Appendix 3. Intravenous Immunoglobulin (IVIG) Studies for COVID 19

Author/ Study Identifier	Study design	Intervention	Comparator	Population	Primary outcome	Results	Status	Source (hyperlink)
Hu H, et al.	Case report (China)	IVIG Methylprednisolone Norepinephrine Toracemide & furosemide Milrinone Sulbactam Pantoprazol	N/A	37y/o patient with pulmonary infection, enlarged heart, pleural effusion &(+) coronavirus nucleic acid test	Improvement in clinical status & laboratory parameters	The authors suggested that early glucocorticoid anti-inflammatory therapy & IVIG therapy may be of important value to this type of patient.	Published	https://academic.oup.com/eurheartj/advance-article/doi/10.1093/eurheartj/ehaa190/5807656
Zhao K, et al.	Case report (China)	IVIG Ganciclovir, Lopinavir/ritonavir, Moxifloxacin, Meropenem, Glutathione, Dexamethasone, Mecobalamine, Pantoprazole	N/A	66y/o with COVID-19 who developed acute myelitis	Clinical improvement, discharged for isolation & rehabilitation		Published	https://www.medrxiv.org/content/10.1101/2020.03.16.20035105v2
Zhou Z, et al.	Prospective cohort study (China)	IVIG Moderate-dose corticosteroid	N/A	COVID-19 patients who failed low dose Corticosteroid (CS) (10)	Improvement in clinical status & laboratory parameters	All patients achieved significant improvement in terms of vital signs, blood work, & the APACHE Ⅱ scores.	Published (Pre-print)	https://www.preprints.org/manuscript/202003.0065/v1

Author/ Study Identifier	Study design	Intervention	Comparator	Population	Primary outcome	Results	Status	Source (hyperlink)
Shao Z, et al.	Retrospective cohort study (China)	IVIG Subgroups: • IVIG >15g/day • IVIG <15g/day • IVIG given >7 days IVIG given ≤7 days	Standard care	Patients with COVID-19 ≥18y/o Subgroup: -Severe type -Critical type (325)	28-day & 60-day mortality	No improvement in 28-day and 60-day mortality -IVIG significantly decreased 28-day mortality in critical type patients -high dose IVIG (>15 g/d) significantly reduced 28-day & 60-day mortality -early use of IVIG (≤ 7d) significantly reduced the 60-day mortality	Published (Pre-print)	https://www.medrxiv.org/content/10.1101/2020.04.11.20061739v1.full.pdf
Cao W, et al.	Case series (China)	IVIG	N/A	Patients with COVID 19, severe type 34 – 56y/o (3)	Improvement in clinical status & laboratory parameters	The 3 cases were successfully treated by high-dose IVIG at the early stage of clinical deterioration.	Published	https://academic.oup.com/ofid/article/7/3/ofaa102/5810740

Author/ Study Identifier	Study design	Intervention	Comparator	Population	Primary outcome	Results	Status	Source (hyperlink)
Xie Y, et al.	Retrospective study (China)	IVIG < 48 hours after admission	IVIG > 48 hours after admission	COVID 19 with severe or critical illness (58)	28-day mortality	There was a statistically significant reduction in 28-day mortality between the two groups	Published	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7151471/pdf/main.pdf
Shi H, et al.	Case report (China)	Plasma exchange (PE) followed by IVIG	N/A	50y/o with laboratory-confirmed COVID-19 with respiratory failure, shock, persistent diarrhea despite conventional therapy	Improvement in clinical status & laboratory parameters after the 4th dose	Timely initiation of PE treatment followed by IVIG protected the patient from progressing to acute respiratory distress syndrome (ARDS) & multiple organ failure	Published	https://doi.org/10.1016/j.ijantimicag.2020.105974
Cui et al	Case report (China)	IVIG + Oseltamivir, Cefdinir, Lianhu Qingwen	N/A	35y/o male with Hemophilia A with pneumonia on CT scan	Clinical improvement	Asymptomatic with no increased bleeding events on follow-up	Published	https://onlinelibrary.wiley.com/doi/abs/10.1111/hae.14000
Moeinzadeh et al	Case report (Iran)	IVIG + methylprednisolone, Cyclophosphamide, HCQ, Plasmapheresis	N/A	25y/o male with glomerulonephritis, arthralgia and weakness	Improvement in clinical status & laboratory parameters	Discharged with no symptoms with stable creatinine level	Published	http://www.ijkd.org/index.php/ijkd/article/view/5537/1165

