Patients' Clinical Data

	Asymptomatic controls	Self-limiting colitis	Indeterminate colitis	UC	CD
Number of patients	40	28	104	156	82
Mean age	49.2	36.3	45.2	44.3	34.7
Age range	26-77	17-70	19-81	17-87	17-86
Female/Male	17/23	12/16	58/46	88/68	50/32

1. Wash

2. Wash → **Superficial bacteria**

3. Wash

4. Wash →

Hypotonic lysis →
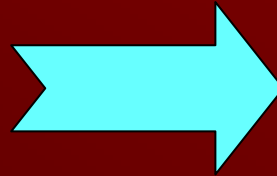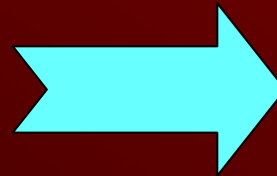
Mucosal bacteria
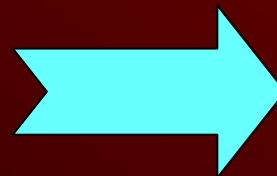
Mucosal Flora in Asymptomatic Controls

aerobic culture

Ileum

Asc. Colon

Sigmoid Colon

1:10
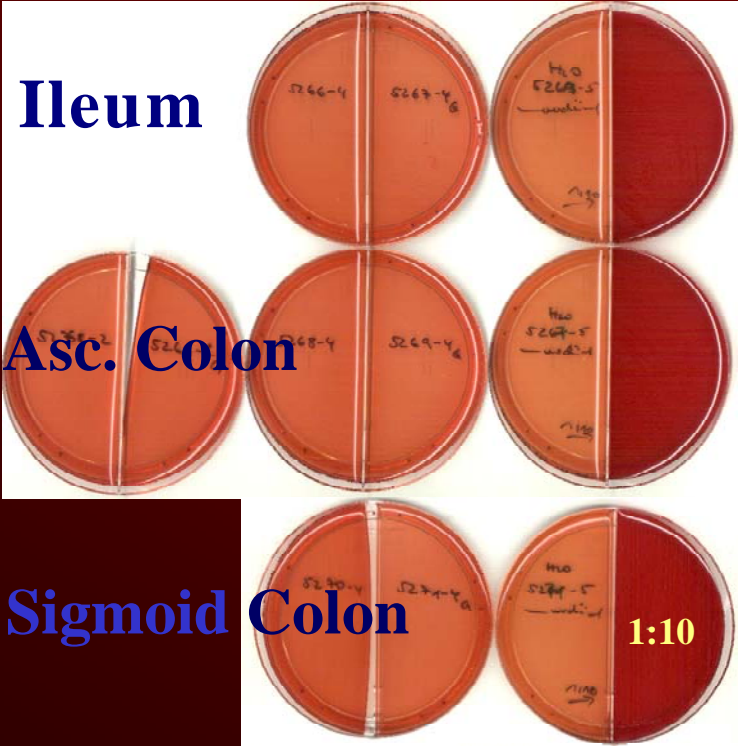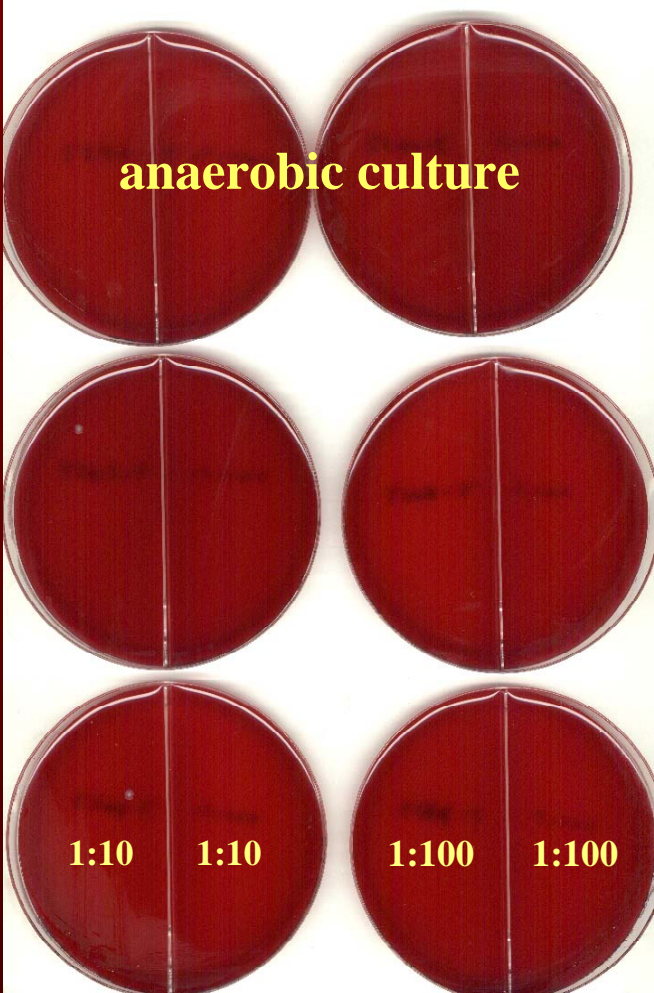
2. Wash   4. Wash   H. Lysis

