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ACUTE BILIARY PANCREATITIS IS ASSOCIATED WITH ADVERSE CLINICAL OUTCOMES IN THE ELDERLY

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Objectives: Elderly patients (≥65 years) may be at risk for adverse outcomes and increased readmissions in acute biliary pancreatitis (ABP), yet no inpatient population-based study assessing the outcomes of ABP in the elderly have been performed. The clinical outcomes and risk of readmission from ABP in the elderly were studied. **Methods:** The Nationwide Readmission Database (NRD) was utilized to identify all adult inpatients (≥18 years) with an index admission for the principal diagnosis of ABP between 2011-2014. Primary clinical outcomes: mortality, severe acute pancreatitis, and 30-day readmission were analyzed using univariate and multivariate analysis. Propensity score-matched analysis was performed to compare the outcomes in the cohort and in patients <65 years old. **Results:** In the NRD, 38% (77,000/200,427) of all ABP admissions were in patients ≥65 years. Univariate analysis showed that elderly patients had higher rates of cholangitis (4.39% vs. 2.34%, p<0.001) and sepsis (5.12% vs 3.49%, p<0.001) compared to those <65 years old. Study cohort patients also underwent more ERCPs (27.3% vs 22.3%, p<0.001) and less frequent cholecystectomies (43.7% vs 54.8%, p<0.001). Multivariate analysis revealed that elderly patients with ABP had increased mortality [odds ratio (OR) 3.2; 95% confidence interval (95%CI) 2.6, 3.8] and severe acute pancreatitis (OR 1.9; 95%CI 1.8, 2.0). Propensity score-matched cohort demonstrated that the primary outcomes of mortality (OR 2.7; 95%CI 2.2, 3.3) and severe acute pancreatitis (OR 1.2; 95%CI 1.2, 1.3) were more common patients ≥65 years old. After adjusting for the type of intervention and severity of illness, the 30-day readmission rate did not significantly differ between elderly and non-elderly patients. **Conclusions:** Acute biliary pancreatitis is associated with adverse clinical outcomes in elderly patients, including increased mortality and severe acute pancreatitis. These results warrant heightened care during the index admission to improve outcomes and call for focused research in refining clinical management for elderly patients.

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EFFECT OF PERCUTANEOUS CATHETER DRAINAGE OF ACUTE PANCREATIC COLLECTIONS ON SERUM INFLAMMATORY MARKERS

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BACKGROUND: Percutaneous catheter drainage (PCD) is used as a first step in the management of acute fluid collections in patients with acute pancreatitis. There is limited data on effect of PCD on inflammatory markers. **AIM:** To study the effect of PCD on serum levels of CRP, IL-6 and IL-10 and to see if the outcome of PCD can be predicted. **METHODS:** Consecutive patients of acute pancreatitis with fluid collections undergoing PCD were evaluated for serum levels of CRP, IL-6 and IL-10 before PCD and 3 and 7 days after PCD. Resolution of organ failure, sepsis and pressure symptoms were considered as success of PCD. Baseline levels of inflammatory markers were correlated with success of PCD and the changes in levels following PCD were correlated with outcome. **RESULTS:** The indications of PCD in 59 patients (age 38.9±13.17 yrs, 49 male) were suspected infected pancreatic necrosis (n=45), persistent organ failure (n=40) and pressure symptoms (n=7). Mean of 1.64± 0.78 PCDs were placed for patients with mean hospital stay of 30.6± 17.1 days. 38 (64%) patients had infected and 21 (36%) had sterile collection. Forty-nine (83.1%) patients improved with PCD with resolution of sepsis, organ failure or pressure symptoms, 5 patients required surgery and 6 (including one patient after surgery) died. There was a significant (p<0.05) difference between baseline levels of CRP and IL-6 among patients who improved, 146.48±111.60 mg/L and 166.09± 51.21 pg/ml respectively as compared to those who worsened following PCD, 189.10±55.5 mg/L and 215.81±52.49 pg/ml respectively, but not in the levels of IL-10. There was a significant fall (p<0.01) of all three markers on day 3 of PCD insertion, with further fall (p<0.01) on day 7 as well. Percentage of fall in IL-6 levels on day 3 and CRP on day 7 correlated with outcome (p<0.05). **CONCLUSION:** CRP and IL-6 levels before placement of PCD can predict the outcome of patients. PCD was associated with significant fall in levels of CRP, IL-6 and IL-10. Percentage of fall in IL-6 on day three and CRP on day seven predicts the outcome of patients managed with PCD. Levels of CRP and IL-6 before and after PCD can be used to predict the outcome.

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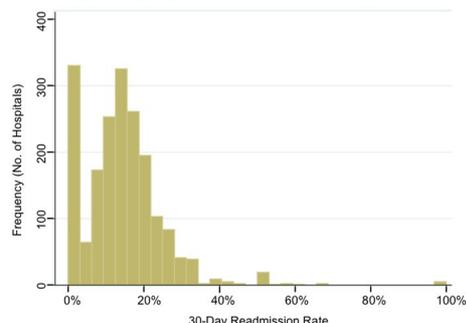
VARIATIONS IN 30-DAY READMISSIONS FOR ACUTE PANCREATITIS IN THE MEDICARE HOSPITAL READMISSION REDUCTION PROGRAM ERA