Author/ Study Identifier	Study design	Intervention	Comparator	Population	Primary outcome	Results	Status	Source (hyperlink)
LeVine S, et al.	Case report (Bhutan)	IVIG	N/A	76y/o immunocompromised with history of travel, developed GI symptoms & cough, RT-PCR (+); respiratory status deteriorated despite broad-spectrum antivirals, antibiotics, & intensive supportive care	Improvement in clinical status & laboratory parameters after the first dose		Published	https://doi.org/10.4269/ajtmh.20-0259
Patel et al	Case report (USA)	IVIG + azithromycin, HCQ, Tocilizumab, Remdesvir, Methylprednisolone, empiric antibiotics	N/A	12y/o female with severe respiratory failure and severe thrombocytopenia	Improvement in clinical status & laboratory parameters	Extubated and discharged improved	Published	http://pediatrics.aappublications.org/lookup/doi/10.1542/peds.2020-1437
Li et al	Case report (USA)	IVIG + azithromycin, HCQ, Tocilizumab, Remdesvir, Methylprednisolone, empiric antibiotics	N/A	39/M with Evans syndrome	Improvement in clinical status & laboratory parameters	with clinical improvement	Published	https://onlinelibrary.wiley.com/doi/abs/10.1111/bjh.16846

Author/ Study Identifier	Study design	Intervention	Comparator	Population	Primary outcome	Results	Status	Source (hyperlink)
Daneshpazhooh et al	Case report (Iran)	IVIG + prednisolone, HCQ, Oseltamivir, Lopinavir/Ritonavir, Meropenem, Vancomycin, Ribavirin, Levofloxacin,	N/A	43y/o Male with mucous membrane pemphigoid on MMF and Prednisolone	Improvement in clinical status & laboratory parameters	IVIG mainly considered for his pemphigoid condition. Discharged with significant improvement and recovery of lymphopenia	Published	https://www.tandfonline.com/doi/full/10.1080/09546634.2020.1764472
Ahmed et al	Case series (UK)	IVIG	N/A	50/M with severe ITP; 49/F with bruises and gum bleeding, and severe ITP; 96/F with AF, IHD, CKD, pneumonia thrombocytopenia	Improvement in clinical status & laboratory parameters	Improvement in 2, and death in 1.	Published	https://onlinelibrary.wiley.com/doi/abs/10.1111/bjh.16769
Scheidl et al	Case report (Germany)	IVIG	N/A	54/F with GBS	Improvement in clinical status & laboratory parameters	Recovery of neurologic condition	Published	https://onlinelibrary.wiley.com/doi/abs/10.1111/jns.12382
Anand et al	Case series (USA)	IVIG +Pred; one received HCQ and Ceftriaxone	N/A	90/F with dementia and MG, HPN; 42/F with hepatitis B and MG	Improvement in clinical status & laboratory parameters	Discharged improved	Published	https://onlinelibrary.wiley.com/doi/abs/10.1002/mus.26918