anaerobic culture

1:10   1:10   1:100   1:100

4. Wash   H. Lysis

CD

aerobic culture

Ileum

Asc. Colon

Sigmoid Colon

1:10

2. Wash

4. Wash   H. Lysis

anaerobic culture

1:10   1:10   1:100   1:100
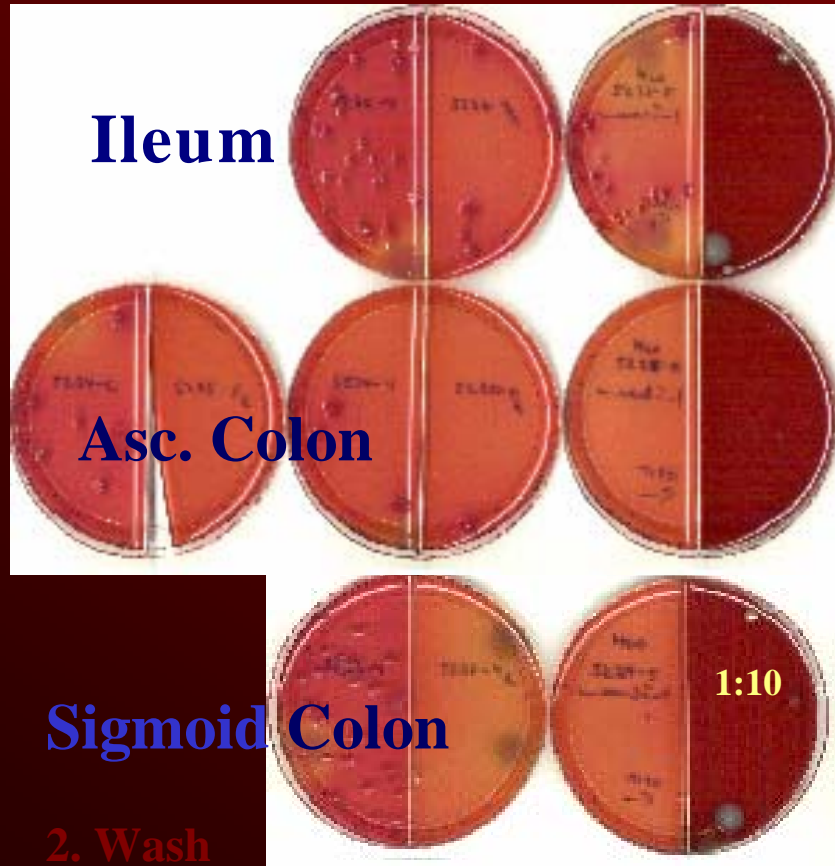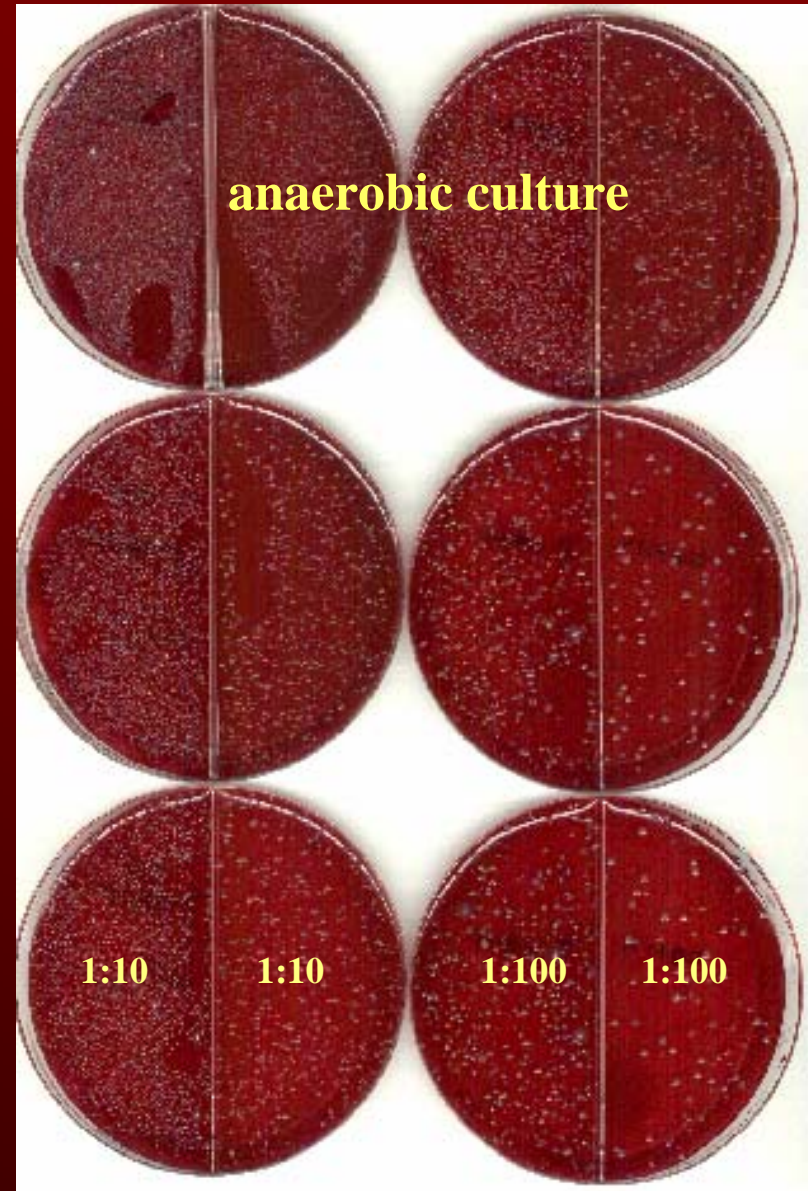
4. Wash   H. Lysis

