RESULTS: A total of 137 patients were included in the final analysis (oTAR, 53; mTAR, 84). Groups were comparable in mean BMI, age, and American Society of Anesthesiologists score. Both cohorts underwent analogous perioperative courses, including mean operative time (oTAR 272 minutes; mTAR 278 minutes, $p = 0.67$). The mTAR group also had significantly shorter hospitalization (oTAR 5.4 days; mTAR 2 days, $p < 0.05$) and a lower hospital cost (oTAR \$17,906; mTAR \$13,410, $p < 0.001$). The mean follow-up was comparable between mTAR and oTAR groups (7.5 months vs 8.1 months, $p = 0.65$). There was no hernia recurrence in the mTAR group; however, 1 (1.9%) hernia recurrence was observed in the oTAR group. There was also a lower trend of 30-day complications in the mTAR group.

CONCLUSION: Comparing open with minimally invasive TAR, our findings demonstrate reduced hospital cost and length of hospital stay with mTAR. We continue to endorse the selective use of mTAR in AWR while further long-term outcomes and patient selection criteria continue to be elucidated.

Platelet-Rich Plasma Improves Metrics of Biologic Mesh Incorporation and Decreases Foreign Body Response in a Dose Dependent Fashion

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INTRODUCTION: Platelet-rich plasma (PRP) has been shown to improve incorporation and reduce inflammation in ventral hernia repair (VHR) with acellular dermal matrix (ADM). The concentration of platelets in PRP varies in clinical studies, and an ideal concentration has yet to be defined. We sought to study the effects of varied concentrations of PRP on ADM incorporation and inflammatory cell infiltration in a rat model of VHR. We hypothesized that increasing concentration of PRP would lead to improved incorporation, decreased CD8+, and multinucleated giant cell (MNGC) infiltrate.

METHODS: Lewis rats (n = 36) underwent ventral hernia creation and repair 30 d later with porcine non-crosslinked ADM. PRP was applied to the mesh at concentrations of $1x10^4$ plt/μL (low-plt), $1x10^6$ plt/μL (mid-plt), or 1x107 plt/μL (high-plt) and tissue harvested at 2 and 4 weeks. Cellularization, tissue deposition, and MNGC were quantified using hemotoxylin and eosin and Massons trichrome. Neovascularization was assessed with Verhoeff-Van Gieson (VVG) staining. Lymphocyte infiltration was assessed using immunohistochemical staining for CD8.

RESULTS: High-plt treated had significantly greater tissue deposition and lower scaffold degradation at 4 weeks. Cell infiltration was significantly higher with high-plt at both time points. Neovascularization was highest with mid-plt at 2wks. PRP at all concentrations significantly decreased MNGC infiltration at both timepoints. Low-plt animals showed a significantly decreased CD8+ cell infiltrate at 2 and 4 weeks (Figure).

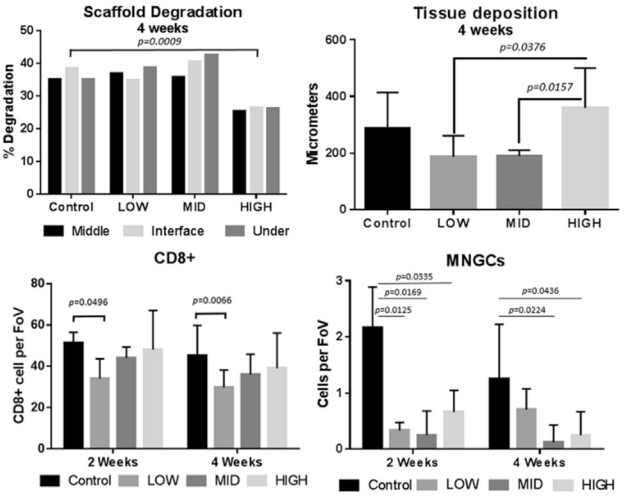

Figure. CD8+ Cell Infiltrate at 2 and 4 Weeks

CONCLUSION: Increasing platelet concentrations of PRP correlated with improved incorporation, tissue deposition, and decreased scaffold degradation. These findings were associated with a blunted foreign body response. This suggests PRP reduces inflammation, which may be beneficial for ADM incorporation in VHR.

Postoperative Opioid Prescription and Usage Patterns: Impact of Public Awareness and State Mandated-Prescription Policy Implementation

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INTRODUCTION: Many patients with substance abuse disorder are first exposed through prescription opioids, prompting prescribing restrictions at various government levels. There is a paucity of data examining the impact of such restrictions on opioid prescribing and use patterns after operation. This study aims at addressing this gap in knowledge.

