



PIRATES of the ABDOMEN

Dr Kim Pieton, HIV CLIN SOC CONFERENCE, October 2018

MR SH, 44 yr man

- Chronic diarrhoea x 3years
 - Following Aluvia initiation (2015)
 - Watery, no dysentery or mucous
 - Large volume
 - Mild abdominal cramps
- Soweto and Limpopo
 - Rural area, tap water
- Unemployed
- Girlfriend not ill
- No children or animals



Mr SH – HAART history

- HIV positive
 - Diagnosed 1997
 - ? Baseline CD₄
- 3TC/d4T/EFV **2008**
 - Did suppress
- Bactrim stopped for many years
- Lamzid/Aluvia **2015**
 - Unsure of CD₄/VL at switch
 - Seems switched dt VF
 - Never fully suppressed
 - Persistent low level viraemia
 - Persistent diarrhoea
- Consult for diarrhoea **2016**
 - CD₄ 625, Viral load 1750
 - C-scope NAD
 - Biopsy negative
 - Stool MCS negative
- Lamzid/ATV/rit **27/1/2017**
 - Admission with diarrhoea
 - CD₄ 666, VL 1000

Mr SH

- Opportunistic infections
 - PTB 2000, 6/12 treatment
 - DTB 2004, 9/12 treatment
- No other previous OI
- No other PMHx/ PSHx

	January 2017 ADMISSION	February-March 2017 GIT & HIV CLINIC	APRIL 2017 GIT CLINIC	3 MAY 2017 HIV CLINIC
STOOL MC&S/O/P/C.diff	NEGATIVE x3			Defaulted April Compliant
Potassium	3.4	3.9		Bloods not done
Urea	17.2	2.2	W47Kg	W51kg
Creatinine	109	29		
White cell count	5.5 (diff normal)	4.59		
Haemoglobin	14.6	12.4		
Platelets	379	331		
Albumin	29			
CD ₄	666			
Viral load	1000		Abdo US normal	
	Fluids, loperamide, potassium, Ciprobay, flagyl	Intermittent diarrhoea Feeling better	Ongoing diarrhoea but feeling ok	Intermittent diarrhoea
	ALUVIA – ATV/rit (DRT – no resistance)	Salazopyrine	Ciprobay, Flagyl, loperamide, Salazopyrine	Lamzid/ATV/rit Loperamide

	May 2017 ADMISSION	June – September 2017	September 2017 GIT CLINIC	October 2017 HIV CLINIC
STOOL MC&S/O/P/C.diff	Negative x2			Compliant
Potassium	3.6			W52kg
Urea	10.1			
Creatinine	229			
White cell count	5.78			
Haemoglobin	15			
Platelets	420			
Albumin	30			
CD ₄	617			421
Viral load	32 800		Stool elastase normal	11 200
	Tachycardic, hypotensive	Ongoing diarrhoea, coping	G-scope: Oesophageal candidiasis, severe pangastritis, small duodenal ulcer	Diarrhoea improved
	C-scope NAD, biopsy negative		Fluconazole, Amoxil, Klacid, Losec	Lamzid/ATV/rit Loperamide

	APRIL 2018 ID CLINIC	MAY 2018 GIT CLINIC	MAY 2018 ADMISSION
STOOL MC&S/O/P/C.diff	NICD negative		Negative
Potassium			2.5
Urea			27.2
Creatinine			268
White cell count			5.4 (diff normal)
Haemoglobin			14.5
Platelets			230
Albumin		G-scope NAD BIOPSY	28
CD ₄	453	Eosinophilic infiltrate in lamina propria with oedema. No ulcers, granulomas, viral cytopathy, parasites, dysplasia	
Viral load	5860		
	PCR NICD NEGATIVE Cryptosporidium, microsporidium spp, viruses		PCR NICD Strongyloides -ve Hypotensive & tachycardic