# Occurrence of Cultured Mucosal Bacteria after the 4th Wash and Hypotonic Lysis

	Percent of patients with isolate of	Mean (maximum) percent of isolates from one biopsy
Bacteroides	95	56 (100)
Collinsella aero.	80	16 (92)
Clostridia	62	9 (35)
Bifidobacteria	34	6 (87)
Peptostreptococci	32	3 (24)
Eubacteria	23	3 (28)
Propionibacteria	15	<1 (9)
Enterobacteriaceae	82	4 (100)
other	90	3 (89)

Mean± SD (x10^3 cfu/μL) of Mucosal Bacteria

	Asymptomatic Controls (n=40)	Self-limiting Colitis (n=28)	Indeterminate Colitis (n=104)	UC (n=156)	CD (n=82)
Total anaerobes	**0.18±0.3**	**1.8±5.3** NS	**3.41±16** P < 0.08	**3.8±11** P < 0.01	**9.1±18** P < 0.001
Bacteroides	**0.02±0.05**	**0.26±0.6** NS	**0.64±2.1** P < 0.01	**1.4±9** P< 0.001	**3.1±5.5** P < 0.001
Total aerobes	**0.003±0.05**	**0.08±0.4** NS	**0.09±0.5** P < 0.005	**0.08±0.6** P <0.05	**0.14±0.8** P < 0.001
Enterobacteriaceae	**0.002±0.05**	**0.06±0.5** P < 0.06	**0.08±0.3** P < 0.005	**0.04±0.5** P <0.047	**0.090±0.8** P < 0.001

