

Common Comorbidities to Predict Occurrence of Pseudocysts in Patients Admitted for Pancreatitis

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Background

- Damage from both acute and chronic pancreatitis can result in formation of a pseudocyst
- Risk of developing a pseudocyst is 2%-15% in acute pancreatitis and 20% - 30% in chronic pancreatitis. However, the risk factors for pseudocyst formation are poorly understood
- The goal of this study is to analyze the effect common comorbidities may have on

Methods

- **Study population:**
 - Hospitalized patients with a primary diagnosis of acute or chronic pancreatitis
- **Study period:**
 - 2001 - 2003
- **Data collection:**
 - Data was collected from the National Inpatient Sample (NIS)
- **Exclusion criteria:**
 - Patients hospitalized before 2001 or after 2003
 - Patients who did not have a primary diagnosis of acute or chronic pancreatitis
 - *Patients younger than 18 years of age*
- **Statistical Analysis:**
 - Multivariate Logistic Regression was with the following comorbidities: HIV, Hypothyroidism, Obesity, Vitamin D deficiency, Hypertension and COPD

Results

Table 1. Presence of Pseudocyst in Patients with Common Comorbidities

Variable	P-Value	Odds Ratio (95% CI)
HIV		
Not Present	Reference	
Present	.000*	0.81 (0.77-0.86)
Vitamin D Deficiency		
Not Present	Reference	
Present	.000*	1.18 (1.09-1.28)
Diabetes Mellitus		
Not Present	Reference	
Present	.468	1.00 (0.99-1.01)
Hypertension		
Not Present	Reference	
Present	.000*	1.06 (1.05-1.07)
Hypothyroidism		
Not Present	Reference	
Present	.005	0.84 (0.82-0.86)
COPD		
Not Present	Reference	
Present	.000*	1.12 (1.10-1.14)
Obesity		
Not Present	Reference	
Present	.000*	0.70 (0.69-0.71)

* significance level p<0.001

- We controlled for age, race, gender, median income, insurance payors
- HIV (OR 0.81), Hypothyroidism (OR 0.84), and Obesity (OR 0.70) were observed to be protective against pseudocyst occurrence
- Vitamin D deficiency (OR 1.18), Hypertension (1.06) and COPD (1.12)

Conclusion

- **Key Findings:** HIV and Obesity appear to impose a decreased risk of pancreatitis though the mechanism of this is not clear. Vitamin D deficiency appears to impose an increased risk of pancreatitis.
- **Study limitations:** This was limited to hospitalized patients and does not include outpatients. Additionally, the NIS relies on accurate coding for diagnoses, and thus coding may not reflect the actual condition of the patient.
- **Future directions:** Vitamin D has been shown to have a protective effect on pancreatic cancer, and our results show this may be the case for pseudocysts. Further studies in to this mechanism may be useful to clarify the role Vitamin D plays in the pathogenesis of pancreatic pseudocyst formation



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