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Background: Previous studies have found that 1 in 5 patients with acute pancreatitis are readmitted within 30 days. Initiated in 2012 as part of the Affordable Care Act, the Medicare Hospital Readmission Reduction Program (HRRP) penalizes excess readmissions and hospitals may soon have a financial incentive to reduce costly and unnecessary hospital readmissions. **Aims:** To examine the variation in readmissions following hospitalization for acute pancreatitis and to identify associations between patient characteristics and readmissions. **Methods:** Data was extracted from the Nationwide Readmissions Database, the largest all-payer dataset of hospital readmissions in the United States (maintained by the Healthcare Cost and Utilization Project of the Agency for Healthcare Research and Quality). Patients admitted between January 1, 2014 and November 30, 2014 with a primary diagnosis of acute pancreatitis (identified by ICD-9-CM 577.0) were included. December hospitalizations were omitted to ensure at least 30 days of follow-up data after discharge. The primary endpoint was readmission within 30 days after discharge for a hospitalization for acute pancreatitis. Descriptive statistics were used to compare patient characteristics of those who were readmitted and those who were not. Multivariable logistic regression analysis was performed to identify predictors of 30-day readmission with the covariates age, gender, Charlson Comorbidity Index (CCI), hospital location (urban or rural), patient income category, and insurance

status. **Results:** 112,373 patients with an admission for acute pancreatitis were identified and 17,877 (15.9%) were readmitted within 30 days of discharge. The variation in 30-day readmission rates among hospitals ranged from 0.0 to 100.0% (institution-level median 14.1%, IQR 8.1 - 19.1%). The distribution of the rates of readmission and frequencies is shown in Figure 1. In multivariable logistic regression analysis, independent predictors of readmissions included male gender (OR 1.10, 95% CI 1.06-1.14, p<0.0001), Charlson Comorbidity Index (CCI≥3, OR 1.6, 95% CI 1.56-1.69, p<0.0001), and insurance status (Medicare vs. private insurance, OR 1.75, 95% CI 1.69-1.85, p<0.0001). **Conclusions:** There is wide variation in 30-day readmission rates among hospitals for acute pancreatitis. Independent predictors of readmission include male gender, higher CCI, and insurance status. As the HRRP expands to gastrointestinal diagnoses such as acute pancreatitis, hospitals and physicians will need to develop strategies to reduce readmissions by addressing modifiable risk factors, implementing pathways for individuals at risk for readmissions on the basis of comorbidities, and coordinating transitions of care.

Figure 1 – Variations and frequencies in readmission rates for acute pancreatitis among U. S. hospitals, Nationwide Readmissions Database, 2014



*The majority of institutions with a 0% readmission rate had a low number of acute pancreatitis admissions

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THE ROLE OF INTRAVENOUS HYDRATION WITH LACTATED RINGER'S SOLUTION IN PREVENTING POST-ERCP PANCREATITIS

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Basic-Objective: Pancreatitis is the most seen complication of endoscopic retrograde cholangiopancreatography (ERCP). In this study, we investigated the efficiency of hydration with lactated Ringer's (LR) solution before ERCP to prevent post-ERCP pancreatitis. **Methods:** The patients were divided into two groups. All patients' oral intake stopped after midnight and ERCP was performed at 10:00 am. In the experiment group, the hourly fluid requirement was determined according to 4-2-1 rule and the total amount of fluid which is calculated according to 10 hour fluid requirement was given within 2 hours at 08:00 am. After midnight, intravenous hydration wasn't given to the control group until 10:00 am. After that, 1.5ml/kg/h intravenous infusion was given to these two groups from the beginning of ERCP until oral intake was started. LR solution was used for hydration. The definition and severity rating of acute pancreatitis was made according to Atlanta 2012 criterias. **Results:** Our study includes 32 patients, 16 of these are in the control group and 16 of these are in the experimental group. No statistical difference was observed between the groups; in terms of age, gender, indications, success rate, difficulty, precut sphincterotomy, pancreatic annulotomy and pancreatogram. It was found that post-ERCP pancreatitis frequency is 34% (11/32) in all patients which was 12,5% (2/16) in the experimental group and 56,3% (9/16) in the control group. Post-ERCP pancreatitis rate was significantly low in experimental group (p=0.009). All pancreatitis were mild. Aggressive hydration reduced the frequency of hyperamylasemia from 93.8% to 50% and the frequency of hyperlipasemia from 81.3% to 25% (respectively, p = 0.001 and, p = 0.001). We found that there was a correlation between pancreatitis and pancreatic cannulation and pancreatogram (respectively p=0.025 and p=0.008). **Conclusion:** Aggressive hydration which is given before ERCP, decreases the frequency of post-ERCP pancreatitis. We believe that this small series has a high incidence of post-ERCP pancreatitis as contrary to literature, since acute pancreatitis is defined according to Atlanta 2012 criteria. **Key words:** ERCP, pancreatitis, hydration.

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HIV INFECTION IS ASSOCIATED WITH INCREASED ODDS OF ALCOHOLIC-RELATED AND HYPERCALCEMIA-RELATED ACUTE PANCREATITIS: A NATIONWIDE ANALYSIS

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Introduction Acute Pancreatitis (AP) is a well-recognized complication of HIV infection and its treatment. Smaller studies have suggested increased AP rates in the HIV population not only due to higher prevalence of comorbidities such as alcoholism and biliary disease, but as adverse reactions from medications used to treat HIV and its complications. Recently, no national study has examined the impact of HIV infection on AP outcomes. Therefore, the aim of our study was to explore the association between HIV infection and AP in terms of occurrence by etiology, mortality, morbidity and resource utilization using a national database. **Methods** Case-control study using the NIS 2014, the largest publically available inpatient database in the US. All patients admitted for AP were included using ICD9CM codes. None were excluded. HIV-infected patients were identified using ICD-9-CM codes. Population estimates were obtained from the US National Census Bureau and the CDC. The primary outcome was the occurrence and odds of AP in HIV patients when compared to non-infected stratified by etiology. Secondary outcomes were inpatient mortality, morbidity, resource utilization, measured by use of abdominal CT scan and ERCP; length of hospital stay (LOS), total charges and costs. Multivariate analysis was used to adjust for age, sex, patient zip