P as compared to controls

Percent of Patients with Concentrations of Mucosal Bacteria of


Legend:
- **> 50 000**
- **10 000 - <50 000**
- **1000 - <10 000**
- **< 1000**

cfu/µL

Categories: asympt, slc, indet., UC, CD
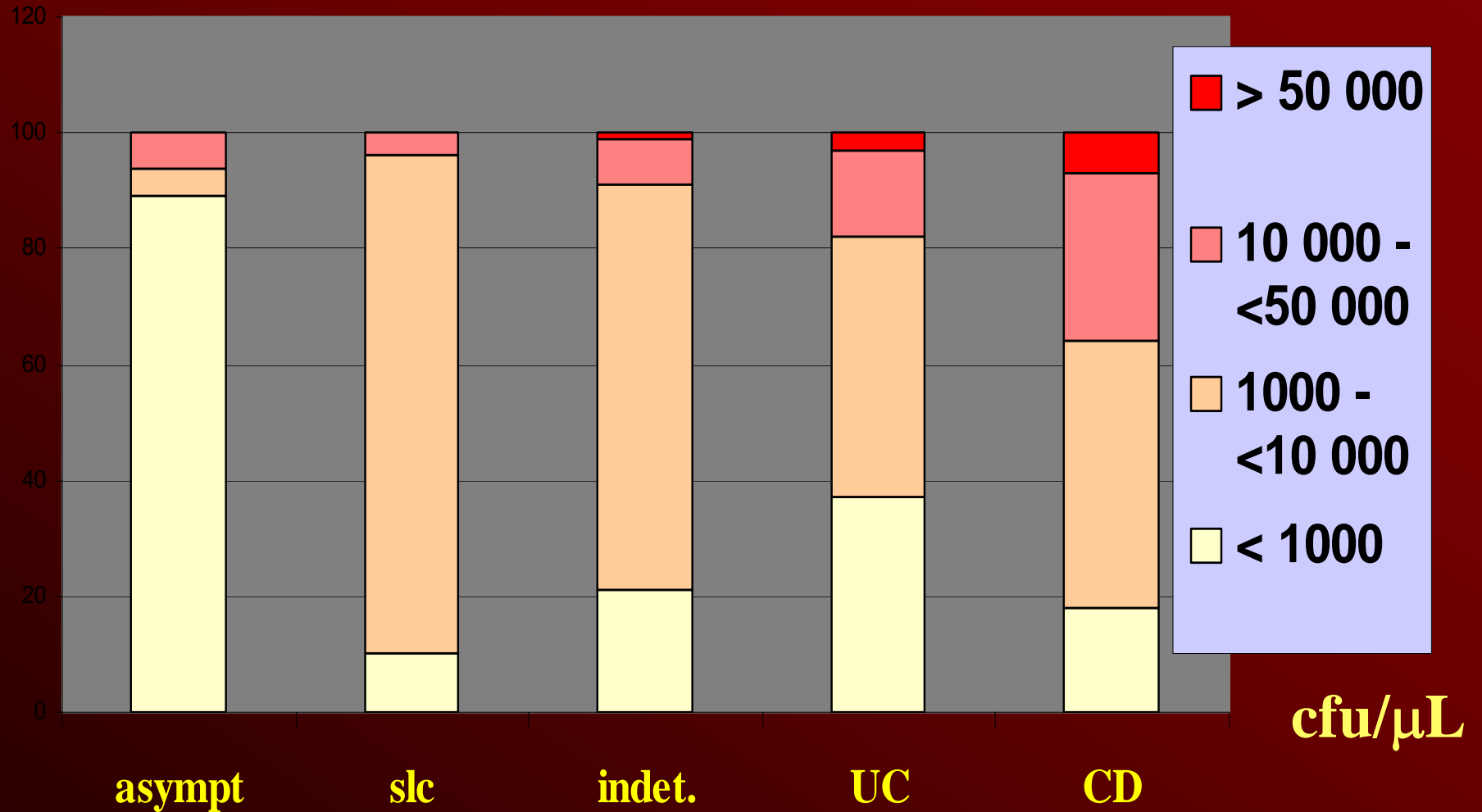
