

FEASIBILITY AND UTILITY FOR LONG-TERM MONITORING OF FECAL LACTOFERRIN IN PATIENTS WITH ULCERATIVE COLITIS

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Introduction

It is known that approx. one third of patients with ulcerative colitis in remission present with acute symptoms of irritable bowel syndrome. Hence, to distinguish IBS symptoms from active disease on an every-day basis has a crucial impact on treatment decision and might save patients from relevant side effects. Fecal biomarkers like lactoferrin and calprotectin have been proposed as potential tools for long-term monitoring of IBD patients for identifying presence of intestinal inflammation and for predicting a flare. However, information on the weekly variation in levels due to lifestyle, medication and diet changes over an extended period of time (>6months) is lacking.

Aims

In this study, we evaluated lactoferrin levels of UC patients in stool samples collected twice weekly for a target period of 1 year.

Methods

Ulcerative colitis (UC) patients in sustained remission sampled twice weekly in their home environment and sent the samples to the reference lab in a pre-prepared fashion. Fecal lactoferrin was determined quantitatively using an ELISA (IBD-SCAN; $\geq 7.25\mu\text{g/g}$). Baseline and assessments of an acute flare included CAI, endoscopy and biopsy for Mayo and Riley histopathology scores. Clinical symptoms were assessed using the CAI (< 5 defining clinical remission) on a monthly basis and in the event of a clinical flare reported by the patients.



	gender	year of birth	Montreal Classification	Years since first diagnosis	Mayo Score	CAI	Endoscopy score	Riley score	previous surgery	Immunomodulatory drugs	Current Medication
J-A 01	male	1948	Pancolitis	10	1	2	1	7	no	3 years Corticosteroids, Azathioprin	Herbal therapy
A-A 02	male	1940	Pancolitis	31	0	0	1	7	no	frequent use of Corticosteroids	Mesalamine 1.5g/d
B-E 03	female	1938	Left sided colitis	17	1	7	2	4	no	none	Mesalamine 1g/d/E.coli Nissle
B-D 04	female	1966	Proctitis	12	0	2	1	3	no	none	Mesalamine 1x1g
F-W 05	male	1959	Left sided colitis	29	1	3	2	7	no	frequent use of Corticosteroids	E. coli Nissle 2xd
G-L 06	male	1944	Left sided colitis	24	0	0	0	4	no	none	Herbal therapy
S-K 07	male	1971	Pancolitis	5	0	0	0	2	no	frequent use of Corticosteroids	Mesalamine 1.5g/d; E.coli Nissle
T-B 08	male	1972	Pancolitis	4	0	1	0	8	no	none	Ø
R-S 09	male	1952	Left sided colitis	8	0	0	0	4	no	frequent use of Corticosteroids	Ø
H-B 10	male	1968	Pancolitis	8	1	1	1	3	no	none	Ø

Table 1: Baseline Data

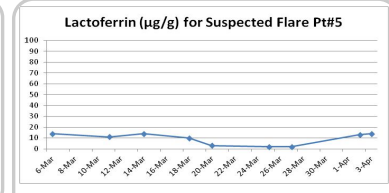


Figure 3: Lactoferrin levels of patient #5 over time.

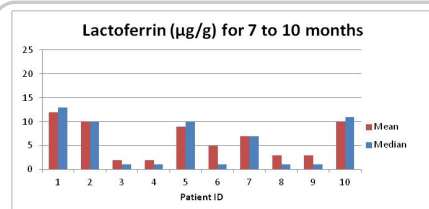


Figure 1: Mean and Median Lactoferrin levels per patient over time

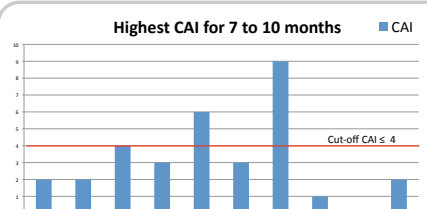


Figure 2: Highest CAI per patient over time

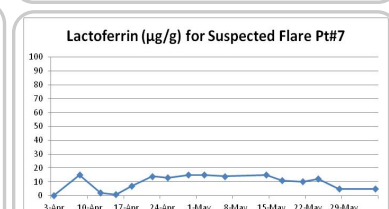


Figure 4: Lactoferrin levels of patient #7 over time.

Results

In this poster we report the first preliminary data for long-term monitoring of lactoferrin in IBD. A total of 642 fecal specimens were collected over a mean period of 33.5 weeks (range 18 to 40) in 10 UC patients (8 male; mean age: 56.2 ± 13.1) with Mayo scores ≤ 1 . Baseline data, medical history and maintenance medications are shown in table 1. Mean lactoferrin for each patient ranged from 2 to 12 with standard deviation (SD) ranging from 3 to 6 (figure 1). During the reported monitoring interval, 20% of patients experienced symptoms fulfilling the clinical criteria of an acute flare with CAI 6 and 9 (figure 2). However, fecal lactoferrin did not show a relevant increase for both patients indicating no intestinal inflammation (figure 3 + 4). Endoscopy and histological examination ruled out acute inflammation and supported symptoms of acute IBS in both cases. The escalation of the anti-inflammatory treatment could be prevented.

Conclusion

Fecal lactoferrin levels had low variability over time for UC patients in remission and shows promise as an aid for differentiating active IBD from IBS symptoms for optimizing treatment.

References

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