

# OUTCOMES OF ENDOSCOPIC RETROGRADE CHOLANGIOPANCREATOGRAPHY IN PATIENTS WITH HIV AND AIDS

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## BACKGROUND

There is limited data on the safety of endoscopic retrograde cholangiopancreatography (ERCP) in patients with human immunodeficiency virus (HIV) infection and acquired immune deficiency syndrome (AIDS).

## AIM

The aim of this study is to assess safety and efficacy of the ERCP in HIV and AIDS patients who under-went ERCP for a variety of reasons in a national inpatient data base.

## METHOD

The National Inpatient Sample (NIS) is the largest all-payer inpatient database consisting of approximately 20% of all inpatient admissions to nonfederal hospitals in the United States. Data from the years 2009 to 2014 were collected. Patients older than 18 years with a diagnosis of AIDS (n=414) or HIV (n=289) who had undergone ERCP were included. Case-control 3:1 matching was done based on gen-der, age and African-American race for HIV and AIDS patients. African-American race was matched for due to higher prevalence of HIV/AIDS. Complications and mortality were evaluated for HIV and AIDS patients against case-controls. Results were adjusted via logistic regression analyses to obtain adjust-ed odds ratios (aOR). IBM Statistical Package for the Social Sciences (SPSS) version 25 was used for statistical analysis.

## Results

Between 2009 and 2014 there were 289 patients with HIV and 414 patients with AIDS aged older than 18 years who had undergone an ERCP. Baseline patient demographics are presented in Table 1. Age, sex, and African-American race were all matched without statistically significant differences between cases and controls. Bivariate correlation was performed to determine statistically significant covariates. These covariates then used for the binary logistic regression models for mortality and post ERCP cholecystitis. Post-ERCP cholecystitis was higher in AIDS patients as compared with controls (aOR 4.59; 95% confidence interval, 1.28 – 16.38), but was not higher in HIV patients compared to controls (aOR 4.45; 95% CI, 0.71 – 27.93). Post-ERCP mortality was higher in AIDS patients as compared with controls after ad-ustment (aOR 3.22; 95% CI, 1.47 – 7.04), however was not significantly higher in HIV patients as com-pared with controls (aOR 0.42; 95% CI, 0.10 – 1.88).

Table 1

Table 1. Patient Demographic for HIV, AIDS and age/sex/race matched controls

Variables	HIV (289)	HIV Controls (867)	P value	AIDS (414)	AIDS Controls (1242)	P value
Patient Age (Yrs)			0.917			0.798
Median (SD)	50.0 (12.3)	51.0 (12.7)		49.0 (11.4)	49.0 (11.9)	
Sex			1.000			1.000
Male	69.9%	69.9%		71.0%	71.0%	
Female	30.1%	30.1%		29.0%	29.0%	
Race			<0.001			<0.001
White	42.1%	53.6%		32.3%	41.6%	
Black	34.5%	34.1%	1.000	44.8%	45.3%	1.000
Hispanic	16.5%	7.6%		17.7%	7.0%	
Asian or Pacific Islander	0.0%	1.7%		0.5%	2.2%	
Native American	1.1%	0.1%		0.7%	0.4%	
Other	5.8%	3.0%		3.9%	3.6%	
Primary Payer			<0.001			<0.001
Medicare	31.3%	22.8%		33.2%	20.3%	
Medicaid	27.1%	25.1%		40.4%	27.0%	
Private	26.0%	43.6%		14.8%	42.3%	
Self-pay	8.3%	4.6%		7.7%	5.8%	
No charge	1.7%	0.6%		1.0%	1.2%	
Other	5.6%	3.2%		2.9%	3.4%	
Hospital Size			0.001			<0.001
Small	6.0%	14.8%		5.4%	15.1%	

Table 2

Table 2: Adjusted Odds Ratios (aOR) of Post-ERCP complications as compared with age/sex/race matched controls

Outcome variable	HIV (289)	95% CI	AIDS (414)	95% CI
Mortality	0.42 <sup>a</sup>	0.10-1.88	3.22 <sup>d</sup>	1.47-7.04
Post-ERCP Cholecystitis	4.45 <sup>c</sup>	0.71-27.93	4.59 <sup>a</sup>	1.28-16.38

<sup>a</sup> Logistic regression model based on age

<sup>b</sup> Logistic regression model based on age, sex, insurance status

<sup>c</sup> Logistic regression model based on median household income national quartile for patient ZIP code

<sup>d</sup> Logistic regression model based on age, hospital size, and insurance status

## Conclusion

**Conclusion: AIDS is an independent risk factor for post ERCP-cholecystitis in patients who undergo ERCP and may contribute to a higher mortality, however post-ERCP cholecystitis is not significantly higher in AHIV when compared to controls. ERCP may be safe in patients with AHIV, but in AIDS pa-tients is riskier with higher mortality. Limitations of the study are that NIS is an administrative database which predisposes to errors from coding inaccuracies as well as temporal relationships between variables.**

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