Mean x10³ cfu/µL Mucosal Bacteria in Inflamed and Non-Inflamed Mucosa
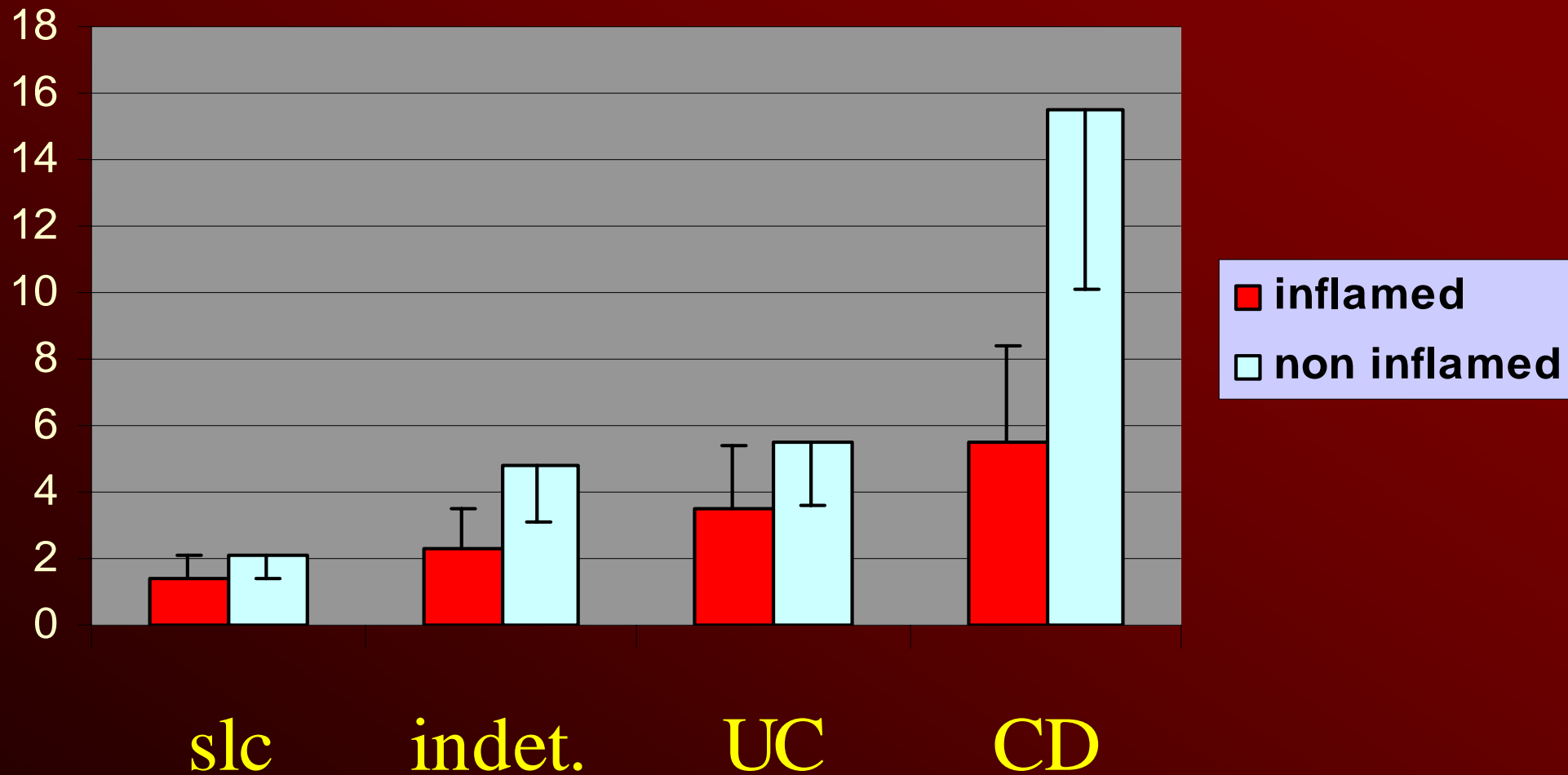
Percentage of Patients with Positive PCR (> 1000 cfu/μL) and the Predominance of Sequences of a Single Bacterial Group