METHODS: Patients undergoing 15 common surgical procedures across 4 specialties were identified from our prospective database at a tertiary care academic medical center. Data were collected from the electronic record and an over-the-phone questionnaire

completed by patients 1-2 weeks post-discharge. Primary outcomes included the following: opioids prescribed, proportion used, refill rate; and patient-reported adequacy of prescription amount. Data were compared before (PRE: July 2016-June 2017) and after (POST: September 2017-February 2019) a state-mandated policy implementation.

RESULTS: Data were available on 365 PRE and 768 POST patients. Distribution of procedures was similar across groups. There was a significant decline in median prescribed by providers and median used by patients, across all procedures ($p < 0.05$ for both - see Table). Additionally, the proportion of patients not prescribed any opioid increased from 12.7% PRE to 26.0% POST ($p < 0.05$). There was no change in refill rates (PRE: 5.5% vs POST: 6.3% [$p > 0.05$]) nor in proportion of patients reporting inadequate prescription amount (PRE: 11% vs POST: 12.3% [$p > 0.05$]).

Table. Median Opioid Prescribed and Used across All Procedures before and after Policy Change

	PRE (n=365)		POST (n=768)	
Variable	**n**	**IQR**	**n**	**IQR**
MME prescribed*	96	50-160	64	0-80
MME used*	18	0-80	0	0-40

*p<0.05 PRE vs POST
MME, morphine milligram equivalents

CONCLUSION: State-mandated policy changes on prescribing coupled with increased public awareness of opioid addiction are associated with decreased amounts of opioid prescribed and used, and comparable patient-reported satisfaction with prescription amount.

Practice Patterns and Outcomes Related to Magnetic Resonance Cholangiopancreatography (MRCP) Use in Suspected Choledocholithiasis: A 3-Year Single Center Retrospective Review

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INTRODUCTION: The utility of magnetic resonance cholangiopancreatography (MRCP) in the treatment of choledocholithiasis is not well defined. We aimed to delineate outcomes and practice patterns in uncomplicated choledocholithiasis, hypothesizing that MRCP played a minimal role in altering outcomes despite frequent use.

METHODS: A retrospective review between 2014 and 2017 was performed of patients aged 18-79 y presenting with suspected uncomplicated choledocholithiasis. MRCP use, pre-test characteristics (total bilirubin [TB], common bile duct diameter [CBD]), and outcomes (length of stay [LOS], 30-day readmission, and hospital costs) were assessed. Statistics analysis performed with SPSS.

RESULTS: A total of 497 patients were included. In patients not undergoing endoscopic intervention (ERCP), mean TB and CBD diameter were similar between patients evaluated with MRCP and patients not evaluated with MRCP (2.6 vs 2.2 mg/dL, $p = 0.496$; 7.5 vs 7.2 mm, $p = 0.437$). Incidence of choledocholithiasis was similar (8% and 4%, respectively). LOS and 30-day readmission were similar (5.2 vs 4.6 d, $p = 0.299$; 4.3% vs 3.4%, $p = 1.000$). In patients undergoing ERCP, mean TB and CBD diameter were similar between patients imaged with MRCP and those not (2.9 vs 3.3 mg/dL, $p = 0.309$; 8.3 vs 8.2 mm, $p = 0.876$). Rate of choledocholithiasis was similar (86% vs 91%, $p = 0.348$). LOS and hospital costs were increased with the addition of MRCP to ERCP, as compared with ERCP alone (6.5 vs 5.2 days, $p = 0.008$; \$16,891 vs \$14,085, $p = 0.042$), with similar 30-day readmission (4.9% vs 6.5%, $p = 0.759$).

CONCLUSION: While practice patterns vary, based on our results MRCP adds minimal benefit when managing uncomplicated choledocholithiasis and appears to increase LOS and hospital costs in patients undergoing ERCP.

Predicting Postoperative Opioid Prescription Refills: A Machine Learning Approach

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INTRODUCTION: Despite growing awareness of the risk of opioid dependence after operation, little is known regarding the factors that predict postoperative use. Prior studies using traditional regression techniques to identify risk factors may not fully account for the complex, nonlinear attributes of opioid-related risk. We compared nonlinear machine learning (ML) techniques with traditional linear models to predict postoperative opioid refill.

METHODS: We analyzed claims data from the Clinformatics DataMart (OptumInsight) for opioid naïve and non-naïve adults who underwent operation between January 2008 and March 2015. The primary outcome was postoperative opioid prescription refill. We extracted covariates pertaining to demographics, socioeconomic status, comorbidities, opioid use, and other medication use prior to operation. Using these data, we compared linear and nonlinear techniques for predicting refill through the area under the receiver operating characteristics curve (AUC), a standard approach for evaluating discriminative model performance.

RESULTS: Among 199,423 patients (56.2% opioid-naïve) undergoing operation, 19.4% refilled postoperatively. Compared with linear models, nonlinear models led to better performance AUC