIS and dermal grafting appear comparable.

R39 COMPREHENSIVE PLANNING FOR THE NEEDS OF THE BARIATRIC POPULATION

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Background: This organization initiated bariatric surgical procedures for the morbidly obese in 2003. A special office suite on the 8th floor of the clinic was fitted with equipment to manage patients weighing over 300 lbs. However, the need for heavy-duty equipment and wide doorways accommodating patients in wide wheelchairs required organization-wide accommodation of both patients and family members who weigh over 300 lbs., approximately 8% of our total patient population. In addition, the facility had inadequate signage to direct patients to restrooms with adequate supports, and staff were unaware of the effect their choice of words had on these patients.

Purpose: To describe how an interdisciplinary team led by a member of the Hospital Medicine service led change to improve services and care to the population weighing over 300 lbs.

Methods: Led by a member of Hospital Medicine, the team met weekly for 6 weeks to problem solve and prioritize the needs of the patient and family population weighing over 300 lbs. Subgroups were formed to address equipment and facilities; communication; and transport. These groups met offline and brought their recommendations back to the larger group, where discussion and refining took place.

Conclusions: A comprehensive plan was put into place to address retrofitting of facilities, equipment needs, training on sensitive communication, alignment of services such as escort, and special needs in the pediatric clinic. The plan was presented to the Executive Leadership Team for commitment to a 5-year roll-out of facility and equipment upgrades.

R40 IMPACT OF MANDATORY OSTEOPOROSIS CONSULTATION BY RHEUMATOLOGY IN PATIENTS WITH A FRAGILITY HIP FRACTURE

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Background: Retrospective studies show that only 6%-10% of patients who experience a low impact osteoporotic hip fracture receive pharmacologic osteoporosis therapy post fracture at the time of discharge. Therefore, the Rheumatology and Internal Medicine Departments of Ochsner Clinic Foundation implemented a mandatory rheumatology consult on all patients that are post-hip fracture surgery on Internal Medicine services. This is a 30 month study and is an extension of a previous study submitted by our department in 2005.

Methods: We conducted a retrospective study of 113 patients admitted with a hip fracture between June 2004 and December 2006 to assess the number of patients who were on osteoporosis treatment at the time of fracture and compared to see if the number was increased after rheumatology consult for osteoporosis was done.

Results: Of the 113 patients not exposed to rheumatology consult, 11 were on treatment with antiresorptive agents before the fracture. Of the 113 exposed patients, 22 were on treatment with antiresorptive agents prior to fracture. Post-fracture in the group exposed to rheumatology consult, 73 of 113 patients were on antiresorptive agents versus 27 of 113 patients who were not exposed to rheumatology consult. Post-discharge only 20% of the patients followed up in the rheumatology clinic.

Conclusions: In our institution we are able to identify the patients with osteoporosis and initiate therapy for osteoporosis. However, long-term follow-up of these patients still remains a challenge.

R41 LAPAROSCOPIC REPAIR OF BLADDER INJURIES FOLLOWING LAPAROSCOPIC HYSTERECTOMY

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Background: Several studies have demonstrated an increased risk of injury to the urinary system during laparoscopic hysterectomy, most managed with an open closure.

Objectives: To review our experience with the laparoscopic management of bladder injuries resulting from laparoscopic hysterectomy.

Methods: 11 patients experienced bladder injuries resulting from laparoscopic hysterectomy and then underwent laparoscopic repair of the injury. We reviewed these cases assessing characteristics of the injury and the resulting hospital stay.

Results: Five injuries were located in the posterior portion of the bladder, four in the dome, and two of unknown location. Injury size ranged from 1.0 cm to 1.5 cm. Cystoscopy was performed in 10 of the 11 recognized injuries with one unrecognized injury presenting with an intraperitoneal bladder leak three days later. This injury was repaired laparoscopically through the previous port sites. For the other injuries, no additional ports or instruments were required. The cystotomy closures were performed in one or two layers with 3-0 or 2-0 braided synthetic absorbable interrupted sutures. No drains were utilized. A 16 Fr Foley catheter was left for 5 to 14 days. Median hospital stay was 1 night. Patients were discharged on antibiotics but no anticholinergics. Cystograms were not routinely obtained. No patients have required any further intervention.

Conclusion: We believe our series demonstrates that these injuries can be safely managed laparoscopically without the need for open intervention, an increase in hospital stay, or an increase in patient morbidity. If feasible, we recommend a 2-layer closure and leaving a Foley catheter for 5-7 days.

R42 RISK FACTORS AND REASONS FOR CONVERSION OF TLH TO TAH

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Objective: Identify intraoperative indications as well as preoperative risk factors for conversion of laparoscopic hysterectomy (TLH) to total abdominal hysterectomy (TAH).

Methods: A retrospective comparative study was performed among 76 cases where patients underwent conversion to laparotomy during a TLH and a control group of 163 patients who underwent TLH without conversion. The following data were systematically collected: age, parity, body mass index (BMI), indication for TLH, uterine size following hysterectomy, number of prior cesarean sections, number of prior laparoscopic abdominal surgeries, number of prior open abdominal surgeries, surgeon, intraoperative uterine findings and, if converted, indication for conversion.