Author/ Study Identifier	Study design	Intervention	Comparator	Population	Primary outcome	Results	Status	Source (hyperlink)
Pfefferkorn et al	Case report (Germany)	IVIG and plasmapheresis	N/A	51/M with pneumonia and acute polyradiculoneuritis with locked-in syndrome	Clinical improvement	with some motor improvement but was still on MV	Published	http://link.springer.com/10.1007/s00415-020-09897-y
Delly et al	Case report (USA)	IVIG, Prednisone, HCQ also given AZT, Vancomycin, Cefepime	N/A	56/F with MG in crisis and CTD	Improvement in clinical status & laboratory parameters	with clinical improvement	Published	https://linkinghub.elsevier.com/retrieve/pii/S0022510X20302240
Su et al	Case report (USA)	IVIG, TMP-SMX	N/A	72/M with CAD, HPN, GBS and respiratory distress	Improvement in clinical status & laboratory parameters	still in the ICU	Published	https://onlinelibrary.wiley.com/doi/abs/10.1002/mus.26988
Bigaut et al	Case series (France)	IVIG	N/A	43/M with GBS; 70/F with GBS and respiratory failure	Clinical improvement	clinical improvement	Published	http://nn.neurology.org/lookup/doi/10.1212/NXI.0000000000000785
Afshar et al	Case report (Iran)	IVIG, Meropenem, Levofloxacin, Linezolid, HCQ, Atazanavir, Methylprednisolone	N/A	39/F with respiratory distress	Improvement in clinical status & laboratory parameters	with clinical improvement	Published	https://linkinghub.elsevier.com/retrieve/pii/S2211034820302923
Murt et al	Case report (Turkey)	IVIG and favipiravir	N/A	41/M with ITP	Improvement in clinical status & laboratory parameters	with clinical improvement	Published	https://onlinelibrary.wiley.com/doi/abs/10.1002/jmv.26138
Author/ Study	Study design	Intervention	Comparator	Population	Primary	Results	Status	Source

Identifier					outcome			(hyperlink)
Assini et al	Case series (Italy)	IVIG + idrossichlorochine, Arbidol, ritonavir, and lopinavir; IVIG + HCQ, antiretroviral therapy, tocilizumab	N/A	55/M with GBS/MF; 60/M with GBS and pneumonia	Improvement in clinical status	with clinical improvement	Published	http://link.springer.com/10.1007/s10072-020-04484-5
Parsons et al	Case report (USA)	IVIG + high dose steroids	N/A	51/F with ADEM	Improvement in clinical status	with clinical improvement	Published	http://link.springer.com/10.1007/s00415-020-09951-9
Novi et al	Case report (Italy)	IVIG + high dose steroids	N/A	64/F with ADEM	Improvement in clinical status	with clinical improvement	Published	http://nn.neurology.org/lookup/doi/10.1212/NXI.0000000000000797
Toubiana et al	Prospective observational (France)	IVIG or IVIG + Steroids	N/A	21 children and adolescents (3.7-16.6 y/o) with features of Kawasaki disease	Improvement in clinical status & laboratory parameters	with clinical improvement	Published	http://www.bmj.com/lookup/doi/10.1136/bmj.m2094
Ikuyama et al	Case report (Japan)	IVIG + Lopinavir/Ritonavir, Moxifloxacin, Piperacillin-Tazobactam, Peramivir, Vancomycin, Meropenem, Methylprednisolone	N/A	76/F with DM, HPN, and pneumonia, respiratory failure, renal failure	Improvement in clinical status & laboratory parameters	with clinical improvement	Published	https://linkinghub.elsevier.com/retrieve/pii/S2213007120301714
Author/ Study	Study design	Intervention	Comparator	Population	Primary	Results	Status	Source