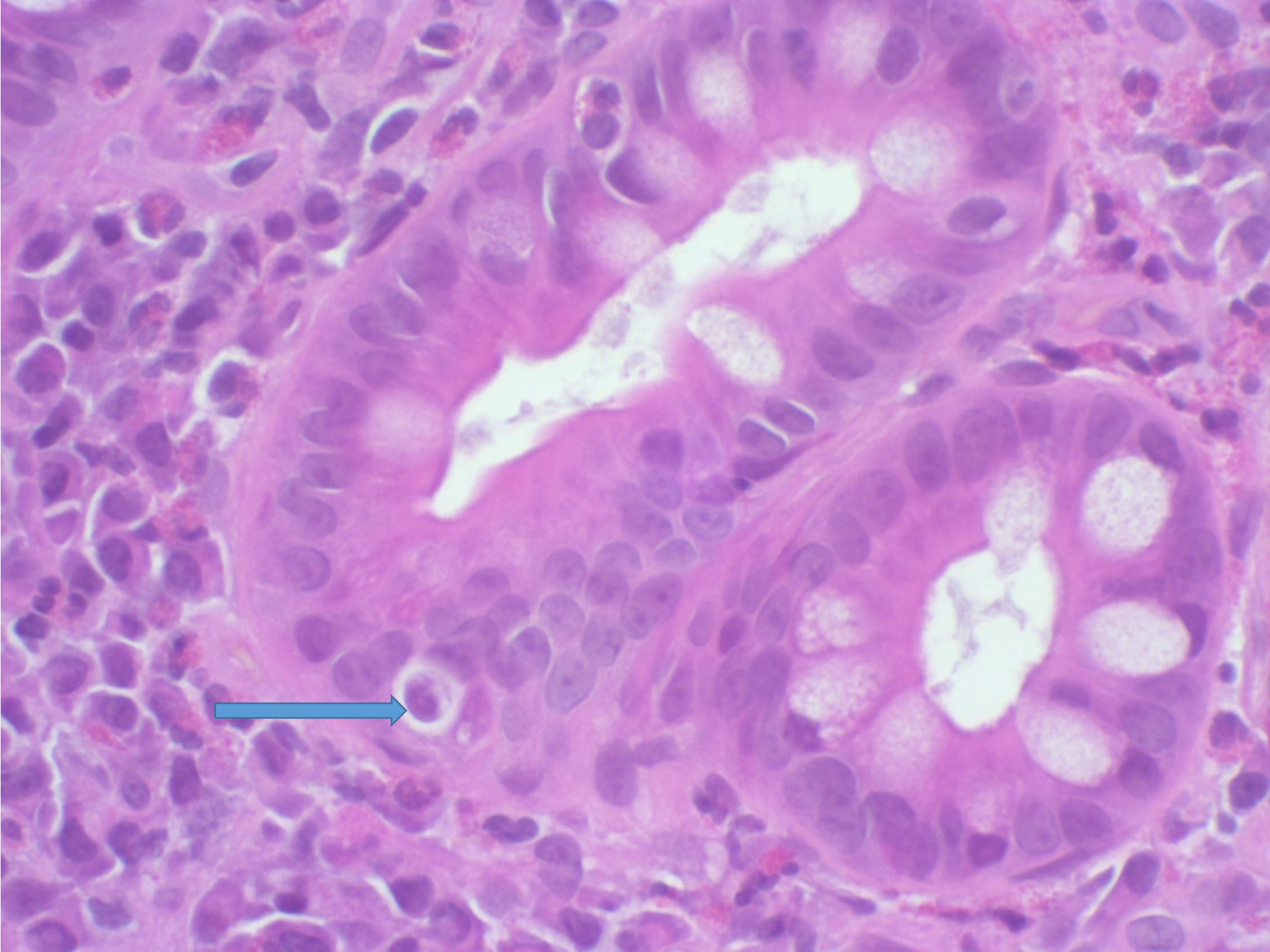
HUH?