Results: From January 2001 to April 2006, 1010 patients underwent attempted TLH, with 925 completed successfully for an 8.4% conversion rate. Of those converted, 55.1% were due to adhesive disease and 31.9% were due to difficult visualization. Five (7.2%) were converted for intraoperative bleeding, and one case (1.4%) was converted due to incidental cystotomy. Risk factors associated with an increased risk of conversion were the patient's BMI ($p=0.0002$), uterine weight ($p=0.0097$), prior open surgical procedures ($p=0.0504$), pelvic adhesive disease ($p=0.0001$), and the performing surgeon ($p=0.0001$). Age, parity, and history of cesarean section had no association with conversion risk. Prior laparoscopic abdominal surgeries were associated with a decreased risk of conversion to laparotomy ($p=0.0009$).

Conclusion: Careful preoperative review of the patient's medical and surgical history and uterine size based on the above-stated risk factors can aid in identifying those patients at higher risk for conversion during TLH and improve patient outcomes and procedure satisfaction.

R43 LUMBAR EPIDURAL STEROID INJECTIONS: DOES LOCATION MATTER?

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Purpose: Fluoroscopic guidance is a helpful adjunct for the performance of epidural steroid injections (ESIs) as it allows accurate, site-specific needle placement. However, it is not known whether this added capability improves pain relief. The purpose of this study is to determine whether site-specific injection at the level of maximum pathology improves procedure efficacy in patients with degenerative lumbar spinal stenosis (DLSS) or lumbar radiculopathy (LR).

Methods and Materials: Three radiology residents and two interventional radiology staff with at least 10 years of experience performed pre-procedural interviews and imaging reviews on 120 consecutive patients who met inclusion criteria. Quantitative subjective pain scores at rest and with activity as well as Roland-Morris Disability scores were collected pre-procedurally. Patients were then randomized to have ESIs performed at either the site of maximal pathology or two vertebral bodies away. Patients were re-interviewed at 1, 4, 12, and 24 weeks, with follow-up phone calls for comparative analysis.

Results: Data collection for this prospective study is ongoing. Preliminary analysis demonstrates a greater reduction in pain with activity at rest at 1 and 4 weeks post-injection in the groups who received ESIs at the lumbar level of maximal imaging pathology for both DLSS and DLR. This difference is statistically significant. No statistically significant differences were seen in the other groups at this time.

Conclusion: Preliminary data suggest that injection of epidural steroids at the site of maximal imaging abnormality improves pain relief in patients with lumbar radiculopathy. Pre-procedural imaging review and fluoroscopic guidance is the optimal technique for this procedure.

R44 IMPROVING HAND HYGIENE COMPLIANCE AMONG HEALTHCARE WORKERS

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**Department of Infectious Diseases, Ochsner Clinic Foundation, New Orleans*

Objectives: The purpose of this study was to demonstrate the impact of direct hand hygiene observation studies on healthcare worker hand hygiene compliance.

Research Design and Methods: The Centers for Disease Control and Prevention (CDC) recommends that healthcare workers wash their hands before and after patient contact and medication preparation. A tool was developed in accordance with these recommendations. An Infection Control professional observed compliance with the recommendations for performance improvement. We report the hand hygiene compliance rates over a 12-month period.

Results: More than 926 opportunities for hand hygiene were observed. Healthcare workers (HCWs) were compliant in 502 of the opportunities. Percent compliance was 45, 64, 61, 28, 63, 42, 63, 52, 47, 69, 53, and 53 in January, February, March, April, May, June, July, August, September, October, November, and December, respectively. The cumulative rate at the end of the 12-month period was 54%. This is a 9% increase above the initial 45% observed at the beginning.

Clinical Application of Finding: Published HCW hand hygiene compliance studies show rates ranging from 29%-48%. Our studies show that Ochsner HCWs hand hygiene compliance rate of 54% is slightly better than reports from other healthcare facilities across the nation. However, the Infection Control Team will continue educational efforts, such as presentations, button and signage campaigns, and observational studies, in order to reach the internal goal of 70% or better.

R45 IMPROVING MEDICATION SAFETY IN THE NICU

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Objectives: To increase medication safety in the NICU by improving organizational safety culture and focusing on standardization of practices such as medication dilution, prescribing with mg/kg/dose and double checking verification processes.

Background: According to the Institute of Medicine, 2 out of every 100 admissions experience a preventable adverse drug event. The pediatric population is especially vulnerable to medication errors due to variability in weight, lack of standardization of medication dilutions, and lack of awareness of medication safety practices. A comprehensive approach to improving medication safety in pediatric patients requires changes in organizational culture and medication administration practices.

