

Maintenance therapy with infliximab or vedolizumab in inflammatory bowel disease is not associated with increased SARS-CoV-2 seroprevalence: UK experience in the 2020 pandemic

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Supplementary material

Supplementary Table 1: Demographic, socioeconomic and clinical characteristics

	Oxford n=404		London (Adult) n=180		London (Paediatric) n=56	
Median age (IQR)	44.0 (29.0-60.0)		31.5 (23.0-44.2) ****		14.8 (12.7-16.3)	
Sex (Male) (n, %)	214 (53.0)		119 (66.1) **		32 (57.1%)	
Median weight (kg) (IQR)	74 (64.0-88.0)		67.5 (59.0-78.0) ****		53.6 (44.8-66.1)	
Median deprivation score[†] (IQR)	8 (6.0-9.3)		4 (3.0-6.3) ****		4 (2.8-7.0)	
Ethnicity						
White	349 (86.4)		74 (41.1) ****		14 (25.0)	
Asian	14 (3.5)		63 (35.0) ****		13 (23.2)	
Black	3 (0.7)		11 (6.1) ***		7 (12.5)	
Mixed	3 (0.7)		0 (0.0)		2 (3.6)	
Other	5 (1.2)		10 (5.6) **		1 (1.8)	
Unstated	30 (7.4)		21 (11.7)		19 (33.9)	
Smoking status						
Current (n, %)	41 (11.7)		8 (4.4) **			
Ex-smoker (n, %)	114 (32.6)		12 (6.7) ****			
Disease						
Crohn's disease (CD) (n, %)	188 (46.5)		106 (58.9) **		29 (51.8)	
Ulcerative colitis (UC) (n, %)	211 (52.5)		71 (39.4) **		23 (41.1)	
IBD-U (n, %)	4 (1.0)		3 (1.7)		4 (7.1)	
Median disease duration, yrs (IQR)	10 (5.0-18.0)		8.5 (4.8-15.2)		3.3 (2.1-5.9)	
Comorbidity (n, %)	116 (28.7)		32 (17.8) **		5 (8.9)	
Medication (n, %)						
Infliximab	176 (43.6)		118 (65.6) ****		48 (85.7)	
Vedolizumab	228 (56.4)		62 (34.4) ****		8 (14.3)	
Concomitant medication						
Prednisolone	12 (3.0)		8 (4.4)		6 (10.7)	
Budesonide	6 (1.5)		2 (1.1)		0 (0.0)	
Steroid	18 (4.5)		10 (5.6)		6 (10.7)	
5-ASA	73 (18.1)		33 (18.3)		18 (32.1)	
Thiopurine	101 (25.0)		71 (39.4) ***		49 (87.5)	
	IFX (n=88)	VDZ (n=13)	IFX (n=64)	VDZ (n=7)	IFX (n=43)	VDZ (n=6)
Azathioprine	73 (83.0)	11 (84.6)	54 (84.4)	5 (71.4)	37 (86.0)	6 (100.0)
6-mercaptopurine	15 (17.0)	2 (15.4)	10 (15.6)	2 (28.6)	6 (14.0)	0 (0.0)
MTX	12 (3.0)		9 (5.0)		0 (0.0)	
MMF	12 (3.0)		0 (0.0) *		0 (0.0)	

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P values denote comparison of Oxford vs. London (adult): *P ≤ 0.05, **P ≤ 0.01, ***P ≤ 0.001, ****P ≤ 0.0001, non-significant otherwise

† Deprivation score: Derived from the English Indices of Multiple Deprivation (IMD), the score classifies relative deprivation per area. A score of 1 = Most deprived, 10 = Least deprived

IBD-U: Inflammatory Bowel Disease-Unclassified, COPD: Chronic obstructive pulmonary disease, CVD: Cerebrovascular disease, 5-ASA: 5-aminosalicylic acid, MTX: Methotrexate, MMF: Mycophenolate mofetil, IFX: Infliximab, VDZ: Vedolizumab

