Efficacy of convalescent plasma in the treatment of COVID-19 in Uganda

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SUPPLEMENTARY TABLES

Supplementary Table 1. Comparison of proportions of viral clearance between CCP arm and standard of care overall

Outcome	**Overall n (%) (95% CI)**	**CCP + SOC n (%) (95% CI)**	**SOC n (%) (95% CI)**	**Unadjusted risk ratio**	**p-value**
	N=136	**N=69**	**N=67**		
Proportion with at least one negative RT-PCR post-randomization	98 (72.1) (63.8-79.0)	49 (71.0) (59.0-80.7)	49 (73.1) (61.0-82.6)	0.97 (0.90-1.05)	0.540
Proportion with two consecutive negative RT-PCR post-randomization	51 (37.5) (29.7-46.0)	25 (36.2) (25.6-48.5)	26 (38.8) (27.7-51.2)	0.94 (0.78-1.13)	0.782
Time in days to first negative RT-PCR (Median (IQR).	4 (2, 6)	4 (2, 6)	3 (2, 6)		0.453
Time in days to two consecutive negative RT-PCR (Median (IQR)	5.5 (4, 8)	6 (4, 11)	4 (4, 6)		0.196

Supplementary Table 2. Comparison of proportions of viral clearance between the CCP arm and standard of care by day of sample collection

	SOC		CCP+SOC		RR (95% CI)	P
	N*	n % negative (95% CI)	N*	n % negative (95% CI)		
Day 3	67	33 49.3 (37.3, 61.3)	68	27 39.7 (28.6, 52.0)	0.81 (0.55, 1.18)	0.267
Day 5	65	39 60.0 (47.4, 71.4)	67	31 46.3 (34.5, 58.5)	0.77 (0.56, 1.07)	0.118
Day 7	63	40 63.5 (50.7, 74.7)	65	36 55.4 (42.9, 67.2)	0.87 (0.65, 1.16)	0.352
Day 14	63	46 73.0 (60.4, 82.7)	62	43 69.4 (56.5, 79.8)	0.95 (0.76, 1.19)	0.652
Day 28	61	47 77.0 (64.5, 86.1)	61	45 73.8 (61.0, 83.5)	0.96 (0.78, 1.17)	0.674

** Number of patients excluding those known to have died before the reference day*

Supplementary Table 3. Cox Proportional unadjusted hazard ratios (HRs) for viral clearance, by baseline factors.

Baseline factors	Unadjusted HR	95% CI	P
Study arm			
SOC	1		
CCP+SOC	0.80	0.46 – 1.38	0.421
Sex			
Female	1		
Male	0.78	0.43 – 1.39	0.395
Age in years	0.99	0.97 – 1.01	0.163
Days from first PCR positive test to enrolment	1.00	0.92 – 1.08	0.932
Comorbidities:			
Any comorbidity	0.90	0.51 – 1.56	0.703
Hypertension	0.88	0.49 – 1.58	0.671
Diabetes	0.54	0.24 – 1.19	0.126
Asthma	1.78	0.64 – 4.98	0.271
HIV	0.41	0.13 – 1.31	0.131
Current symptoms			
At least one symptom	0.81	0.32 – 2.06	0.663
Fever	1.24	0.70 – 2.22	0.460
Cough	0.91	0.51 – 1.62	0.749
Sore throat	0.53	0.16 – 1.72	0.292
Difficulty in breathing	1.17	0.67 – 2.03	0.583
Vital signs (log scale)			
Sp02	0.56	0.01 – 49.95	0.801
Diastolic blood pressure	0.39	0.07 – 2.22	0.291
Systolic blood pressure	0.20	0.03 – 1.64	0.134
BMI	1.17	0.08 – 16.18	0.907
Medications			
Supportive treatment	0.25	0.03 – 1.81	0.168
Antibiotics	0.86	0.40 – 1.86	0.706
Antimalarial	2.46	0.76 – 8.00	0.135
Fluids	0.90	0.22 – 3.73	0.883
Corticosteroids	1.31	0.75 – 2.32	0.343
Anticoagulant	0.97	0.56 – 1.70	0.924
COVID 19 specific treatment			
Oxygen therapy	1.25	0.72 – 2.18	0.428
Zero oxygen	1		
Oxygen 1-5 L/min	1.07	0.55 – 2.09	0.835
Oxygen >5 L/min	1.12	0.57 – 2.21	0.747

Supplementary Table 4. Distribution of titers by trial outcomes of transfused patients

Outcome	Titers percentiles				
	<25th percentile (<84.3)	25th-50th percentile (84.31-139.5)	50th-75th percentile (139.51-195.4)	>75th percentile (>195.4)	p-value
	N=14	N=14	N=14	N=14	
Primary outcome					
Time in days to two consecutive negative RT- PCR, (Median (IQR)	4 (2, 28)	6 (4, 7)	7.5 (5, 11)	6 (4, 9)	0.643
Secondary outcomes					
Time to resolution of symptoms Among symptomatic patients, Median (IQR)	5.5 (0, 7)	7 (5, 7)	4 (3, 7)	7 (7, 14)	0.061
Progression to severe/ critical disease (SPO2<93 or needing oxygen, n (%)	2 (14.3)	7 (50.0)	9 (64.3)	7 (50.0)	0.052
Mortality, n (%)	0 (0.0)	2 (14.3)	2 (14.3)	2 (14.3)	0.577

Supplementary Table 5. Proportion progressing to severe disease by intervention group and baseline characteristics.