Methods: An electronic search of medication errors stored in a standardized occurrence reporting system was completed. Collected data included medication errors in the NICU categorized under the four processes: prescription, transcription, dispensing, and administration. Flow mapping of existing organizational practices identified system weaknesses in medication policies. Rapid cycles for improvement using the PDSA model were used to implement best practices identified during a two year collaborative.

Results: A total of 11,753 patient days were used to determine results. Reporting of “near misses” increased from 0.7 to 21.91/1000 pt days while overall medication errors reaching the patient decreased from 4.93 to 3.6/1000 pt days.

Conclusion: Lessons learned reiterate that organizational safety cultures are needed to increase awareness of the need for medication safety and can impact buy-in for needed practice changes. A multidisciplinary approach will ensure system changes adequately address organizational processes in medication delivery systems.

R47 MRI FOLLOWING INTERSTIM (TM) THERAPY: SAFETY AND FEASIBILITY

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Objective: To evaluate patient safety and InterStim function after MRI in patients with an InterStim in place.

Background: No studies to date have examined the safety of undergoing of an MRI below the thorax in patients with an InterStim.

Methods: A retrospective analysis of our InterStim database was undertaken. Following MRI, we assessed the following: patient safety, interference of IPG device with radiological interpretation, any change in function of the InterStim, and any change in a patient’s perceived efficacy.

Results: 11 patients underwent MRI following implantation of an InterStim. Our initial patient had a failure of the InterStim. For this patient the voltage was set to zero and the IPG was turned off. The patient underwent MRI uneventfully; however, upon reprogramming the device did not function. Since this patient, we followed the same protocol but additionally turned the IPG’s magnetic switch off. Using this protocol, 12 MRIs on ten patients have been performed. Nine of the 12 MRIs were of the lumbar spine and one was of the pelvis. The remaining exams involved imaging the brain or cervical spine. There were no adverse patient safety issues during or following MRI. There was no interference with interpretation of the MRI. The InterStim devices functioned appropriately following re-programming.

Conclusion: We cannot recommend routine use of MRI following implantation of an InterStim. Neither Medtronic nor the FDA has approved MRI following InterStim, but in our experience with the settings described, MRI does appear feasible under controlled conditions. There is a need for further studies.

R46 NEUTROPHILS AND NADPH OXIDASE IN LUNG PERMEABILITY

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Rationale: Through NADPH oxidase activity, neutrophils can produce oxygen-free radicals that are necessary for their antimicrobial effect. When neutrophils are recruited to the lung, generation of free radicals may contribute to tissue injury. Using intratracheal lipopolysaccharide (LPS) to recruit neutrophils, we measured lung leak and alveolar inflammatory cells in normal, neutropenic, and NADPH oxidase deficient [gp91phox(-/-)] male C57BL/6J mice.

Methods: Six hours after LPS or saline challenge, animals underwent bronchoalveolar lavage (BAL) with 3 ml saline. Neutrophils were depleted by anti-Gr-1 antibody (i.p.) 24 hours prior to LPS challenge. Albumin in BAL fluid (BALF) was quantitated by ELISA. BALF cell counts were performed using hemacytometer and cytospin. Data are mean±SE; *p<0.05; n = 4-7 animals per group.

Results: BALF neutrophil counts were higher in LPS treated mice (648±72x103) compared to saline controls (2±1x103*) and LPS treated neutropenic mice (1±1x103*). LPS treated mice had more albumin in BALF (453±94 µg/ml) than saline controls (135±28 µg/ml*) and LPS treated neutropenic mice (116±24 µg/ml*). Wet-to-dry ratios were increased 6 hours after LPS treatment (5.04±0.1 vs 4.49±0.14*) and neutropenia prevented this increase (4.57±0.05*). In LPS treated gp91 (-/-) mice, BALF neutrophil counts did not differ statistically from LPS treated controls (1,290±460x103 vs 648±70x103). gp91phox (-/-) mice treated with LPS had markedly elevated BALF albumin concentrations compared with PBS-treated gp91phox (-/-) mice (1,275±239 vs 339±44 µg/ml*).

Conclusion: Neutrophil depletion reduces lung leak after intrapulmonary LPS challenge. NADPH oxidase-derived free radicals are not required for increased albumin permeability and inflammatory cell recruitment in LPS-induced lung injury.

R48 ENDOSCOPIC SPECIMEN EXTRACTION SYSTEM

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Background: A significant challenge in endoscopic surgery is the removal of specimens typically larger than the incision. This work presents the design and performance of a retrieval instrument utilizing a lined caging system to compress and shape the tissue.

Methods: The device is designed to grasp, encompass, and aspirate a variety of specimens, reducing their size before removal. The prototype is of tubular design to facilitate insertion through a small incision. The distal end has a retractable cage consisting of six spring-loaded strips arranged in a circular fashion, forming a trumpet shape. A pursing string is fed through the holes in the free ends of the strips to close the cage. The center of the tube/cage provides a working channel for grasping and pulling the specimen to the cage. Testing was done in animal labs.

