Sex Specific Differences in Pattern of Atrial Fibrillation in Patients with Inflammatory Bowel Disease

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Background

- Patients with inflammatory bowel disease (IBD) have a 2 times increased risk of developing atrial fibrillation (AF) during periods of acute disease activity.
- Women have an increased propensity for IBD but attenuated risk of AF.
- No clinical data are available regarding sex differences in AF pattern by IBD subtype.

Objective

- To assess the proportion of paroxysmal and non-paroxysmal AF in patients with ulcerative colitis (UC) versus Crohn's Disease (CD) under age 60 stratified by sex.

Methods

- Patients under age 60 with diagnosis of AF and IBD from 2012 – 2022 were identified from health records at Rush University Medical Center from ICD-10 codes.
- Categorical variables were analyzed using Chi square test and continuous variables were compared using paired or unpaired *t*-test.

Results

Table 1a: AF and IBD Pattern in Men Under Age 60

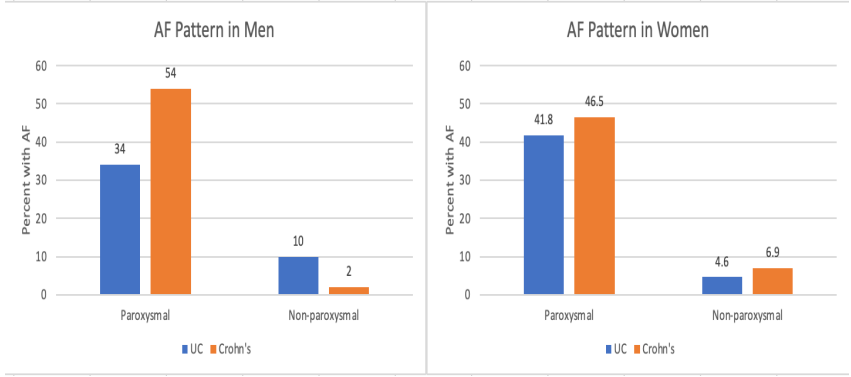
	Paroxysmal	Non-paroxysmal	P Value
UC	17	5	0.039
Crohn's	27	1	

Table 1b: AF and IBD Pattern in Women Under Age 60

	Paroxysmal	Non-paroxysmal	P Value
UC	18	2	0.756
Crohn's	20	3	

Values expressed as counts.

Figure 1: AF and IBD Pattern Stratified by Sex



X-axis shows AF type. Y-axis shows percentage of patients with each AF type stratified by sex and IBD type.

Results

- A total of 93 patients with AF and IBD under the age of 60 were identified (mean age 49.5 years, female 46%).
- Of those patients, 51 were diagnosed with CD and 42 with UC, and 82 patients had paroxysmal AF.
- Men with UC had a significantly greater proportion of persistent AF than those with CD (22% vs 3.57%, p = 0.039).
- For women, with UC and CD, there was no statistically significant difference in the prevalence of non-paroxysmal AF.

Conclusions

- In this single center study, men under 60 with UC had a higher proportion of non-paroxysmal AF subtype.
- The findings may relate to differences in autonomic regulation, inflammation, and/or cellular electrophysiology.
- Further studies are needed to confirm the findings and elucidate potential mechanisms of sex-specific AF subtype differences in UC and CD.