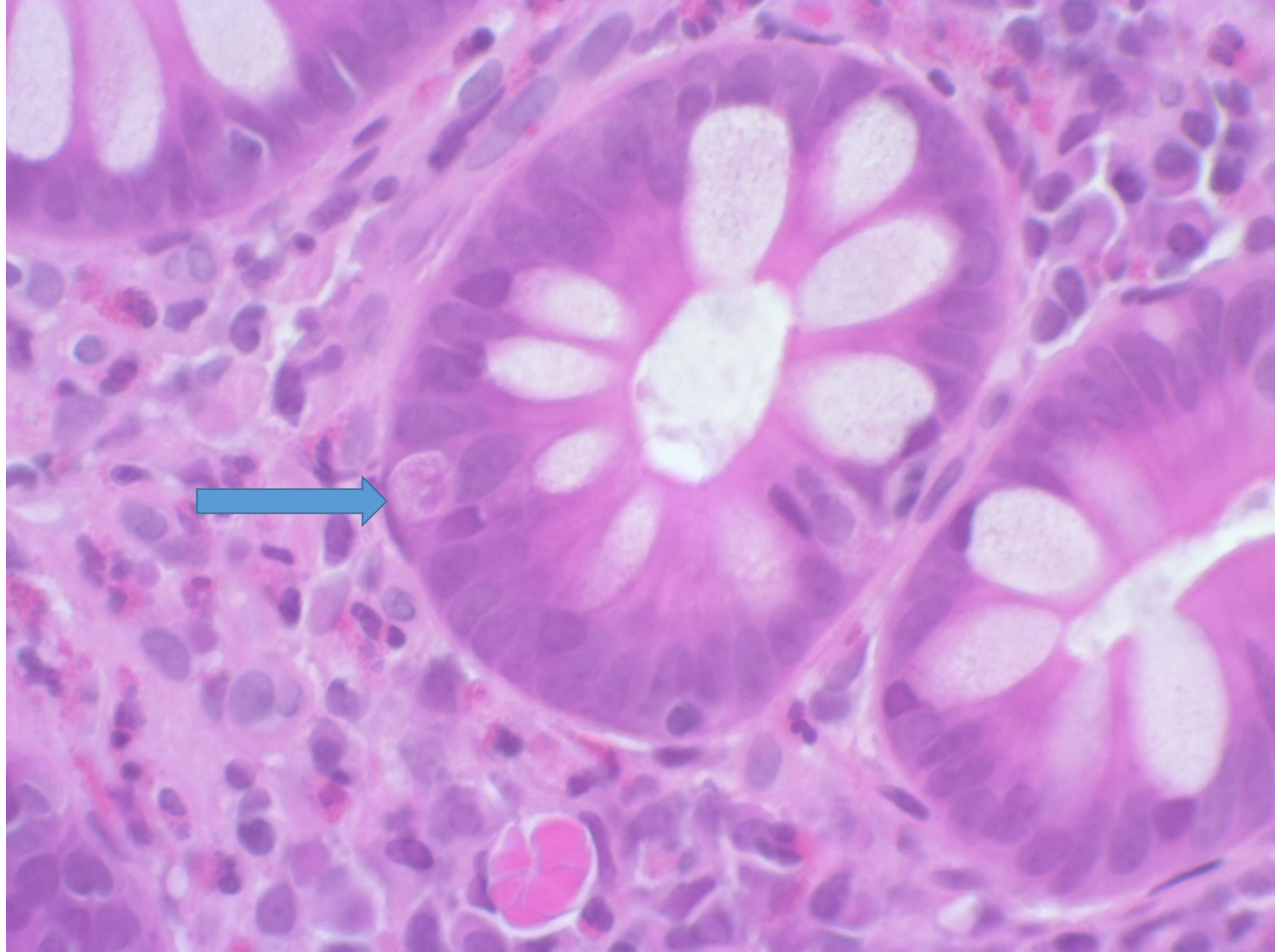


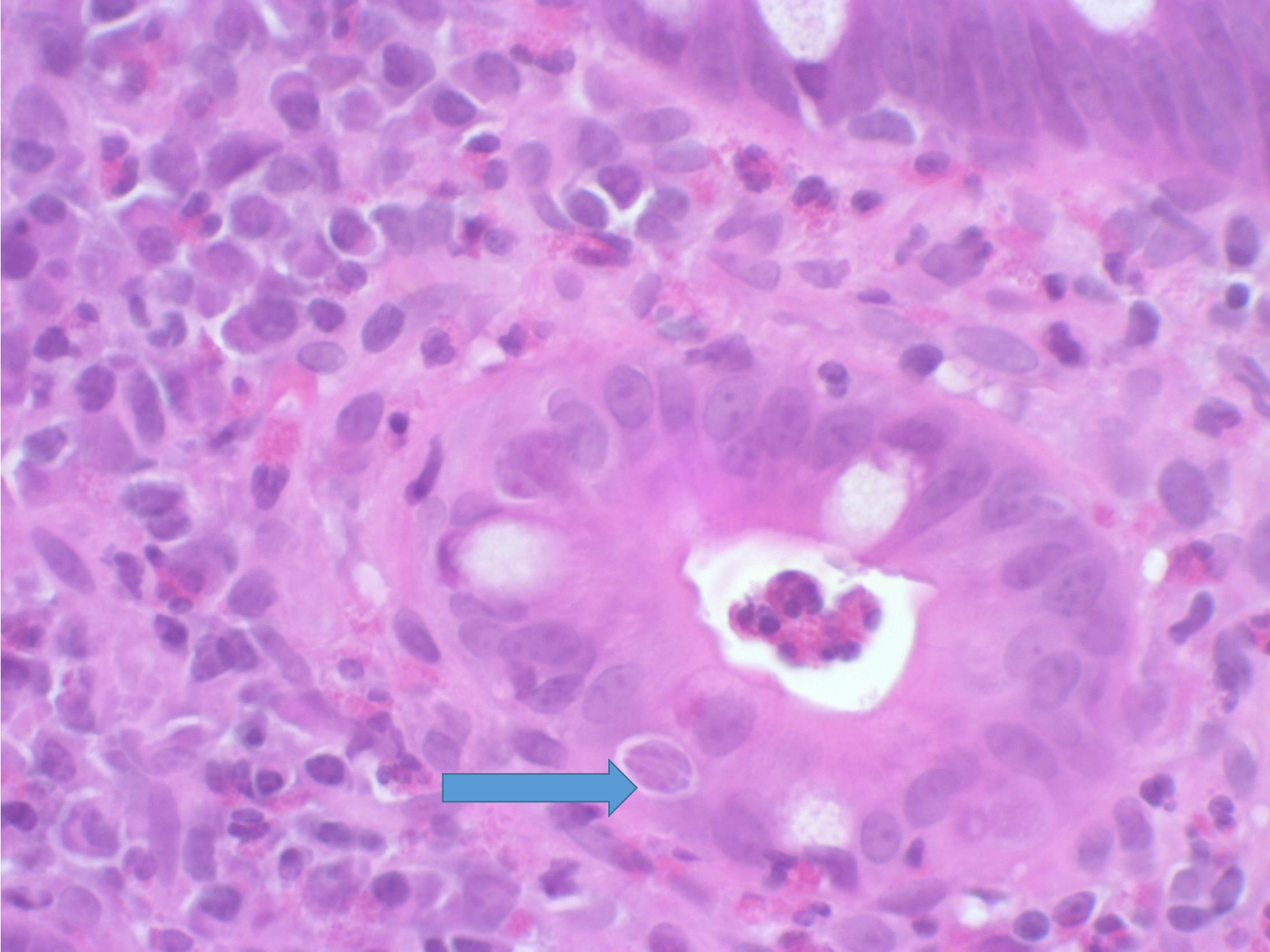
- NICD MC&S