Results: The first test captured a gallbladder measuring approximately 25mm by working through a 10mm incision. A needle was inserted via the working channel, and bile was aspirated. The specimen was reduced to approximately 11mm and exited the incision with little resistance. In the second test, also through a 10mm incision, approximately 90mm of small bowel was captured. The specimen was left intact within the cage and its diameter was nearly 15mm. Due to the “football” shape of the cage containing the specimen, it acted as a dilator and exited the incision with moderate resistance.

Conclusion: The results show the device performed as designed. The device has been awarded patent # 6,383,195.

R49 “WHO’S GETTING FLU?”

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Objective: The purpose of this study was to assess the age groups affected by the influenza virus. Based on our findings, we will determine whether or not current targeted age groups for flu prevention campaigns should be reconsidered.

Research Design and Methods: Influenza vaccination is recommended as a preventative measure for all age groups. Traditionally, flu campaigns have been targeted to the elder age group population. As a large health system, it is important to conduct flu surveillance to assess flu acquisition rates that will help direct future campaign initiative. The Department of Infection Control conducts flu surveillance. Positive flu results were determined by enzyme-immunoassay (EIA) or other methodology established by the Ochsner Microbiology Laboratory. Data have been collected since January 2005.

Results: In 2005, there were 641 flu positives from the lab documented in the Flu Surveillance log by the Infection Control staff. In 2006, 553 flu positives were documented. Flu acquisition rates were higher in the 0-10 and 11-20 age groups than in other age groups in 2005, 2006, and 2007 (January to week 2 of March). In 2005, the 0-10 and 11-20 age groups were 3.2-, 2.3- and 4.3-fold higher than in the 21-30 and 31-40, 41-50 and 51-60, and 61 to greater than 90 age groups, respectively. In 2006, the 0-10 and 11-20 age groups were 7.2-, 8.2-, and 17.5-fold higher than the 21-30 and 31-40, 41-50 and 51-60, and 61 to greater than 90 age groups, respectively. From January to the second week of March 2007, the 0-10 and 11-20 age groups were 5.8-, 4.3- and 21.8-fold higher than the 21-30 and 31-40, 41-50 and 51-60, and 61 to greater than 90 age groups, respectively.

Clinical Application of Finding: Our findings clearly demonstrated that flu acquisition is much higher in children and adolescents. Traditionally, flu campaigns have targeted the elder age groups. We conclude that similar campaigns targeting the young should be the priority.

R50 IDENTIFICATION OF CANCER STEM CELL FOR B CELL LYMPHOMA

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Objective: To identify cancer stem cells (CSC) of B-cell lymphoma.

Background: CSCs are biologically distinct cells within the neoplastic clone that are capable of initiating and sustaining tumor growth in vivo. B-cell lymphoma, the most common hematological malignancy in adults, is indolent and susceptible to chemotherapy in its early stage. However, this tumor undergoes blast transformation to an aggressive form, ultimately becoming a fatal disease because of the presence of drug-resistant CSC and the presence of a favorable microenvironment constructed by follicular dendritic cells (FDCs) in the germinal center.

Method: Isolation of Hoechst 33342 staining dim (side population or SP) and bright (non-side population or non-SP) cell population from B-cell lymphoma cell lines by FACS cell sorting. Evaluation of these cell populations with CSC properties using in vitro lymphoma and FDC co-culture and in vivo lymphomagenesis. Confirmation of the presence of CSC in B-cell lymphoma by immunohistochemistry staining of B cell lymphoma patient lymph node biopsies and xenografts.

Result: FDCs are essential for lymphomagenesis. B lymphoma cell lines contain a minor Hoeschst-effluxing, verapamil-sensitive SP. SPs have stem cell properties of self-renewal, slow division, resistance to irradiation, and initiation of tumor. A minor population of cells in xenotransplantation tissue and lymphoma patient lymph node tissue react to stem cell marker ABCG2.

Conclusions: CSC of B-cell lymphoma is enriched in the SP. Identifying and targeting the CSC of B-cell lymphoma may lead to new therapies that may eradicate cancer cells and prevent relapse.

R51 FOLLICULAR DENDRITIC CELLS SUPPORT BREAST CARCINOMA TUMOR FORMATION IN XENOGRAFT MODELS

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Objective: To test whether follicular dendritic cells (FDC), a stromal cell of lymph nodes (LN), support breast carcinoma tumor formation in xenograft models.

Background: During metastatic progression, malignant carcinoma cells colonize and form macroscopic tumors in distant organs. Lymph node (LN) status in breast cancer patients is the single best indicator of disease-free survival and overall survival in patients with breast carcinoma. 70% of patients with axillary LN metastases relapse within 10 years of diagnosis. However, little is known about the LN-specific microenvironment where the metastasized carcinoma cells acquire signals for survival and growth. FDC are a type of stromal cell of LNs and support the formation of B-cell follicular lymphoma.

