

THE LANCET

Haematology

Supplementary appendix

This appendix formed part of the original submission and has been peer reviewed. We post it as supplied by the authors.

Supplement to: Stanworth SJ, New HV, Apelseth TO, et al. Effects of the COVID-19 pandemic on supply and use of blood for transfusion. *Lancet Haematol* 2020; published online July 3. [https://doi.org/10.1016/S2352-3026\(20\)30186-1](https://doi.org/10.1016/S2352-3026(20)30186-1).

APPENDICES

Table 1 Search strategies

<p>1a: The focus of all searching is references in which COVID-19, or an associated term is mentioned [title, abstract or as a keyword]. The PubMed search string is below:</p>
<p>(coronavirus*[TW] OR coronovirus*[TW] OR coronavirinae*[TW] OR Wuhan*[TW] OR Hubei*[TW] OR Huanan[TW] OR "2019-CoV" OR "2019-nCoV" OR 2019nCoV OR nCoV2019 OR nCoV-2019 OR COVID19 OR "COVID-19" OR "CORVID-19" OR CORVID19 OR "WN-CoV"[TW] OR WNCov[TW] OR HCoV-19 OR HCoV19 OR CoV[TW] OR "2019 novel"[TW] OR SARSCov19 OR SARS-CoV-2 OR SARSCoV-2 OR SARSCoV2 OR SARS-CoV2 OR SARSCov19 OR SARS-Cov19 OR "SARSCov-19" OR "SARS-Cov-19" OR nCorona*[TW] OR nCorono*[TW] OR "novel corona virus"[TW] OR "new corona virus"[TW] OR COVID*[TW] OR "corona virus disease 2019"[TW] OR "2019-ncov disease"[TW] OR "2019-ncov infection"[TW] OR "2019-ncov infections"[TW] OR "2019-nCoV"[TW] OR "wn cov"[TW] OR "2019 novel"[TW] OR nCov*[TW] OR n-cov*[TW])</p>
<p>1b: The searching string for references relevant to emergency planning for blood shortages is shown below:</p>
<p>MEDLINE</p> <ol style="list-style-type: none"> 1. Blood Banks/ 2. Blood Donors/ 3. 1 or 2 4. exp Disasters/ 5. "Health Services Needs and Demand"/ or Needs Assessment/ 6. 4 or 5 7. 3 and 6 8. (((blood or platelets or plasma or FFP or red cells or red blood cells or transfusion or blood donor* or blood donat* or platelet donor* or platelet donat* or blood bank*) adj5 (shortage* or supply or supplies or supplier or stock* or issue or provision* or preparedness or availability or resilien*)) and (pandemic* or epidemic* or influenza* or SARS or MERS or Ebola or Covid-19 or ((emergenc* or crisis) adj3 (national* or international* or plan* or humanitarian or public health or protocol*)) or disaster* or flood* or hurricane* or storm* or tsunami* or contingency plan* or major incident* or mass casualty incident* or nationwide)).tw,kf. 9. 7 or 8 <p>PubMed</p> <p>((((blood OR platelets OR plasma OR FFP OR "red cells" OR "red blood cells" OR transfusion* OR blood donor* OR blood donat* OR platelet donor* OR platelet donat* OR blood bank*) AND (shortage* OR supply OR supplies OR supplier OR stock* OR issue OR provision* OR preparedness OR availability OR resilien*)) AND (pandemic* OR epidemic* OR influenza* OR SARS OR MERS OR Ebola OR Covid-19 OR ((emergenc* OR crisis) AND (national* OR international* OR plan OR plans OR planning OR planned OR humanitarian OR "public health" OR protocol*)) OR disaster* OR flood* OR hurricane* OR storm* OR tsunami* OR earthquake* OR contingency plan* OR major incident* OR mass casualty incident* OR nationwide)) AND (publisher[sb] OR inprocess[sb] OR pubmednotmedline[sb]))</p>

Embase

1. blood bank/
2. blood donor/
3. 1 or 2
4. exp accident/
5. needs assessment/
6. exp emergency health service/
7. 4 or 5 or 6
8. 3 and 7
9. (((blood or platelets or plasma or FFP or red cells or red blood cells or transfusion or blood donor* or blood donat* or platelet donor* or platelet donat* or blood bank*) adj5 (shortage* or supply or supplies or supplier or stock* or issue or provision* or preparedness or availability or resilien*)) and (pandemic* or epidemic* or influenza* or SARS or MERS or Ebola or Covid-19 or ((emergenc* or crisis) adj3 (national* or international* or plan* or humanitarian or public health or protocol*)) or disaster* or flood* or hurricane* or storm* or tsunami* or contingency plan* or major incident* or mass casualty incident* or nationwide)).tw,kw.
10. 8 or 9