Supplementary Table 2: Demographic characteristics of control groups

	Oxford [†] Non-patient facing HCW (Administrative staff)			Oxford [†] HCW			London [§] (Paediatric)
	All	Seropositive	Seronegative	All	Seropositive	Seronegative	All
n	1289	78	1211	9311	987	8324	396
Median age (IQR)	45.0 (32.3-55.4)	45.1 (33.4-56.1)	45.0 (32.2-55.4)	38.8 (29.8-48.8)	39.2 (29.5-49.0)	38.7 (29.9-48.8)	13.0 (8.1 – 16.0)
Gender (n, %)							
M	197 (15.3)	9 (4.6)	188 (95.4)	2545	296 (11.6)	2249 (88.4)	194 (49.0)
F	1087 (84.3)	68 (6.3)	1019 (93.7)	6744	689 (10.2)	6055 (89.8)	202 (51.0)
Prefer not to say	3 (0.2)	0 (0.0)	3 (100.0)	19	2 (10.5)	17 (89.5)	-
Trans	2 (0.2)	1 (50.0)	1 (50.0)	3	0 (0.0)	3 (100.0)	-
Ethnicity (n, %)							
White	1082 (84.0)	65 (6.0)	1017 (94.0)	6544 (70.3)	563 (8.6)	5981 (91.4)	-
Asian	102 (7.9)	11 (10.8)	91 (89.2)	1670 (17.9)	261 (15.6)	1409 (84.4)	-
Black	43 (3.3)	1 (2.3)	42 (97.7)	364 (3.9)	70 (19.2)	294 (80.8)	-
Chinese	4 (0.3)	0 (0.0)	4 (100.0)	99 (1.1)	8 (8.1)	91 (91.9)	-
Mixed	39 (3.0)	0 (0.0)	39 (100.0)	231 (2.5)	30 (13.0)	201 (87.0)	-
Other	12 (1.0)	1 (8.3)	11 (91.7)	251 (2.7)	39 (15.5)	212 (84.5)	-
Unstated	7 (0.5)	0 (0.0)	7 (100.0)	152 (1.6)	16 (10.5)	136 (89.5)	-
HCW: Healthcare worker, Trans: Transgender							
† Source data: Eyre DW et al. <i>Elife</i> 2020;9.							
§ Source data: Public Health England, National Paediatric Seroprevalence study, Royal London Children's Hospital							

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Supplementary Table 3: *Extended univariable relationships between clinical, socioeconomic and demographic factors with SARS-CoV-2 seropositivity. All statistics show 95% confidence intervals in parentheses. F=fishers test, otherwise logistic regression, all p values uncorrected*

	Oxford		London (Adult)		London (Paediatric)	
	OR (95% CI)	P value	OR (95% CI)	P value	OR (95% CI)	P value
Biologic						
Vedolizumab (VDZ) ^F	3.98 (0.83-37.85)	0.08	1.20 (0.30-4.40)	0.77	1.00 (0.02-10.54)	1
Infliximab (IFX) ^F	0.25 (0.03-1.20)	0.08	0.83 (0.23-3.38)	0.77	1.00 (0.09-52.49)	1
Demographics						
Age	0.99 (0.96-1.03)	0.78	1.01 (0.97-1.04)	0.61	0.90 (0.67-1.24)	0.5
Sex (Male) ^F	1.80 (0.47-8.32)	0.39	6.68 (0.95-291.99)	0.06	0.52 (0.07-3.46)	0.45
Weight	1.02 (0.99-1.05)	0.19	1.00 (0.96-1.03)	0.98	0.99 (0.94-1.04)	0.66
Deprivation	0.95 (0.75-1.24)	0.68	1.01 (0.80-1.25)	0.91	0.87 (0.58-1.19)	0.42
Current smoker ^F	0.75 (0.02-5.51)	1	1.90 (0.04-16.94)	0.46	-	-
Ethnicity						
White	0.78 (0.16-7.54)	0.67	0.89 (0.22-3.23)	1	0.47 (0.01-4.46)	0.67
Asian	2.64 (0.06-20.92)	0.35	0.81 (0.18-3.07)	1	2.86 (0.36-20.12)	0.33
Black	0.00 (0.00-83.87)	1	0.00 (0.00-5.44)	1	1.19 (0.02-13.05)	1
Mixed	0.00 (0.00-83.87)	1	-	-	7.48 (0.09-636.53)	0.24
Other	0.00 (0.00-38.81)	1	3.57 (0.33-21.30)	0.16	0.00 (0.00-271.84)	1
Clinical						
Disease UC ^F	1.60 (0.40-7.58)	0.55	0.66 (0.14-2.50)	0.57	2.08 (0.31-15.77)	0.43
Disease duration	1.00 (0.95-1.05)	0.88	1.00 (0.91-1.06)	0.97	1.03 (0.72-1.39)	0.86
Comorbidities						
All comorbidity ^F	0.22 (0.01-1.54)	0.19	4.59 (1.17-17.44)	0.01	0.00 (0.00-8.44)	1
Cancer ^F	0.00 (0.00-30.39)	1	9.65 (0.74-94.17)	0.04	-	-
Cardiovascular disease ^F	0.00 (0.00-5.91)	1	0.00 (0.00-32.66)	1	-	-
Chronic kidney disease ^F	0.00 (0.00-180.21)	1	0.00 (0.00-497.12)	1	-	-
Chronic liver disease ^F	1.39 (0.03-10.35)	0.54	4.49 (0.08-61.09)	0.26	0.00 (0.00-39.27)	1