

Contemporary Management and Outcomes of Complicated Peptic Ulcer Disease

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Introduction

Peptic ulcer disease (PUD) affects over 6 million Americans annually. With improved medical treatment, only a small proportion of patients with complicated PUD undergo operative interventions, and those who do are less likely to have an acid-reducing procedure (ARP).

Although the recent patterns of treatment of complicated PUD have been previously described, it is not clear if there are sociodemographic or hospital variations in the use of ARPs among these patients.

Objective

Therefore, the objective of this study was to identify disparities in the choice of management and outcomes of complicated PUD.

Methods

Data Source: National Inpatient Sample (2005-2014).

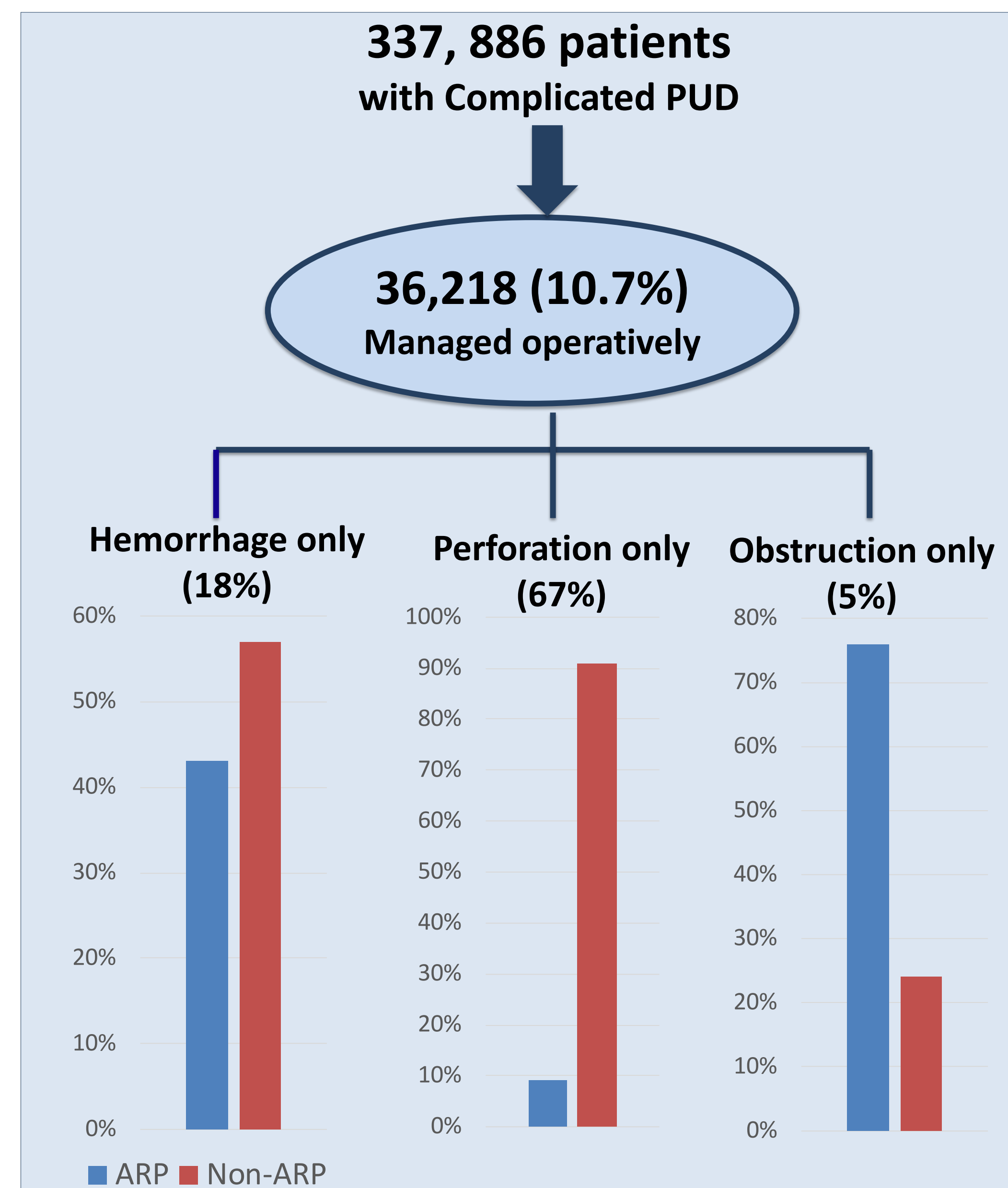
Inclusion Criteria: Patients with complicated PUD were identified.

Stratification: Hemorrhage vs perforation vs obstruction. Acid-reducing procedures (ARP) vs Non-ARP.

Outcomes of interest: Hospital mortality, Hospital complications

Analysis: Descriptive statistics to assess variations in the demographic, treatment, and hospital (safety net vs. non-safety net; rural vs. urban non-teaching vs. urban teaching) characteristics of these patients. Multivariate logistic regression models independent predictors for treatment and outcomes.