 - Occasional, scanty

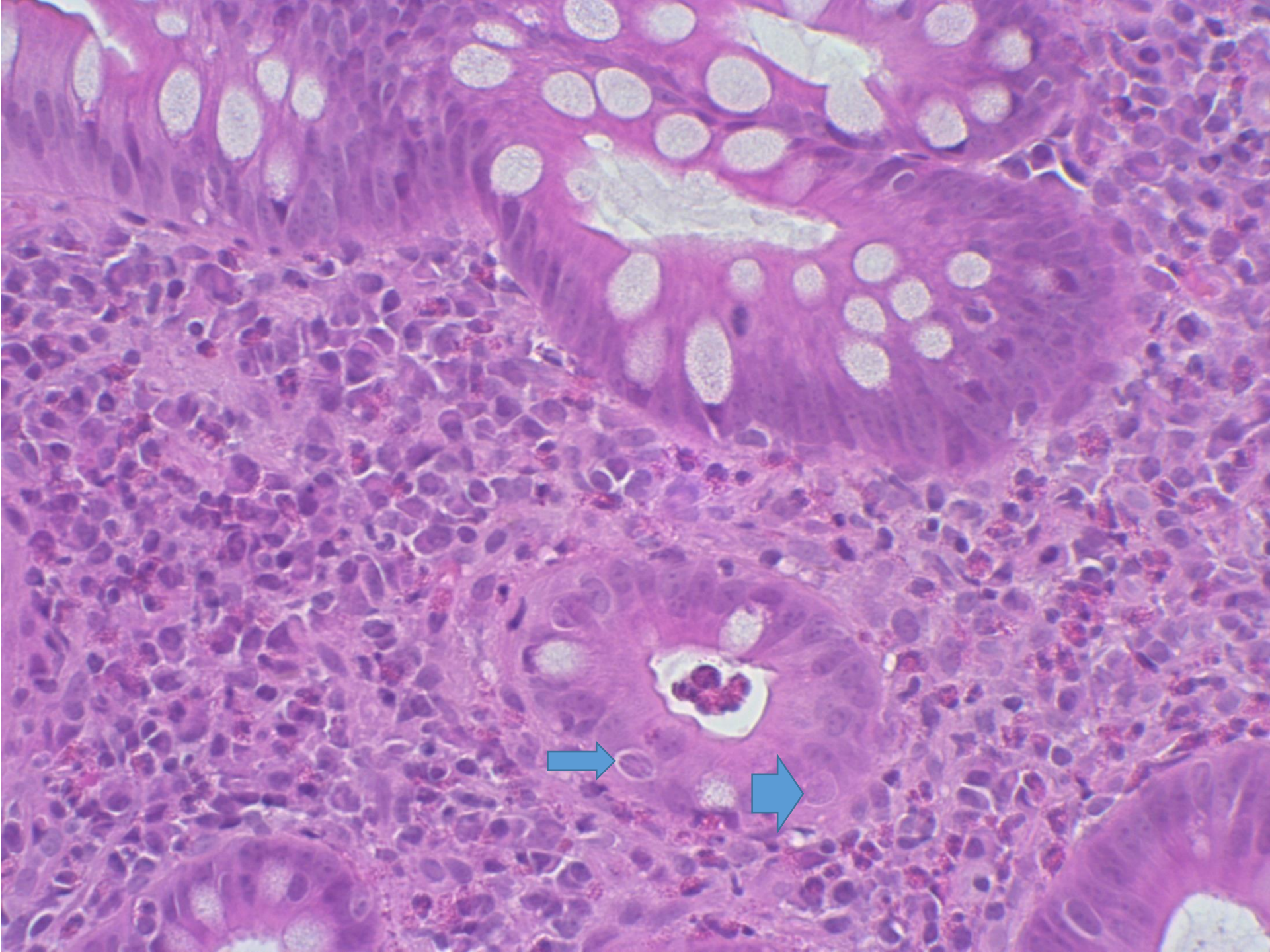
• CYSTISOSPORA BELLII OOCYSTS

- HISTOLOGY REVIEWED ...
- Images courtesy CHBAH Histopath dept, Dr Reena Mohanlal