Factors	N	Proportion progressed to severe disease n (%)	RR (95% CI)	P
Overall	70	16 (22.9)		
Intervention				
CCP+SOC	41	9 (22.0)	0.91 (0.38 – 2.16)	0.830
SOC	29	7 (24.1)	1	
Sex				
Male	47	12 (25.5)	1.47 (0.53 – 4.05)	0.459
Female	23	4 (17.4)	1	
Age in years				
18-25	5	0 (0.0)	---	
26-35	14	2 (14.3)	0.22 (0.06 – 0.87)	0.031
36-45	12	1 (8.3)	0.13 (0.02 – 0.90)	0.039
46-55	16	3 (18.8)	0.29 (0.10 – 0.90)	0.031
56-65	12	3 (25.0)	0.39 (0.13 – 1.15)	0.089
>65	11	7 (63.6)	1	
Any comorbidity				
Yes	40	7 (17.5)	0.58 (0.25 – 1.39)	0.223
No	30	9 (30.0)	1	
At least one symptom				
Yes	57	14 (24.6)	1.60 (0.41 – 6.18)	0.498
No	13	2 (15.4)	1	

Supplementary Table 6. ≥1-point increase in the modified WHO clinical improvement scale including of mortality (deterioration)

	Overall n (%)	CCP+SOC n (%)	SOC n (%)	P
	N=136	N=69	N=67	
Deteriorated at least once				
Yes	24 (17.7)	12 (17.4)	12 (17.9)	0.937
No	112 (82.4)	57 (82.6)	55 (82.1)	
Number of times deteriorated				
0	112 (82.4)	57 (82.6)	55 (82.1)	0.946
1	15 (11.0)	7 (10.1)	8 (11.9)	
2+	9 (6.6)	5 (7.3)	4 (6.0)	
Time in days to first deterioration	N=24	N=12	N=12	
Median (IQR)	5 (3.5, 9.5)	4 (3.0, 6.5)	7 (4.5, 13.0)	0.110
Died	17 (12.5)	10 (14.5)	7 (10.5)	0.476

Supplementary Table 7: **Mortality among trial patients by intervention group and baseline characteristics.**

Factors	**N**	**Proportion died n (%)**	**RR (95% CI)**	**P**
Overall	136	18 (13.2)		
Intervention				
CCP+SOC	69	10 (14.5)	1.21 (0.51 – 2.89)	0.661
SOC	67	8 (11.9)	1	
Sex				
Male	97	15 (15.5)	2.01 (0.62 – 6.56)	0.247
Female	39	3 (7.7)	1	
Age in years				
18-25	5	0 (0.0)	---	---
26-35	22	0 (0.0)	---	---
36-45	21	1 (4.8)	0.12 (0.02 – 0.89)	0.038
46-55	36	5 (13.9)	0.36 (0.14 – 0.93)	0.035
56-65	26	2 (7.7)	0.20 (0.05 – 0.83)	0.026
>65	26	10 (38.5)	1	
Any comorbidity				
Yes	79	13 (16.5)	0.85 (0.22 – 3.28)	0.808
No	57	5 (8.8)	1	
At least one symptom				
Yes	123	16 (13.0)	0.85 (0.22 – 3.28)	0.808
No	13	2 (15.4)	1	
Oxygen therapy	66	12 (18.2)	2.12 (0.84 – 5.33)	0.109
Zero oxygen	70	6 (8.6)	1	
Oxygen 1-5 L/min	35	4 (11.4)	1	
Oxygen 6-10 L/min	8	1 (12.5)	1.09 (0.14 – 8.52)	0.932
Oxygen 11-15 L/min	20	5 (25.0)	2.19 (0.66 – 7.22)	0.199
Oxygen >15 L/min	3	2 (66.7)	5.83 (1.72 – 19.78)	0.005

Supplementary Table 8a. List of adverse events by arm

Diagnosed Adverse Event	Total	CCP arm	SOC arm	Relatedness to the trial product
Ankle and facial swelling	1	0	1	Unlikely (doubtfully related)
Subcutaneous bleeding	2	0	2	Unlikely (doubtfully related)
Constipation	1	1	0	Unlikely (doubtfully related)
Developed rigors and convulsions	1	1	0	Definite (clearly related)
Headache	5	1	4	Possible (may be related)
Hot flushes and itching	1	1	0	Definite (clearly related)
Hyperkalemia	1	0	1	Unlikely (doubtfully related)
Hypotension	1	1	0	Unlikely (doubtfully related)
Muscle wasting	1	0	1	Unlikely (doubtfully related)
Altered mentation	2	1	1	Unrelated
Motor accident	1	1	0	Unrelated
Edema (Bilateral pedal edema)	1	1	0	Possible (may be related)
Per Vaginal Bleeding.	1	1	0	Unlikely (doubtfully related)
Pancytopenia	1	1	0	Possible (may be related)
Pus secretions from Endo-tracheal tube.	1	1	0	Unlikely (doubtfully related)
Severe difficulty in breathing	2	0	2	Unlikely (doubtfully related)
Tachycardia	2	2	0	Unlikely (doubtfully related)
Urticarial rash	2	2	0	Definite (clearly related)
Diarrhea	1	0	1	Unlikely (doubtfully related)
Dry and irritating cough	1	1	0	Unlikely (doubtfully related)
Total	29	15	14	

Supplementary Table 8b. Relationship of adverse event with the Study investigational product

Relatedness	Freq.	Percent
Unrelated	2	6.9
Unlikely (doubtfully related)	21	72.5
Possible (may be related)	3	10.3
Definite (clearly related)	3	10.3
Total		100.0