	Asymptomatic controls (n=20)	Self-limiting Colitis (n=18)	Indeterminate colitis (n= 17)	UC (n=14)	CD (n= 10)
Mucosal bacteria (positive PCR)	10%	83%	71%	71%	80%
E.coli	5%	27%	29%	21%	20%
Bacteroides	0%	11%	12%	16%	30%
Mix of sequences*	5%	33%	29%	34%	30%
Other (Yersinia and Campylobacter)	0%	11%	0%	0%	0%

* High diversity of sequences, without any sequence appearing in more than 5% of the analyzed clones

Lumen

G

G

G

G

N

G

N

G

Fluorescence in-situ hybridization

G
G
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G
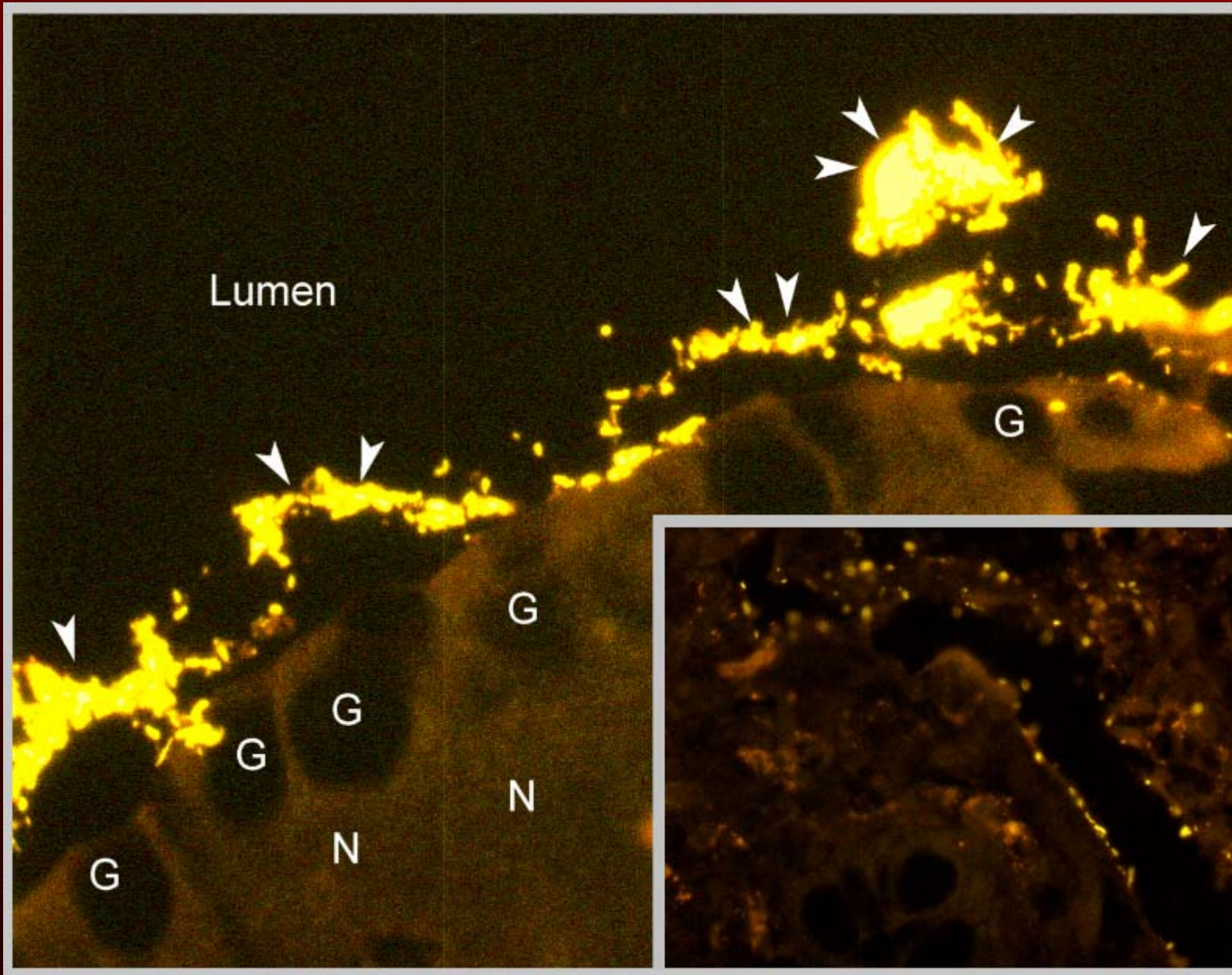
Lumen
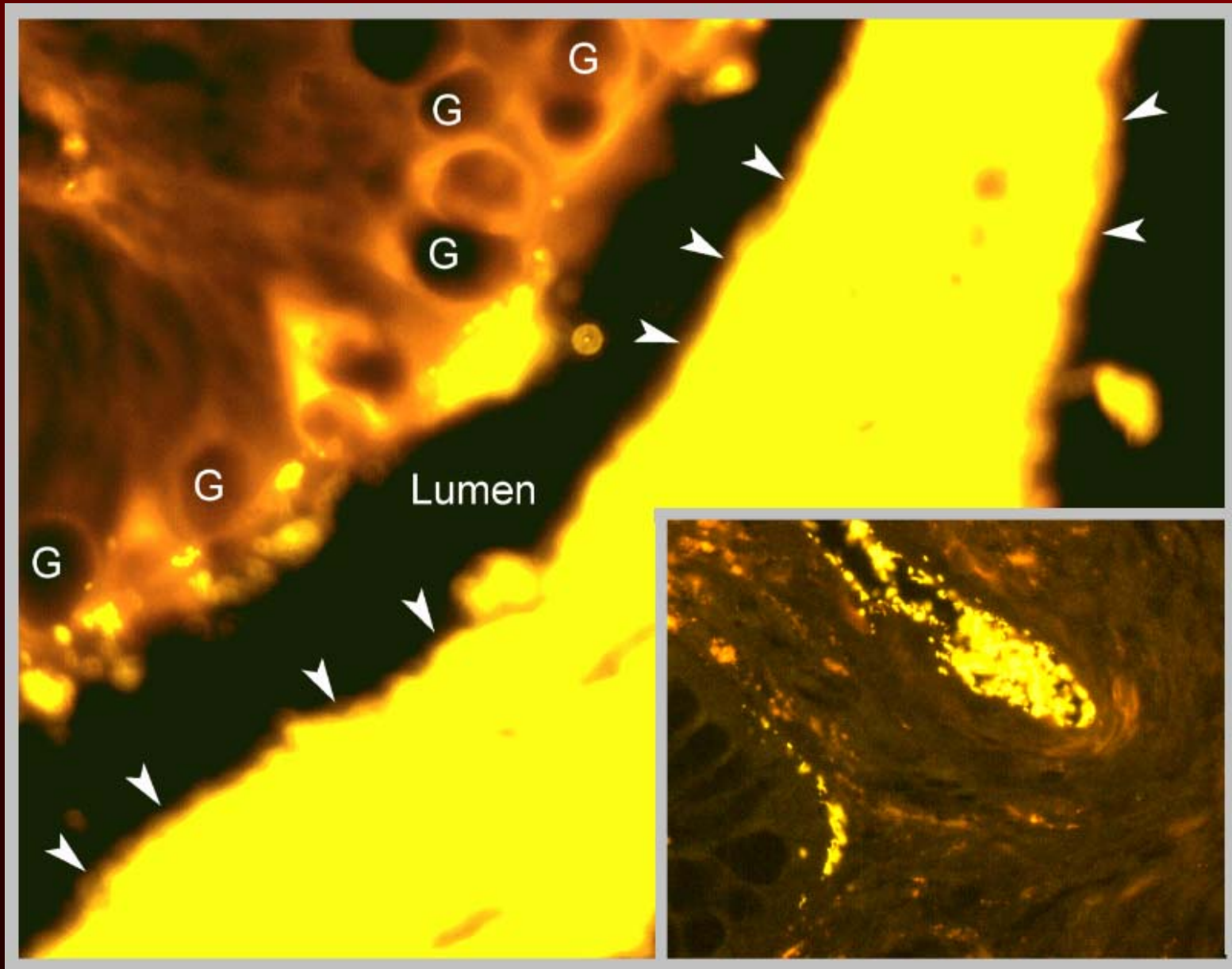
Fluorescence in-situ hybridization
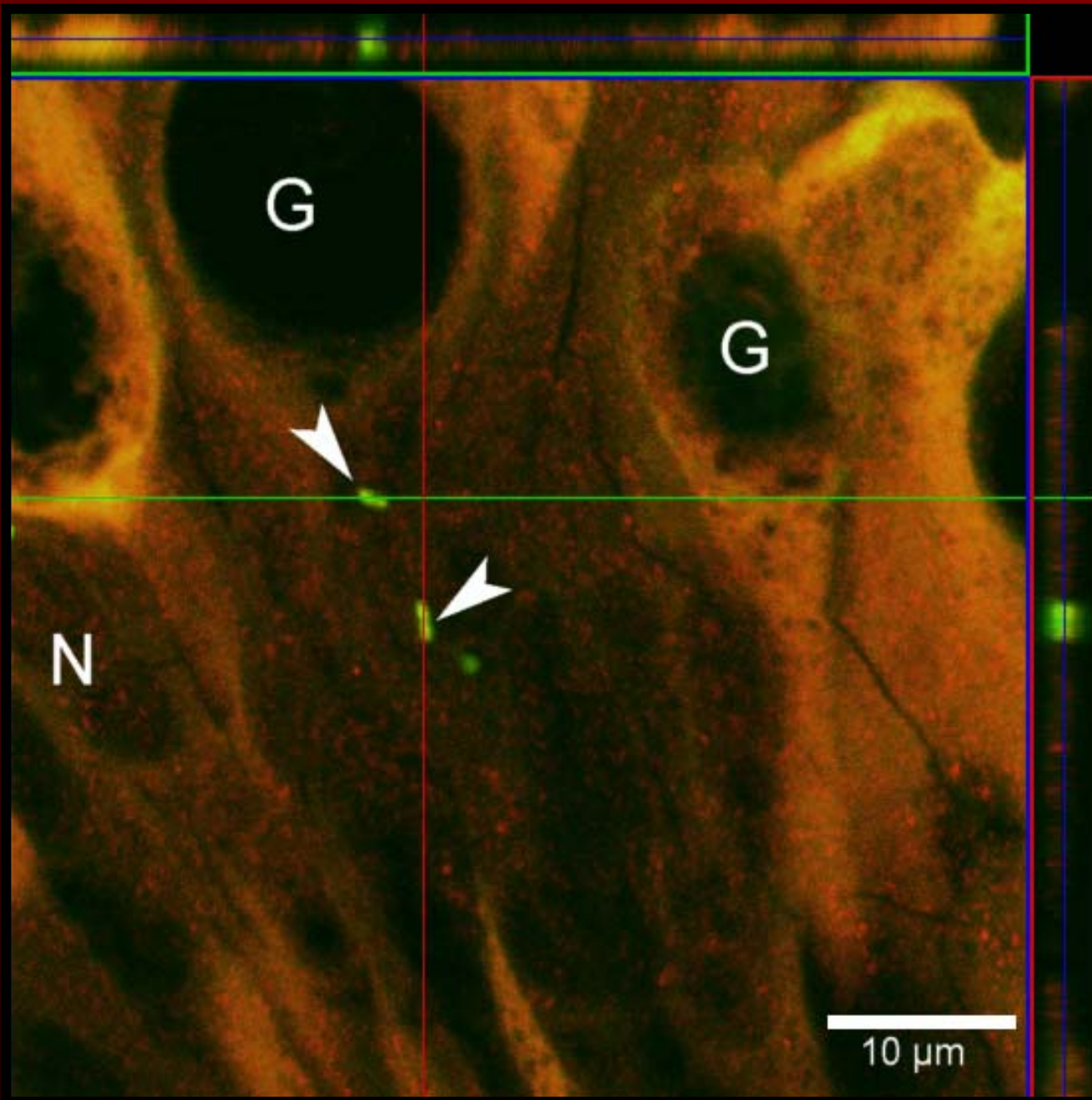
Intracellular bacteria *(arrows)* visualized with *Bacteroides* specific probe