Identifier					outcome			(hyperlink)
Lorenzo-Villalba et al	Case series (France)	IVIG + Eltrombopag	N/A	66/M with ITP and HPN; 57/F with ITP, HPN, Hypothyroidism	Improvement in clinical status & laboratory parameters	with clinical improvement	Published	https://www.ejcrim.com/index.php/EJCRIM/article/view/1702
Pouletty et al	Cohort (France)	IVIG or IVIG + Steroids	N/A	15 of 16 pediatric patients with kawasaki disease	Improvement in clinical status & laboratory parameters	None died. All achieved inflammatory remission. 2 still with mild cardiac dysfunction.	Published	http://ard.bmj.com/lookup/doi/10.1136/annrheumdis-2020-217960
Mohtadi et al	Case series (Iran)	IVIG or IVIG + Steroids; + HCQ antibiotics and antivirals	N/A	5 severe COVID-19 cases	Improvement in clinical status & laboratory parameters	with clinical improvement	Published	https://linkinghub.elsevier.com/retrieve/pii/S0042682220300933
Webb et al	Case report (UK)	IVIG	N/A	57/M with HPN, Psoriasis, and GBS	Improvement in clinical status & laboratory parameters	with clinical improvement but still on MV	Published	http://casereports.bmj.com/lookup/doi/10.1136/bcr-2020-236182
Virhammar et al	Case report (Sweden)	IVIG + plasma exchange; acyclovir	N/A	55/F with acute necrotizing encephalopathy	Improvement in clinical status & laboratory parameters	with clinical improvement	Published	http://www.neurology.org/lookup/doi/10.1212/WNL.0000000000010250
Sokolovsky et al	Case report (USA)	IVIG + methylprednisolone and aspirin	N/A	36/F with Kawasaki-like multisystem inflammatory disease	Improvement in clinical status & laboratory parameters	with clinical improvement	Published	https://linkinghub.elsevier.com/retrieve/pii/S0735675720305428
Author/ Study	Study design	Intervention	Comparator	Population	Primary	Results	Status	Source

Identifier					outcome			(hyperlink)
Tiet and Alshaikh	Case report (UK)	IVIG	N/A	49/M with GBS	Improvement in clinical status	with clinical improvement	Published	http://casereports.bmj.com/lookup/doi/10.1136/bcr-2020-236536
Artru et al	Case report (Switzerland)	IVIG + Dexamethasone, HCQ, Co-amoxiclav	N/A	38/M with obesity and ITP	Improvement in clinical status & laboratory parameters	with clinical improvement	Published	http://casereports.bmj.com/lookup/doi/10.1136/bcr-2020-236815
Revuz et al	Case series (France)	IVIG	N/A	57/F with pneumonia and ITP; 76/M with metastatic brochiolar adenoCA and ITP; 39/M with ITP	Improvement in clinical status & laboratory parameters	with clinical improvement	Published	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7350967/
Bennett et al	Case report (USA)	IVIG and dexamethasone	N/A	73/F with HPN, hyperlipidemia, seasonal allergies, and ITP	Improvement in clinical status & laboratory parameters	with clinical improvement	Published	https://www.cureus.com/articles/33674-immune-thrombocytopenia-purpura-secondary-to-covid-19
Deruelle et al	Case report (France)	IVIG and methylprednisolone, heparin	N/A	41/M with ARDS and ITP	Improvement in clinical status & laboratory parameters	with clinical improvement	Published	http://link.springer.com/10.1007/s12185-020-02943-5
Klocperk et al	Case report (Czech Republic)	IVIG + methylprednisolone	N/A	8/F with PIMS-TS	Improvement in clinical status & laboratory parameters	with clinical improvement	Published	https://www.frontiersin.org/article/10.3389/fimmu.2020.01665/full
Author/ Study	Study design	Intervention	Comparator	Population	Primary	Results	Status	Source

