

# The Association of Patient Demographics and Socioeconomic Status with Advanced Neoplasia in Endoscopic Mucosal Resection



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## Introduction

- Endoscopic Mucosal Resection (EMR) is a minimally invasive procedure that allows for the removal of pre-cancerous and cancerous lesions
- In recent years, colorectal cancer mortality in the United States (U.S.) southern states including Alabama have exceeded national levels with minority and under-represented populations having a higher risk of advanced neoplasia on screening colonoscopies
- Socioeconomic status (SES) can affect access to EMR procedures
- Our study examines the factors associated with advanced neoplasia following EMR.

## Methods

- Retrospective review study examining patients who had EMR at our institution
- EMR performed between March 2017 to March 2022
- Patient demographics, procedural data, and census data were collected
- Census data included median household income and home value which were calculated in U.S. dollars
- Disability status, occupation, and education attainment were joined by zipcode to the primary data
- Patients were divided into two groups
  - 1. patients with advanced
  - 2. patients with non-advanced neoplasia
- Advanced neoplasia was defined according to the recent U.S. multi-society task force on colorectal cancer

## EMR: Advanced Neoplasia

Category	Overall	Pathology		p-value
	N=450	Advanced Neoplasia (N=357), 79.3%	Non-advanced Neoplasia (N=93), 20.7%	
Age (years), mean (SD)	63.6 (10.3)	64.5 (10.1)	60.3 (10.4)	0.001*
Sex: Male	227 (50.4%)	196 (86.3%)	31 (13.7%)	<0.001*
Female	223 (49.6%)	161 (72.2%)	62 (27.8%)	
Race: White	297 (66.9%)	224 (75.4%)	73 (24.6%)	0.003*
African-American	135 (30.4%)	120 (88.9%)	15 (11.1%)	
Other*	12 (2.7%)	8 (66.7%)	4 (33.3%)	
BMI <sup>++</sup> : Normal	111 (25.6%)	88 (79.3%)	23 (20.7%)	0.047*
Overweight	137 (31.6%)	117 (85.4%)	20 (14.6%)	
Obese	185 (42.7%)	137 (74.1%)	48 (25.9%)	
ASA classification: 1	3 (0.7%)	2 (66.7%)	1 (33.3%)	0.642
2	266 (59.2%)	207 (77.8%)	59 (22.2%)	
3	177 (39.4%)	145 (81.9%)	32 (18.1%)	
4	3 (0.7%)	2 (66.7%)	1 (33.3%)	
Smoking: Current	103 (22.9%)	89 (86.4%)	14 (13.6%)	0.127
Former	128 (28.4%)	96 (75.0%)	32 (25.0%)	
Never	217 (48.2%)	171 (78.8%)	46 (21.2%)	
Alcohol: Current	208 (46.2%)	155 (74.5%)	53 (25.5%)	0.006*
Former	31 (6.9%)	21 (67.7%)	10 (32.3%)	
Never	209 (46.4%)	180 (86.1%)	29 (13.9%)	
Drugs: Current	16 (3.6%)	14 (87.5%)	2 (12.5%)	0.327
Former	20 (4.4%)	18 (90.0%)	2 (10.0%)	
Never	396 (88.0%)	309 (78.0%)	87 (22.0%)	

\*Statistical significance: p-value<0.05 +Other Race includes: Hispanic, Asian, other  
 ++Normal: BMI between 18.5 and 24.9, Overweight: BMI between 25.0 and 29.9, Obese: more than 30.0

## Results

- Our cohort consisted of 450 patients divided into two groups:
  - 79.3% (N=357) with advanced neoplasia
  - 20.7% (N=93) with non-advanced neoplasia
- Compared to patients with non-advanced neoplasia, patients with advanced neoplasia were older (64.5 vs 60.3 years) and male (86.3%)
- Patients with advanced neoplasia had a higher percentage identifying as African-American or non-white (88.9%, 66.7% respectively), were overweight (85.4%), and were current alcohol users (74.5%)
- Census data indicated that patients with advanced neoplasia had a lower median household income (\$49,374 vs \$59,740) compared to patients with non-advanced neoplasia

## Discussion

- Our study demonstrated that patients with advanced neoplasia were more likely to be older males, overweight, and with a lower income
- Patients with advanced neoplasia were more likely to be among minority populations
- Within the limitations of this small retrospective study, our findings shed light on important factors associated with advanced neoplasia allowing us to personalize care

## References

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