1c

Eligibility - Inclusion Criteria: any references that looks at COVID-19 in relation to any one of the following categories

Clinical Criteria**ABO****Anaemia**

Patients who have COVID-19 and become anaemia

Management of patients who have COVID-19 and become anaemic

Asymptomatic

COVID-19 patients who are asymptomatic - investigations of this; outcomes for this,

Person to person spread from asymptomatic carriers

Coagulopathy

Papers looking at the increased risk of bleeding / whether there is an increased risk of bleeding on COVID-19 patients

Papers looking at the risk of getting a blood clot/ whether there is an increased risk of developing a blood clot in COVID-19 patients

Convalescent plasma

Use of convalescent plasma for treatment of COVID-19

Blood Donors

Any donor related issues

Testing/screening for COVID-19 in donors

Management of blood donor sessions in the COVID-19 pandemic

False negatives

[Management of patients with an underlying]

Haematological disorder

If they develop COVID-19

In specific groups of patients, including haemoglobinopathy patients; patients with a blood cancer [e.g. leukaemia, myeloma or lymphoma] ; patients with a non-malignant haematological disorder e.g. MDS, myeloproliferative disease, aplastic anaemia

Incubation

Duration of time between contact with infected person and COVID-19 development.

RNA testing

PCR methods to detect COVID -19/ test for COVID-19

	Papers looking at testing strategies for COVID-19 infection
Serology	Incidence of false negative results
	Antibody testing [igm/ igg]
	Neutralising antibodies
	Antibody testing techniques
Thrombocytopenia	Patients who have COVID-19 and become thrombocytopenic
	Management of patients who have COVID-19 and become thrombocytopenic
Transfusion	Blood shortage due to COVID-19
	Papers that look at possibility of blood borne COVID transmission
	Anything that mentions transfusion and COVID-19
	Anything that mentions PBM and COVID-19
Viral Shedding	Viremia [virus in the blood] in COVID-19 infected patients
	Respiratory viral shedding
	Levels of positive covid-19 virus testing in samples [blood, oral, faecal, nasal, urine etc]
Study Type Criteria:	
core outcomes set	
systematic review	
RCT	
Observational study	
Case Report	
Editorial	
Guidance	
Letter	
Ongoing Study	
Opinion	
Exclusion Criteria:	
Animal Studies	
Not COVID-19 related	

Further details on the search strategy can be obtained on consultation with the authors

Table 2: On-going randomised trials

TOPIC	TITLE	TRIAL ID	URL
Convalescent plasma	A Phase II, Open Label, Randomized Controlled Trial to Assess the Safety and Efficacy of Convalescent Plasma to Limit COVID-19 Associated Complications.	NCT04374487	https://ClinicalTrials.gov/show/NCT04374487
	Human Convalescent Plasma for High Risk Children Exposed or Infected With SARS-CoV-2	NCT04377672	https://ClinicalTrials.gov/show/NCT04377672
	Exchange Transfusion Versus Plasma From Convalescent Patients With Methylene Blue in Patients With COVID-19.	NCT04376788	https://ClinicalTrials.gov/show/NCT04376788
	Efficacy of Human Coronavirus-immune Convalescent Plasma for the Treatment of COVID-19 Disease in Hospitalized Children.	NCT04377568	https://ClinicalTrials.gov/show/NCT04377568
	Efficacy of Convalescent Plasma Therapy in the Early Care of COVID-19 Patients.	NCT04372979	https://ClinicalTrials.gov/show/NCT04372979
	Efficacy and Safety of Early COVID-19 Convalescent Plasma in Patients Admitted for COVID-19 Infection.	NCT04375098	https://ClinicalTrials.gov/show/NCT04375098
	Early transfusion of Convalescent Plasma in Elderly COVID-19 Patients. to Prevent Disease Progression.	NCT04374526	https://ClinicalTrials.gov/show/NCT04374526
	Convalescent Plasma to Limit SARS-CoV-2 Associated Complications.	NCT04373460	https://ClinicalTrials.gov/show/NCT04373460
	Convalescent Plasma for Treatment of COVID-19 Patients With Pneumonia.	NCT04374565	https://ClinicalTrials.gov/show/NCT04374565
	CONvalescent Plasma for Hospitalized Adults With COVID-19 Respiratory Illness (CONCOR-1).	NCT04348656	https://ClinicalTrials.gov/show/NCT04348656
	Convalescent Plasma Therapy vs. SOC for the Treatment of COVID19 in Hospitalized Patients.	NCT04345523	https://ClinicalTrials.gov/show/NCT04345523
	Convalescent Plasma vs. Placebo in Emergency Room Patients With COVID-19.	NCT04355767	https://ClinicalTrials.gov/show/NCT04355767
	Convalescent Plasma as Therapy for Covid-19 Severe SARS-CoV-2 Disease (CONCOVID Study).	NCT04342182	https://ClinicalTrials.gov/show/NCT04342182
	Efficacy of Convalescent Plasma to Treat COVID-19 Patients, a Nested Trial in the CORIMUNO-19 Cohort.	NCT04345991	https://ClinicalTrials.gov/show/NCT04345991
	Efficacy and Safety Human Coronavirus Immune Plasma (HCIP) vs. Control (SARS-CoV-2 Non-immune Plasma) Among Adults Exposed to COVID-19.	NCT04323800	https://ClinicalTrials.gov/show/NCT04323800
	Convalescent Plasma for Patients With COVID-19: A Randomized, Open Label, Parallel, Controlled Clinical Study.	NCT04332835	https://ClinicalTrials.gov/show/NCT04332835
	Efficacy of Convalescent Plasma Therapy in Severely Sick COVID-19 Patients.	NCT04346446	https://ClinicalTrials.gov/show/NCT04346446
	Convalescent Plasma vs. Standard Plasma for COVID-19.	NCT04344535	https://ClinicalTrials.gov/show/NCT04344535