Identifier					outcome			(hyperlink)
Abe et al	Case series (Japan)	IVIG, Tocilizumab; IVIG + favipiravir, tocilizumab	N/A	60/M with ESRD and severe pneumonia; 68/F with ESRD and severe pneumonia	Improvement in clinical status & laboratory parameters	with clinical improvement	Published	http://link.springer.com/10.1007/s13730-020-00512-7
Ye et al	Case report (Italy)	IVIG + IFNa2b inhalation, Arbidol, Thymosin, lopinavir/ritonavir	N/A	72/F with CLL and severe pneumonia	Improvement in clinical status & laboratory parameters	with clinical improvement	Published	https://www.frontiersin.org/article/10.3389/fonc.2020.01272/full
Rein et al	Case series (Israel)	IVIG + prednisone and pyridostigmine	N/A	38/F, 65/M and 42/F with MG;	Improvement in clinical status & laboratory parameters	with clinical improvement	Published	https://linkinghub.elsevier.com/retrieve/pii/S0022510X20303907
Hindilerden et al	Case report (Turkey)	IVIG + favipiravir, azithromycin, prednisolone	N/A	86/M with HPN, DM and severe pneumonia	Improvement in clinical status & laboratory parameters	with clinical improvement	Published	https://www.frontiersin.org/article/10.3389/fmed.2020.00404/full
Raut et al	Case report (India)	IVIG + aspirin, azithromycin	N/A	5mo/M with incomplete KD	Improvement in clinical status & laboratory parameters	with clinical improvement	Published	https://academic.oup.com/tropej/advance-article/doi/10.1093/tropej/fmaa047/5881351
Martincic et al	Case report (Slovenia)	IVIG + dexamethasone, lopinavir/ritonavir, HCQ, Piperacillin/tazobactam	N/A	48/M with DM, obesity, OSA and pneumonia and thrombocytopenia	Improvement in clinical status & laboratory parameters	with clinical improvement	Published	https://linkinghub.elsevier.com/retrieve/pii/S1201971220306330
Author/ Study	Study design	Intervention	Comparator	Population	Primary	Results	Status	Source

Identifier					outcome			(hyperlink)
Gruber et al	Case series (USA)	7 received IVIG	N/A	8 children (median ae of 11.5 y/o)	Improvement in clinical status & laboratory parameters	with clinical improvement	Pre-print	https://www.medrxiv.org/content/10.1101/2020.07.04.20142752v1
Lee et al	Retrospective (USA)	20 received IVIG, 17 received steroids, 5 received anakinra	N/A	28 children with MIS-C (median 9y/o, range 1mo - 17y/o)	Improvement in clinical status & laboratory parameters	with clinical improvement	Published	http://www.jci.org/articles/view/141113
Liu et al	Retrospective (Hong Kong)	61/109 received IVIG; 72/109 received steroids	N/A	109 confirmed COVID-19 cases (mean age 55y/o; range 22-94)	Improvement in clinical status & laboratory parameters	no significant effect on in-hospital survival in pts wit ARDS	Published (Pre-print)	https://www.medrxiv.org/content/10.1101/2020.02.17.20024166v3
Chen et al	Case report (China)	IVIG + dexamethasone	N/A	38/M with severe thrombocytopenia	Improvement in clinical status & laboratory parameters	with clinical improvement	Published	https://linkinghub.elsevier.com/retrieve/pii/S2352302620301757
Zulfiqar et al	Case report (France)	IVIG + heparin, antibiotics, prednisolone, eltrombopag	N/A	65/F with HPN, autoimmune hypothyroidism and pneumonia, cerebral bleeding	Improvement in clinical status & laboratory parameters	with clinical improvement	Published	http://www.nejm.org/doi/10.1056/NEJMc2010472
Bomhof et al	Case series (Netherlands)	IVIG + dexamethasone	N/A	59/M with stage IV NET, 66/F with HPN. Both with ITP.	Improvement in clinical status & laboratory parameters	with clinical improvement	Published	https://onlinelibrary.wiley.com/doi/abs/10.1111/bjh.16850