Method: Invasive breast carcinoma cell MCF7 was co-mingled with FDC line, HK cells or control fibroblasts, and injected subcutaneously to immunocompromised NOD/SCID mice. Frozen sections of tumors were compared for vascularization by staining with endothelial cell marker CD31. To examine the effect of HK cells on tumorigenicity in vitro, anchorage-independent growth was assayed by colony formation assay. For in vitro co-culture assay, green fluorescent MCF7 cells were generated by infecting with GFP-expressing lentivirus to distinguish carcinoma cells from HK cells in the coculture.

Result: Breast carcinoma cell line MCF7 requires HK cells for tumor formation in a xenoplant tumor formation model. HK cells enhance the proliferation of breast carcinoma cell in the culture. HK cells support anchorage-independent growth in soft agar. The HK cell is able to induce angiogenesis during tumor formation.

Conclusions: FDC may be a new therapeutic target for the treatment of advanced breast carcinoma.

R52 CD9 EXPRESSION IS ASSOCIATED WITH COMMITMENT OF B LYMPHOCYTES TO PLASMA CELLS

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Objectives: Within the germinal center (GC) microenvironment, centroblasts proliferate to centrocytes and subsequently differentiate into IgG-secreting plasma cells by interacting with follicular dendritic cells in the presence of T cells. CD9 is expressed in normal and myelomatous plasma cells. However, the function of the CD9 molecule is not known. In this study, we examined the CD9 expression in human lymphocyte subpopulations and investigated its functional characteristic associated with plasma cell (PC) generation.

Design and Methods: Using specific mAbs to CD9, the expression of CD9 on human B cell subsets and PC was examined. The role of the CD9 in PC generation was investigated in our in vitro experimental model that mimics the in vivo GC-reaction.

Results: Among B cell subsets from human tonsil, CD9 is expressed at highest level in PCs and absent in memory B cells, naïve B cells and T cells. In GC-B cells, CD77⁺ centrocytes containing PC precursors expressed higher level of CD9 compared to CD77⁺ centroblasts. In the in vitro culture of GC-B cells, CD9 expression of B cells increased when IgG secreting PCs was generated. Such increase did not occur during memory B cell generation. Furthermore, blocking of CD9 with specific neutralizing Ab significantly inhibited GC-B cell differentiation into PCs.

Conclusion: CD9 is a functional molecule selectively expressed during GC-B cell differentiation into PCs.

Clinical Application of Findings: This is the first direct evidence showing CD9 is a functional marker for PCs within lymphoid tissue. CD9 might be a potential therapeutic target for autoimmune diseases.

R53 FUNCTION OF CD9 IN B LYMPHOMAS

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Objectives: B-cell lymphoma is the most common hematopoietic malignancy in the adult. However, the surface markers that distinguish indolent B cell lymphomas from aggressive ones for diagnosis and treatment have not been well characterized. Since CD9 has been reported to correlate with prognosis of several human carcinomas, we investigated the expression and functional roles of CD9 in B lymphomagenesis.

Research Design and Methods: Among B-cell lymphoma cell lines, some lymphoma cell lines require the GC stromal cells, follicular dendritic cells (FDC) for lymphoma formation, but some do not. Hence, we investigated CD9 expression on these cell lines by FACS staining. CD9 negative cells were separated from CD9 positive cell lines using a MACS column, and their cell growth and HK-dependency were compared both in vitro and in vivo.

Results: HK-dependent lymphoma cell lines express CD9 on their surface. CD9 negative cells grew faster than CD9 positive cells; however, CD9 positive cells were more dependent on HK cells for their growth in vitro. When these two populations were injected in SCID/NOD mice for tumor formation, CD9 positive cells produced tumors faster than CD9 negative cells in the presence of HK cells.

Conclusion: These results suggest that CD9 expression on B-lymphoma cells enhances tumor formation with FDC/HK cells in vivo. In addition, CD9 may be a potentially useful marker for determining various stages of malignant transformation of B-cell lymphomas.

R54 BRACHIAL VS BASILIC VEIN DIALYSIS TRANSPOSITIONS: ARE THEIR PATENCY RATES COMPARABLE?

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Objectives: While the performance of basilic vein transpositions (BVT) for dialysis access is well known, the utility and patency rates of brachial vein transpositions (BrVT) are poorly characterized. The brachial vein is being used increasingly as an alternative vein for transposition in an effort to increase the percentage of autogenous fistula utilization. The purpose of this study was to review a single center, comparative experience with these fistulas.

Methods: A retrospective chart review was performed on 59 patients who received BVT and BrVT from 1/2000-12/2006. Patient demographics, comorbidities, mortality, and morbidity were evaluated. Patency rates were calculated using Kaplan-Meier life table analysis.

Results: We created 59 fistula transpositions, 42 (71%) BVT and 17 (29%) BrVT. Patient demographics included 64% males, 36% females; 57% African Americans, 39% whites, 3% Latinos; 51% had diabetes and 96% had hypertension. The mean vein size was 4.9 +/- 0.1 mm. Our thirty-day mortality was 0%. The maturation rate was 66%. The mean time to maturation was 11.9 +/- 8.8 weeks. Six-month primary patency rates of BVT (76%) and BrVT (40%) were not significantly different (p=0.115). Twelve-month primary patency rates of BVT (50%) and BrVT (40%) were also not statistically significant.