	Efficacy and Safety of Novel Treatment Options for Adults With COVID-19 Pneumonia.	NCT04345289	https://ClinicalTrials.gov/show/NCT04345289
	Study Testing Convalescent Plasma vs Best Supportive Care.	NCT04333251	https://ClinicalTrials.gov/show/NCT04333251
	Experimental study of novel coronavirus pneumonia rehabilitation plasma therapy severe novel coronavirus pneumonia (COVID-19).	ChiCTR2000030179	https://apps.who.int/trialsearch/Trial2.aspx?TrialID=ChiCTR2000030179
	A randomized, double-blind, parallel-controlled, trial to evaluate the efficacy and safety of anti-SARS-CoV-2 virus inactivated plasma in the treatment of severe novel coronavirus pneumonia patients (COVID-19).	ChiCTR2000030010	https://apps.who.int/trialsearch/Trial2.aspx?TrialID=ChiCTR2000030010
	Study for using the healed novel coronavirus pneumonia (COVID-19) patients plasma in the treatment of severe critical cases.	ChiCTR2000030627	http://www.chictr.org.cn/showproj.aspx?proj=50727
	Convalescent plasma for the treatment of severe and critical novel coronavirus pneumonia (COVID-19): a prospective randomized controlled trial.	ChiCTR2000029757	https://apps.who.int/trialsearch/Trial2.aspx?TrialID=ChiCTR2000029757
	Plasma of the convalescent in the treatment of novel coronavirus pneumonia (COVID-19) common patient: a prospective clinical trial.	ChiCTR2000030702	http://www.chictr.org.cn/showproj.aspx?proj=50537
	Cancelled by investigator: A randomized, open label, controlled and single center trial to evaluate the efficacy and safety of anti-SARS-CoV-2 inactivated convalescent plasma in the treatment of novel coronavirus pneumonia (COVID-19) patient.	ChiCTR2000030381	http://www.chictr.org.cn/showproj.aspx?proj=50290
	A randomized, double-blind, parallel-controlled trial to evaluate the efficacy and safety of anti-SARS-CoV-2 virus inactivated plasma in the treatment of severe novel coronavirus pneumonia (COVID-19).	ChiCTR2000030929	http://www.chictr.org.cn/showproj.aspx?proj=50696
	Clinical Study to assess positive value of blood plasma from donors having built immunity against the new corona virus (SARS-CoV-2) transfused to patients suffering from SARS-CoV-2 infection.	EUCTR2020-001310-38-DE	https://www.clinicaltrialsregister.eu/ctr-search/search?query=eudract_number:2020-001310-38
	Convalescent Plasma Trial in COVID -19 Patients.	NCT04356534	https://ClinicalTrials.gov/show/NCT04356534
	Comparison of The Therapeutic Effect of Convalescent Plasma and Plasma-derived Immunoglobulin-enriched solution on COVID-19 Patients	IRCT20200310046736N1	http://en.irct.ir/trial/46424
	Convalescent Plasma therapy for COVID-19 Patients.	IRCT20200325046860N1	http://en.irct.ir/trial/46759
	Efficacy and safety of convalescent plasma in the treatment of COVID-19.	IRCT20200404046948N1	http://en.irct.ir/trial/46973
	Effect of COVID 19 survivors plasma in COVID 19 patients with ARDS	IRCT20200409047007N1	http://en.irct.ir/trial/47058
	Comparison between the efficacy of intravenous immunoglobulin and convalescent plasma in COVID-19.	IRCT20200413047056N1	http://en.irct.ir/trial/47212
	Convalescent Plasma Compared to the Best Available Therapy for the Treatment of SARS-CoV-2 Pneumonia	NCT04358783	https://ClinicalTrials.gov/show/NCT04358783

