CRP/Albumin Ratio as an Indicator for Clinical Flare in IBD Patients with Smoking Status

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Conclusions

1. In nonsmokers, a flare of disease is associated with a higher CRP/ALB ratio
2. In smokers, a clinical flare of IBD is associated with an increased CRP/ALB ratio in Crohn's disease but not Ulcerative Colitis
3. It is important to inquire about smoking status when UC patients present with a clinical flare as CRP/ALB ratio may not reflect what is found on imaging or biopsy

Background

- Previous studies have shown that smoking worsens Crohn's (CD) and has a protective effect in patients with Ulcerative Colitis (UC)
- A "flare" of Inflammatory Bowel Disease (IBD) is usually associated with an increase in C-Reactive Protein (CRP)
- CRP/ALB ratio may be more predictive of an IBD flare than CRP
- Smoking can change the C-Reactive Protein/Albumin (CRP/ALB) ratio in patients with IBD
- No data exists on the utility of CRP/ALB ratio to monitor flare in IBD patients who smoke

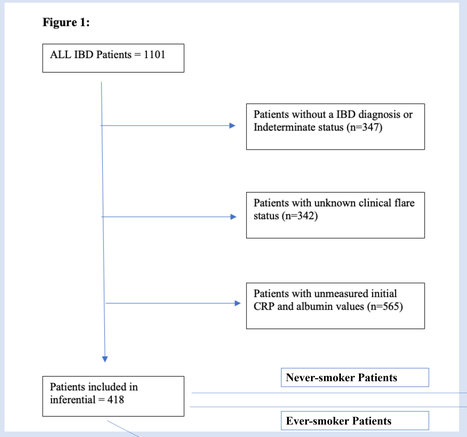
Aims

- To assess whether CRP/ALB ratio is elevated in patients with IBD who smoke and patients who do not smoke when they have a disease flare

Hypothesis

- Smoking impacts CRP/ALB ratio in patients with IBD and can effect recognition of a disease flare

Results



Patients included in inferential (n=418) divided by IBD type and their corresponding CRP, ALB and CRP/ALB ratios

	CRP	ALB	CRP/ALB
IBD (n=418)	47.85 ± 66.03	3.57± 0.8	18.88 ± 23.57
CD (n= 381)	47.85 ± 66.03	3.56 ± 0.8	19.15 ± 24.11
UC (n=37)	48.60 ± 65.90	3.54 ± 0.82	17.62 ± 21.18

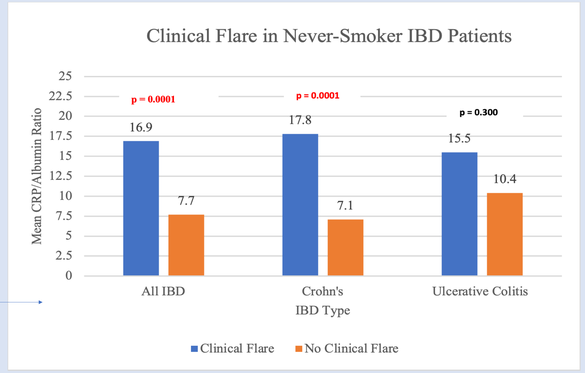


Figure 2: CRP/ALB ratio in IBD Patients who are never-smokers based on disease type. As expected, CRP is increased in both CD and UC during a flare.

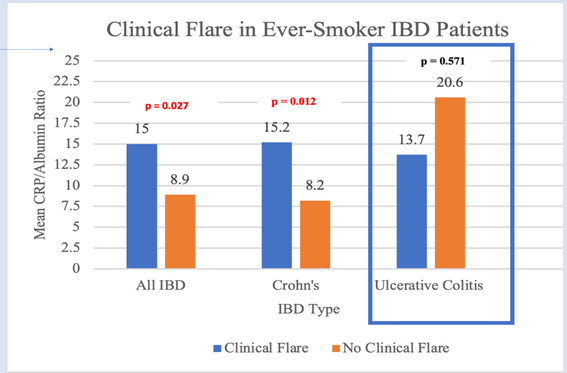


Figure 3: CRP/ALB ratio in IBD patients who are ever-smokers. In smokers, CRP/ALB ratio predicts a flare of disease in CD but not in UC.

Methods

- 1101 adults (>18 years old) with a diagnosis of CD or UC during their index hospitalization for IBD flare at University of Florida Shands Hospital were screened for inclusion.
- Clinical flare was confirmed using findings from imaging (CT or MRI), endoscopy, and/or biopsy.
- Patients who had an unknown clinical flare status, unmeasured initial CRP and albumin values and an IBD type of Indeterminate were excluded from analyses **(Figure 1)**
- Two-sample t-tests assuming unequal variance were used to compare CRP/ALB means between IBD, CD and UC patients with a smoking status with a flare and those without one

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