Conclusions: Brachial and basilic vein transpositions appear to have similar patency rates at six months. These preliminary results require further follow-up and a larger cohort of patients for confirmation. Broader utilization of the brachial vein for transposition dialysis fistula appears justified and may increase the overall percentage of autogenous fistula placement.

R55 IMPACT OF IMPLEMENTATION OF A RAPID RESPONSE TEAM ON RESUSCITATION EVENTS OUTSIDE OF CRITICAL CARE AREAS

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Failure to rescue is a significant factor in preventable deaths of hospitalized patients. Rapid Response Teams (RRTs) have been shown to be effective in reducing hospital mortality and the number of resuscitation events occurring outside of critical care units. We describe the impact of implementation of an RRT on the location of resuscitation events in a 500 bed not-for-profit teaching hospital. The RRT consists of an experienced Registered Nurse and Respiratory Therapist from a critical care unit. Planning and oversight of the team is the responsibility of a physician-led, multidisciplinary team. Following an initial one-month trial on two pilot units in January of 2006, the program was fully implemented. The mean percentage of resuscitation events outside of critical care areas decreased from 46% from February 2005 through December 2005 compared to 30.4% during the same period in 2006, while the incidence decreased from 3.38 to 2.14 resuscitation events outside of critical care areas per 1,000 adult patient discharges during the same time period. The data support previous findings by Buist et al. (2002) that the implementation of an RRT reduces the number of resuscitation events occurring outside of critical care areas.

R56 EFFICACY OF SELECTIVE LASER TRABECULOPLASTY IN PATIENTS WITH OPEN-ANGLE GLAUCOMA VS MIXED MECHANISM GLAUCOMA RECEIVING FIXED OCULAR DRUG THERAPY FOLLOWED FOR UP TO 18 MONTHS AT A SINGLE INSTITUTION

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Objective: To evaluate the response of eyes with open angle glaucoma (OAG) or mixed mechanism glaucoma (MMG) to treatment with selective laser trabeculoplasty (SLT) in patients receiving fixed ocular drug therapy.

Background: Glaucoma is a leading cause of worldwide blindness. The lowering of intraocular pressure (IOP) is the only proven method to treat this disease. This can be accomplished through use of medications, laser trabeculoplasty, or filtering eye surgery.

Methods: A retrospective chart review was performed to evaluate the effect of SLT on IOP in patients with OAG or MMG while receiving fixed ocular drug therapy. For each patient, the first eye receiving SLT from April 2005 thru January 2006 was included for primary analysis. A total of 61 of 97 eyes met inclusion criteria and were followed for up to 18 months. All eyes were treated with 360 degrees SLT by two glaucoma specialists using a standardized method.

Results: The average patient was 70 years old (SD 10), taking 2 ocular medications, with a baseline IOP of 17.6 mm Hg (SD 3.2). Patients tolerated the procedure well with few complications. Over the trial period, treatment with SLT lowered IOP in patients with OAG by an average of 20.9% (SD 14.35). SLT lowered IOP in patients with MMG by an average of 16.4% (SD 13.03).

Conclusions: SLT can be a useful adjunctive therapy in lowering IOP in patients with OAG or MMG who are not achieving target IOP solely with ocular drug therapy.

R57 ASSESSMENT OF MOLD EXPOSURES IN IMMUNOCOMPROMISED PATIENTS POST-HURRICANE KATRINA

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Objectives: (1) Assess mold exposure prevention practices among at risk persons to determine compliance with exposure prevention recommendations. (2) Identify all invasive mold infections in surveyed persons. (3) Identify potential failures in recommended exposure prevention guidelines.

Research Design and Methods: A prospective cohort study was designed to capture patients at risk for mold exposure. The enrollment period was February 22 - May 11, 2006. The study sites included the Infusion, Solid Organ Transplant and the Hematology/Oncology clinics at Ochsner Clinic Foundation. The study population included all adult patients visiting study sites for care during enrollment period. All patients received CDC pamphlet entitled, "How to Protect Yourself From Mold" to prevent further exposures. They also received personal and exposure protective practices survey in addition to a self-administered questionnaire. The questionnaire measured activities that may be done in moldy buildings including heavy cleaning, light cleaning, getting personal things, and looking but not touching. The questionnaire also assessed the extent of flooding, hurricane damage and mold in buildings, and personal protective equipment worn during activities. A nurse or study team member documented any underlying illness and medication.

Results: 199 subjects enrolled. The age of participants ranged from 22-90 years old. The median age was 59 years. Participants entered damaged homes for several purposes. Immune-compromised persons were less likely to currently live in a moldy house. A majority of participants followed CDC recommendations. There was one "probable" and 14 "possible" invasive mold infections after a year of follow-up.