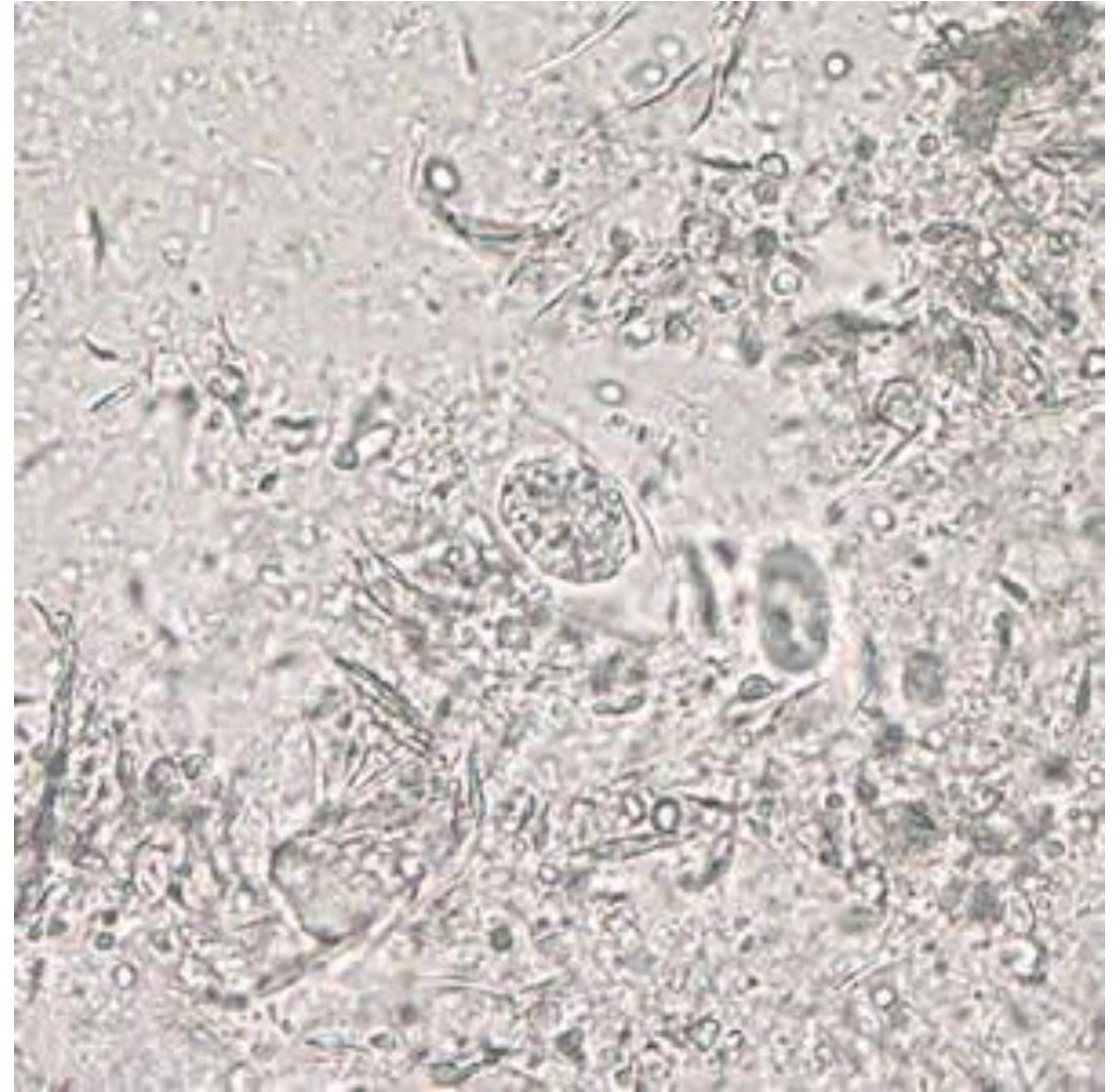
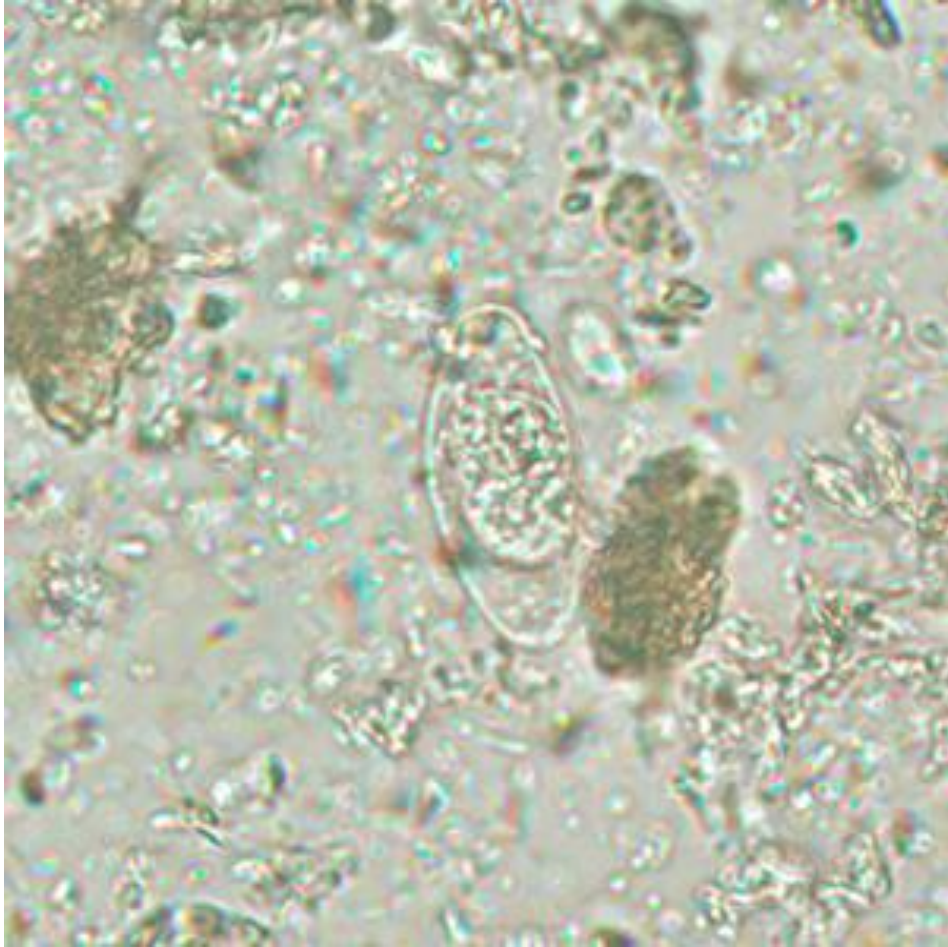