G= goblet cell
N= nucleus

Mean± SD (x10^3 cfu/µL) of mucosal bacteria and clinical data

	UC (n=156)	CD (n=82)
All	3.8	9.1
patients age		
<25	2.0	2.6
25-30	1.7	9.1
30-35	4.5	11.9
35-40	3.4	10.8
40-45	3.2	4.3
45-50	6.9	5.5
>50	2.6	5.2
age at the time of manifestation		
<25	2.6	7.5
25-30	2.5	**24.0**
30-35	3.6	**14**
35-40	**13**	1.9
>40	1.5	3.5

	UC (n=156)	CD (n=82)
All	3.8	9.1
duration of disease in years		
<5	3.6	10
5-20	4.6	8.05
>20	2.5	1.9
f	4.2	**12.0**
m	2.8	**4.7**

Mean± SD (x10^3 cfu/µL) of mucosal macteria, disease activity and therapy

	UC (n=156)	CD (n=82)
All	3.8	9.1
remission	2.9	**2.9**
activity	4.8	11.0
exacerbated	5.5	8.2
fistula		**20.1**
no		4.8
colonic surgery	2.8	9.0
without surgery	4.6	10.0

	UC (n=156)	CD (n=82)
All	3.8	9.1
no antibiotics in last 12 months	4.6	9.2
on antibiotics	**0.5**	**1.4**
after antibiotics (1-4 weeks)	5.9	27
no azathioprine	3.1	9.9
azathioprine	5.8	8.3
corticosteroids	**8.2**	12.0
without	3.7	8.7
5ASA in gramm		
0	4.2	**14.9**
1-2,5	3.7	6.5
3	2.7	3.5
>4	1.4	2.6