Clinical Application of Finding: Although many study participants reported exposures to mold, frequency of invasive mold infections was within expected parameters. These data suggest that traditionally non-pathogenic molds infrequently cause infection even in susceptible patients despite potentially high levels of unprotected exposures. As a public health precaution, however, at risk individuals should follow recommended guidelines when entering moldy buildings such as avoiding exposures, using protective equipment (e.g., respirators and gloves), or limiting time spent in moldy environments.

R58 EFFECT OF BREAST CORE NEEDLE BIOPSY TECHNIQUE ON DETECTION OF LOBULAR INTRAEPITHELIAL NEOPLASIA

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Introduction: Lobular Intraepithelial Neoplasia (LIN) - Atypical Lobular Hyperplasia (ALH) and Lobular Carcinoma in Situ (LCIS) - is a noninvasive breast lesion occasionally found in core needle biopsy and surgical biopsy specimens. Although this is most commonly thought to be an incidental finding, identification of LCIS is associated with a ten-fold increased risk of developing invasive cancer in either breast.

Methods: Biopsy results from 1993 to 2004 were reviewed retrospectively. 2940 stereotactic biopsies were performed using the 14G "gun-type" needle, 1807 stereotactic biopsies were performed using an 11G vacuum-assisted needle, and 2724 ultrasound guided biopsies were performed using a 14G "gun-type" needle. When possible, the number of specimens was noted. Incidence of LIN was calculated for each group.

Results: The incidence of LIN was 0.4% using the stereotactic 14G technique, 0.4% using the ultrasound guided 14G technique, and 1.7% using the 11G stereotactic technique. Approximately twice the number of samples was taken with 11G needles as with 14G.

Discussion: LIN is believed to be an incidental finding without specific imaging or clinical characteristics. Our findings support this concept—the greater the amount of tissue obtained, the more likely we were to encounter LIN at pathology. Management recommendations can include no treatment, local excision, chemoprevention, and even bilateral prophylactic mastectomy. Radiologists need to be aware of the wide-ranging treatment recommendations, as we are identifying LIN more frequently with current stereotactic biopsy techniques.

R59 INSULIN RESISTANCE ALTERS MOLECULAR MECHANISMS REGULATING RESTENOSIS

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Restenosis is the re-narrowing of an occluded artery in response to the treatment with angioplasty. The immunosuppressant rapamycin, is used clinically to treat restenosis because of its inhibitory effect on mammalian target of rapamycin (mTOR), a large protein complex that plays a central role in cellular growth by integrating nutrient and hormonal signals. Inhibition of mTOR decreases vascular smooth muscle cell (VSMC) proliferation, a major component of the restenotic process. While effective in otherwise healthy individuals, rapamycin's anti-restenotic efficacy is diminished in diabetics. We hypothesized that a loss of intact insulin signaling is responsible for this loss of effect. The binding of insulin to its receptor initiates a signaling cascade that leads to the activation of mTOR via activation of the kinase Akt, as well as activation of the ERK ½ pathway. Both the Akt (protein kinase B) and ERK pathways regulate VSMC proliferation, albeit through divergent mechanisms. Thus, the development of insulin resistance may cause changes in the molecular mechanisms regulating VSMC proliferation, diminishing mTOR's role. To test the theory, we compared the activation of Akt and ERK in response to insulin stimulation in murine VSMCs lacking the insulin receptor (L2) to wild-type. We found that the loss of an intact insulin signaling pathway resulted in a shift from Akt activation to ERK activation. Similar results were obtained with human coronary artery smooth muscle cells from a diabetic donor. This supports our hypothesis that a loss of intact insulin signaling pathway may play a role in the loss of rapamycin's anti-restenotic efficacy in diabetics.

R60 NATIVE KIDNEY FUNCTION AFTER COMBINED LIVER-KIDNEY TRANSPLANTATION

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Background: Recovery of native renal function after combined liver-kidney transplant is unclear.

Objective: The purpose of this study is to assess native renal function at one year following combined liver-kidney transplant.

Methods: Fourteen patients received a combined liver-kidney transplant between November 2003 and June 2005. Nine patients had a one-year post-op Tc-99 MAG-3 fractionated renal scan performed to assess native renal function. 45% of these patients had hypertension and diabetes. None of these patients were on chronic hemodialysis pre-transplant.

Results: Pre-op average calculated creatinine clearance (CrCl) was 25.67 cc/min and 70.89 cc/min at one year. The split function renal scan performed at one year demonstrated an average native kidney CrCl of 17.64 cc/min and an average renal transplant CrCl of 53.25 cc/min.

Conclusions: Split renal function scanning, one year post-op, suggests that the native renal function continues to decline during the post-transplant period. At one year post-op, the renal transplant provides on average 75% of the GFR in these patients. Risk factors for chronic renal disease including diabetes and hypertension, in addition to low pre-op CrCl, will aid in identifying patients who will benefit from combined liver-kidney transplant.

R61 PROTEIN KINASE C-ε: A POTENTIAL TARGET IN THE TREATMENT OF B CELL CHRONIC LYMPHOCYTIC LEUKEMIA (B-CLL)

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Background: B-CLL is characterized by accumulation of mature B cells resulting from undefined apoptotic defect. Conventional chemotherapeutic drugs are toxic and not well suited to the disease biology. Thus, a better understanding of B-CLL molecular biology is critical to its pathogenesis and treatment.