CYSTOISOSPORA BELLI



TREATMENT

- TMP/SMZ
 - 2 SS tablets 6hrly x 2-4w
- Pyrimethamine + folinic acid
 - 50-75mg dly po
- Nitazoxanide
- Ciprofloxacin
 - 500mg bd x 1w
- Secondary prophylaxis
 - TMP/SMZ 3x a week until immune-reconstituted
- SO why is Mr SH getting *C. belli* at such a high CD₄??

Failure to Eradicate *Isospora belli* Diarrhoea Despite Immune Reconstitution in Adults with HIV - A Case Series

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Table 1. Clinical summary of 8 patients with chronic isosporiasis despite immunological and virological response to ART.

Case number	1	2	3	4	5	6	7	8
CD4 nadir, cells/mm ³	32	210	281	52	221	215	141	71
Anti-retroviral regimens used	D3E/D3L/r	D3N/D3E/A3E	D3E	A3N	Tru At ^r /Tru L ^r	D3E/.T3L ^r	D3E	D3N
Maximum CD4 count while symptomatic, cells/mm ³ (duration of ART, months)	237(29)	1013 (60)	412 (6)	327 (24)	659 (48)	464 (17)	334 (25)	265 (23)
Any HIV viral load >50 copies/ml, (months of ART)	1000 (6)	None	86 (11) 400 (13)	None	2780 (10) 127 (48)	None	None	306671 (19)
Number of HIV viral load measurements <50 copies/ml §	3	7	2	10	8	5	2	3
Total duration of ART, years	4	5	2	7	5	3.5	2.3	2
Maximum secondary prophylaxis	CTX 1920 mg b.i.d. plus CPN 500 mg b.i.d.	CTX 1920 mg b.i.d.	CTX 960 mg b.i.d.	CTX 960 mg b.i.d.	CTX 960 mg b.i.d.	CTX 1920 mg b.i.d.	CTX 1920 mg b.i.d. plus CPN 500 mg b.i.d.	CTX 1920 mg b.i.d. plus CPN 500 mg b.i.d.
Hospital admissions for diarrhea n, (total days in hospital)	18 (151)	10 (60)	10 (81)	0	1 (8)	1 (7)	14 (71)	3 (18)
Stool samples*, n (% positive)	13 (54)	12 (8)	5 (40)	2 (100)	6 (50)	8 (50)	11 (9)	8 (50)
Duodenal biopsies, n (% positive)	3 (67)	3 (100)	3 (67)	1 (0)	2 (100)	0	3 (33)	1 (0)
Outcome	Died, complications of chronic diarrhoea	Died, complications of chronic diarrhoea	Died, complications of chronic diarrhoea	Symptoms resolved after 2 years. Currently well.	Persistent diarrhea and weight loss	Symptoms resolved after 2 years. Currently well.	Lost to follow-up presumed dead	Persistent diarrhea and weight loss. Now virologically suppressed

§Represents measurements approximately every 6 months after ART initiation according to South African public sector guidelines applicable at the time.

*All sample examined by modified acid-fast staining.

CTX = co-trimoxazole, CPN = ciprofloxacin, D = stavudine, 3 = lamivudine, A = zidovudine, E = efavirenz, N = nevirapine L^r = lopinavir/ritonavir,
Tru = tenofovir/emtricitabine, At^r = atazanavir/ritonavir.

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HYPOTHESES

1. Failure of recovery of antigen specific immune response
 - Broader defect in T cell immunity
2. HAART results in delayed and partial restoration of GIT CD₄ T cells
 - Persistent infection or re-infection possible
3. Drug malabsorption – HAART/Bactrim
4. Drug resistance to Bactrim

The End