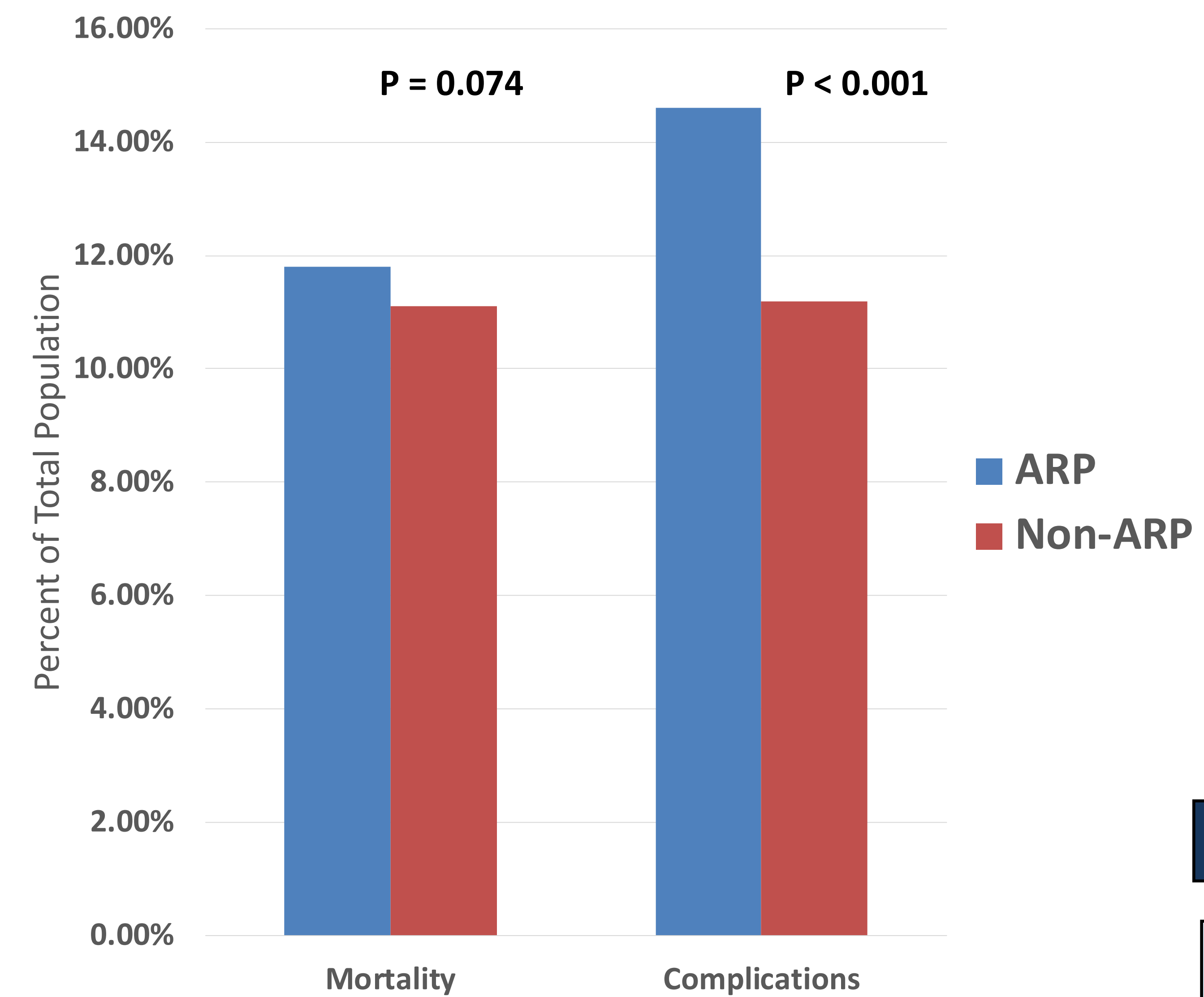
Study Characteristics



	ARP (N=7,834)		Non-ARP (N=28,384)		P-value
	n	%	n	%	
Age (years)*	63	17.6	62	15.6	<0.001
Sex					0.022
Male	3,961	50.6	14,754	52.0	
Female	3,872	49.4	13,601	48.0	
Race/ Ethnicity					0.004
White	5,012	76.2	17,813	74.3	
Black	814	12.4	3,084	12.9	
Hispanic	376	5.7	1,614	6.7	
Other	372	5.7	1,469	6.1	
Hospital Safety Net Status					0.137
SNH	1,949	24.9	6,831	24.1	
Non-SNH	5,885	75.1	21,553	75.9	
Location/teaching status of hospital					0.034
Rural	946	12.1	3,690	13.1	
Urban Non-teaching	3,415	43.8	12,450	44.1	
Urban Teaching	3,440	44.1	12,085	42.8	

Results

Comparison of Outcomes Between ARP and Non-ARP



Multivariate Analyses of Odds of Outcomes in Patients with ARP vs. Non-ARP

Hospital Type	Mortality Odds Ratio (95% CI)	Complications Odds Ratio (95% CI)
Safety Net	0.91 (0.74 – 1.11)	1.41 (1.20 – 1.65)
Non-safety Net	1.07 (0.97 – 1.18)	1.33 (1.20 – 1.46)
Rural	1.07 (0.79 – 1.45)	1.40 (1.07 – 1.83)
Urban Non-teaching	1.04 (0.91 – 1.19)	1.37 (1.21 – 1.55)
Urban Teaching	1.01 (0.89 – 1.16)	1.33 (1.17 – 1.50)
High ARP volume Hospital	0.83 (0.70 – 0.99)	1.32 (1.09 – 1.61)

Conclusions

Overwhelmingly, the preferred surgical treatment for complicated PUD was a non-ARP.

There was a survival advantage for ARPs among patients treated in those higher volume hospitals regardless of their sociodemographic status.

These data highlight the need to ensure the skills required to perform ARPs are not eliminated from the requirements of general surgery training.