Patients with Eosinophilic Colitis Have Comparable Rates of Colorectal Cancer Compared to Patients with Ulcerative Colitis

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BACKGROUND

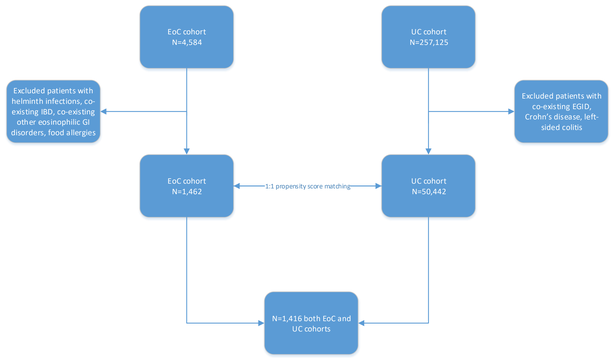
- Eosinophilic colitis (EoC) is a rare entity characterized by high eosinophilic infiltrate into the colonic wall resulting in chronic inflammation, in symptomatic patients.
- >100 eos in R colon, >85 in L colon, >65 in sigmoid colon cutoffs have been proposed for histopathological diagnosis.
- Natural course of disease, specifically the risk of colorectal cancer (CRC) development, in EoC is unknown.
- Ulcerative colitis, another entity that causes chronic inflammation in the colon, is known to increase the risk of CRC development.

AIMS

We investigated how EoC patients compare to UC patients with extensive / pan-colitis in developing subsequent CRC after being diagnosed.

METHODS

- TriNetX (Cambridge, MA), a multi-institutional, federated, health-research network database, was used to obtain data on patients with a diagnosis of either EoC or UC.
- Patients with other identifiable causes of eosinophilia (IBD, food allergies, helminth infections, and other eosinophilic gastrointestinal disorders) were excluded from the EoC cohort.
- 1:1 propensity score matching method used to stratify EoC and UC cohorts.
- Matched variables: age, sex, race, obesity, tobacco use, alcohol use, family history of digestive tract malignancy



RESULTS

Baseline Patient Characteristics

	Before Matching			After Matching		
	EoC(n=1,417)	UC(n=49,969)	*p*-value	EoC(n=1,416)	UC(n=1,416)	*p*-value
Age at Diagnosis	53.6 +/- 17.4	48.8 +/- 18	<0.0001	53.6 +/- 17.4	53.3+/- 17.6	0.6571
Sex					-	
Female	922(65.1%)	25,723(51.9%)	<0.0001	922(65.1%)	935(66.0%)	0.6072
Male	494(34.9%)	23,803(48.1%)	<0.0001	494(34.9%)	481(34.0%)	0.6072
Race						
African American	157(11.8%)	4,783(9.7%)	0.0074	167(11.8%)	145(10.2%)	0.1867
Asian	31(2.2%)	957(1.9%)	0.4888	31(2.2%)	22(1.6%)	0.212
Caucasian	967(68.3%)	37,658(76.0%)	<0.0001	967(68.3%)	980(69.2%)	0.5982
Other/unknown	248(17.5%)	5,945(12.0%)	<0.0001	248(17.5%)	267(18.9%)	0.3546
Other Covariates						
Obesity	198(14.0%)	4,625(9.3%)	<0.0001	198(14.0%)	179(12.6%)	0.2933
Tobacco Usage	62(4.4%)	1,405(2.8%)	0.0006	62(4.4%)	42(3.0%)	0.0457
Alcohol abuse	22(1.6%)	1,062(2.1%)	0.1291	22(1.6%)	15(1.1%)	0.2467
Family History of GI cancer	38(2.7%)	1,046(2.1%)	0.1414	38(2.7%)	31(2.2%)	0.3936

Table 1. Baseline characteristics of EoC and UC patients before / after propensity score matching. 1:1 matching resulted in equalization of demographic variables and conventional risk factors of developing colorectal cancer in the two cohorts.

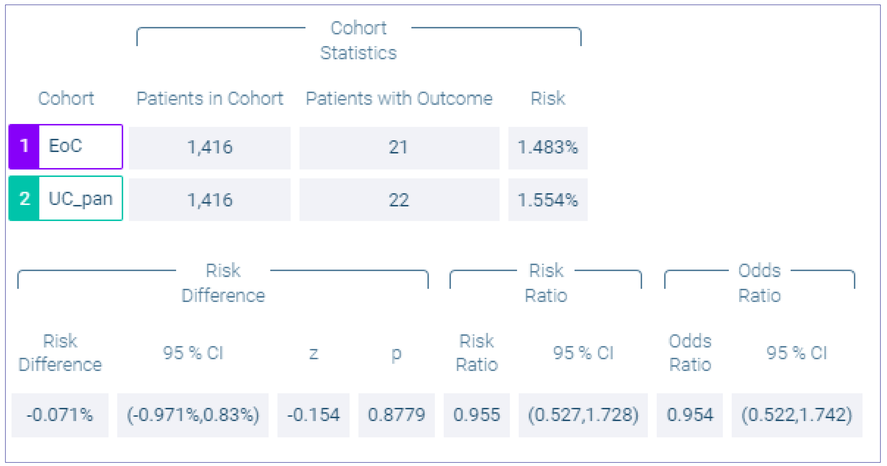


Figure 1. Risk / odds of developing CRC in EoC vs UC patients. RR 0.955 and OR 0.954 with confidence intervals crossing 1 show no statistical difference in CRC as an outcome between the two cohorts.

RESULTS CONTINUED

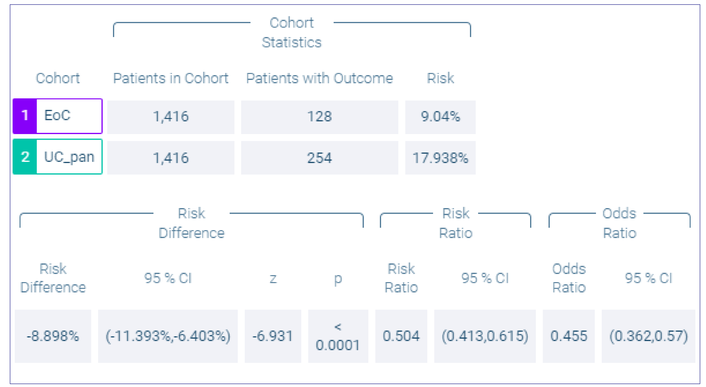


Figure 2. Comparison of EoC and UC patients in the odds of having colonoscopies following an initial diagnosis. EoC patients were signicantly less likely to have subsequent endoscopic evaluation compared to UC patients.

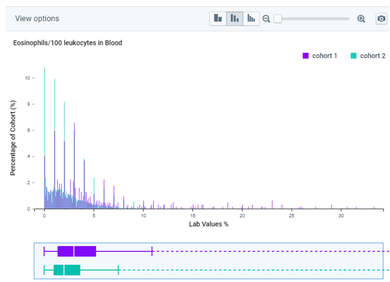


Figure 3. Peripheral eos / 100 leukocytes in EoC (cohort 1) vs UC (cohort 2) patients. Mean for EoC was 4.88+/- 6.89, UC cohort mean was 2.63+/-2.86. *P*-value was <0.0001

CONCLUSIONS

- **Patients with a diagnosis of EoC have comparable rates of developing CRC as compared to UC patients with pancolitis**
- **Despite the similar risk, EoC patients are less likely to undergo subsequent surveillance colonoscopies**
- **Future prospective studies directly comparing EoC patients to the general population is needed for further risk stratification, and to characterize the natural course of the disease.**