	Plasma Therapy of COVID-19 in Critically Ill Patients	NCT04359810	https://ClinicalTrials.gov/show/NCT04359810
	Evaluation of SARS-CoV-2 (COVID-19) Antibody-containing Plasma therapy	NCT04361253	https://ClinicalTrials.gov/show/NCT04361253
	Convalescent Plasma to Limit COVID-19 Complications in Hospitalized Patients	NCT04364737	https://ClinicalTrials.gov/show/NCT04364737
	Clinical Trial to Evaluate the Efficacy of Treatment With Hyperimmune Plasma Obtained From Convalescent Antibodies of COVID-19 Infection	NCT04366245	https://ClinicalTrials.gov/show/NCT04366245
Immuno-globulins	Interest of early treatment with polyvalent immunoglobulins in the management of respiratory distress syndrome associated with SARS-CoV-2 infections_ COVID-19 - ICAR (IgIV in Covid-related ARds)	EUCTR2020-001570-30-FR	https://www.clinicaltrialsregister.eu/ctr-search/search?query=eudract_number:2020-001570-30
	IgIV in COVID-19 Related ARds (ICAR).	NCT04350580	https://ClinicalTrials.gov/show/NCT04350580
	The Efficacy of Intravenous Immunoglobulin Therapy for Severe 2019-nCoV Infected Pneumonia.	NCT04261426	https://ClinicalTrials.gov/show/NCT04261426
	The efficacy of intravenous immunoglobulin (IVIg) in patients with severe COVID-19 who have not responded to standard three-drug protocol.	IRCT20200325046859N1	http://en.irct.ir/trial/46811
	Intravenous immunoglobulin (IVIg) in the treatment of COVID-19-induced cytokine storm.	IRCT20200317046797N3	http://en.irct.ir/trial/47014
Blood donation	Recruit Blood Donors Via SMS During Epidemic of COVID-19.	NCT04370886	https://ClinicalTrials.gov/show/NCT04370886
Coagulopathy and thrombosis	Intermediate or Prophylactic-Dose Anticoagulation for Venous or Arterial Thromboembolism in Severe COVID-19.	NCT04367831	https://clinicaltrials.gov/show/NCT04367831
	Comparison of Two Doses of Enoxaparin for Thromboprophylaxis in Hospitalized COVID-19 Patients.	NCT04366960	https://clinicaltrials.gov/show/NCT04366960
	Antithrombotic Therapy to Ameliorate Complications of COVID-19 (ATTACC).	NCT04372589	https://ClinicalTrials.gov/show/NCT04372589
	Coagulopathy of COVID-19: A Pragmatic Randomized Controlled Trial of Therapeutic Anticoagulation Versus Standard Care	NCT04362085	https://ClinicalTrials.gov/show/NCT04362085
	Covid-19 Associated Coagulopathy	NCT04360824	https://ClinicalTrials.gov/show/NCT04360824
	A Randomized Trial of Anticoagulation Strategies in COVID-19	NCT04359277	https://clinicaltrials.gov/show/NCT04359277
	Study of antithrombin as prophylaxis of acute respiratory disease in patients with COVID-19	EUCTR2020-001659-42-ES	https://www.clinicaltrialsregister.eu/ctr-search/search?query=eudract_number:2020-001659-42
	Rhu-pGSN for Severe Covid-19 Pneumonia	NCT04358406	https://ClinicalTrials.gov/show/NCT04358406

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Haemo-therapy	Ozone Auto-hemotherapy for COVID-19 Pneumonia.	NCT04370223	https://clinicaltrials.gov/show/NCT04370223
	Effect of CytoSorb Adsorber on Hemodynamic and Immunological Parameters in Critical Ill Patients With COVID-19.	NCT04344080	https://ClinicalTrials.gov/show/NCT04344080
Haemoperfusion	Treatment of COVID-19-induced cytokine storm by hemoperfusion.	IRCT20200317046797N5	http://en.irct.ir/trial/4701546797N5
	Efficacy of HA330 Hemoperfusion in Critically Ill Patients with Severe COVID-19.	TCTR20200409006	http://www.clinicaltrials.in.th/index.php?tp=regtrials&menu=trialssearch&smenu=fulltext&task=search&task2=view1&id=6016
Plasma Exchange	Plasma Exchange in Patients With COVID-19 Disease and Invasive Mechanical Ventilation: a Randomized Controlled Trial.	NCT04374539	https://ClinicalTrials.gov/show/NCT04374539
	Plasma turnover in patients with COVID-19 disease and invasive mechanical ventilation.	EUCTR2020-001722-66-ES	https://www.clinicaltrialsregister.eu/ctr-search/search?query=eudract_number:2020-001722-66