Objectives: Lyn, a src family kinase, is known to be activated in B-CLL cells. To explore the signal transduction pathway(s) underlying the apoptotic defect in B-CLL cells, we addressed the contribution of Lyn kinase in the activation of PKC-ε, a protein kinase highly expressed in B lymphocytes and involved in oncogenic transformation as well as inhibition of apoptosis.

Methods: B-CLL cells (PBMCs) were isolated from discarded and de-identified blood samples obtained from untreated B-CLL patients. Purified tonsillar B cells were used as control. Lyn-derived inhibitor peptide was used to determine the involvement of Lyn kinase in the nuclear translocation/activation of PKC-ε as well as activation of NF-κB and VEGF production.

Results: PKC-ε was targeted to the nucleus in B-CLL cells, but not in tonsillar B cells. Further, Lyn-specific inhibitor peptide inhibited PKC-ε nuclear translocation/activation in B-CLL cells linking PKC-ε nuclear translocation to Lyn kinase activation. B-CLL cells produced more VEGF and showed higher NF-κB activation than tonsillar B cells. Inhibition of PKC-ε nuclear translocation with either Lyn inhibitor peptide or PKC-ε translocation inhibitor markedly reduced VEGF production and NF-κB activation.

Conclusion: The Lyn kinase-mediated nuclear translocation of PKC-ε induced VEGF production and NF-κB activation, both strongly implicated in the apoptotic resistance in B-CLL cells. Thus, inhibiting PKC-ε nuclear translocation/activation may be of therapeutic value for B-CLL treatment.

R62 INCIDENCE OF DELAYED KIDNEY ALLOGRAFT FUNCTION IN COMBINED HEART AND KIDNEY TRANSPLANTATION COMPARED WITH KIDNEY TRANSPLANT ALONE, BASED ON ORGAN PROCUREMENT AND TRANSPLANTATION NETWORK DATA AS OF DECEMBER 2006

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Background: Limited information is available addressing the needs of those undergoing dialytic therapy that are in the first week posttransplant of combined heart and kidney in comparison with kidney transplant alone. This information can facilitate the decision to perform simultaneous kidney and heart transplantation in patients with end-stage heart disease and advanced chronic kidney disease.

Methods: Review of United Network for Organ Sharing (UNOS) database for the years 2004, 2005, and 2006 to compare the reported incidence of using dialytic therapy in combined heart and kidney and kidney transplant alone.

Results: The incidence of these years (delayed graft function for the years 2004, 2005 and 2006 was 19.6%, 25%, and 21%, respectively, for combined heart and kidney transplantation and 24.1%, 24.1%, and 23.8%, respectively, for kidney transplantation alone.

Conclusion: The incidence of delayed graft function for kidney allografts transplanted in combination with heart is comparable to that for kidney transplant alone.

R63 FIVE-YEAR KIDNEY ALLOGRAFT SURVIVAL RATE IN COMBINED LIVER AND KIDNEY TRANSPLANTATION DURING 1996-2001, BASED ON ORGAN PROCUREMENT AND TRANSPLANTATION NETWORK DATA AS OF JANUARY 2002

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Background: It is believed that combined renal transplants with other solid organ transplants confer inferior allograft expectancy for the kidney. Data are limited in five-year renal survival when transplantation is in combination with liver allograft.

Methods: Retrospective review of United Network for Organ Sharing (UNOS) database from January 1996-2001 using Kaplan-Meier graft survival rates.

Results: The five-year kidney allograft survival was 57% with combined transplantation compared with 60% with kidney transplant alone.

Conclusion: From 1996-2001, kidney allograft survival with combined transplantation was comparable to that for kidney transplantation alone.

R64 ACUTE KIDNEY REJECTION IN COMBINED HEART AND KIDNEY TRANSPLANTATION, BASED ON ORGAN PROCUREMENT AND TRANSPLANTATION NETWORK DATA AS OF DECEMBER 2005

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Background: The increasing incidence of end-stage heart failure and ischemic nephropathy, causing end-stage renal disease demands a different approach. The transplant centers are facing the need to perform combined transplantation to improve quality of life and life expectancy. Available data are limited regarding the incidence of acute kidney rejection in combined renal and heart transplants.

Methods: Retrospective review of United Network for Organ Sharing (UNOS) database from January 1996 - November 2005.

Results: A total of 132 combined heart and kidney transplants were performed during January 1996-December 2000 and 187 from January 2001-November 2005. There are no data available for 47% and 42%, respectively. The incidence of acute kidney rejection was 9.1% from 1996-2000 and 3.6% from 2001-2005.

Conclusion: There is a lower acute kidney rejection rate for both eras in combined transplantation versus single kidney transplant. However, the potential lack of kidney biopsy data may obscure the true incidence of acute kidney rejection.