Appendix 4. Convalescent Plasma (CP) Studies for COVID 19

Author/ Study Identifier	Study design	Intervention	Comparator	Population	Primary outcome	Results	Status	Source (hyperlink)
Duan K, et al	Case series (China)	CP	NA	Patients with severe COVID 19 (10)	Safety of CP transfusion; improvement of clinical symptoms & laboratory parameters within 3 days after CP transfusion	No serious adverse events; 10 patients improved in 1-3 days; reduced pulmonary lesion on CT; amelioration of routine blood tests & pulmonary function; Increase IgG & (-) SARS-CoV-2	Published (Pre-rpint)	https://www.pnas.org/content/pnas/117/17/9490.full.pdf
Shen C, et al.	Case series (China)	CP + anti-viral agents + Methylprednisolone + IFN α 1b	NA	Critically ill patients with COVID 19 (5)	Before and after CP transfusion: -Changes in body temp. -Sequential Organ Failure Assessment (SOFA) score -PaO2/FiO2 -Viral load, serum ab titers, routine blood tests index -ventilatory/ ECMO support	After CP: -normal body temp. D3 -SOFA score decreased -PaO2/FiO2 improved D7 -CRP, procalcitonin & IL 6 decreased -ARDS resolved D12 -weaned ventilator D14 -discharged/ stable D37	Published	https://www.ncbi.nlm.nih.gov/pubmed/32219428
Author/ Study Identifier	Study design	Intervention	Comparator	Population	Primary outcome	Results	Status	Source (hyperlink)

Joyner M, et al.	Expanded Access, open label, cohort (US)	CP with higher antibody level transfused within 3 days from diagnosis	CP with lower antiboy level transfused after 3 days from diagnosis	COVID 19 >18 y/o (3,082)	7 & 30-day mortality	Lower mortality rates among those who received CP with higher antibody level & among those who received CP earlier	Published (Pre-print: Initial 3-month experience)	https://clinicaltrials.gov/ct2/show/NCT04338360

Appendix 5. Alpha-1 (α1) Adrenergic Receptor Antagonist Study for COVID

Author/ Study Identifier	Study design	Intervention	Comparator	Population	Primary outcome	Results	Status	Source (hyperlink)
Konig MF, et al.	Retrospective cohorts	α1-AR antagonists	Without α1-AR antagonists	COVID 19 adults on α1-AR antagonists 1st cohort (13,125); 2nd cohort (108,956)	Preventing poor outcomes resulting from pulmonary hyper-inflammatory responses	Support a clinical rationale in preventing severe COVID-19 & states of immune dysregulation	Published	https://www.medrxiv.org/content/10.1101/2020.04.02.20051565v2.full.pdf

Appendix 6-A. Antiviral Agent Studies for COVID 19: Favipiravir

Author/ Study Identifier	Study design	Intervention	Comparator	Population	Primary outcome	Results	Status	Source (hyperlink)
Chen C, et al.	Randomized, open label parallel assignment (China)	Favipiravir	Arbidol	COVID 19 18 – 99y/o (239)	Clinical recovery rate	Favipiravir: : no significant improvement in clinical recovery rate compared to Arbidol.	Published	https://www.medrxiv.org/content/10.1101/2020.03.17.20037432v4.full.pdf
Author/ Study Identifier	Study design	Intervention	Comparator	Population	Primary outcome	Results	Status	Source (hyperlink)

Cai Q, et al.	Non randomized Open label (China)	Favipiravir	LPV/r	COVID 19 16-75y/o (59)	Viral clearance; radiologic improvement	Favipiravir group appeared to have faster viral clearance & better chest imaging change compared to LPV/r.	Published	https://doi.org/10.1016/j.eng.2020.03.007

Appendix 6-B. Antiviral Agent Studies for COVID 19: Lopinavir/Ritonavir (LPV/r)

Author/ Study Identifier	Study design	Intervention	Comparator	Population	Primary outcome	Results	Status	Source (hyperlink)
Cao B, et al.	Randomized, open label, parallel assignment (China)	LPV/r	Standard Care	Severe COVID 19 >18y/o (199)	Time to clinical improvement & detectable viral RNA	No difference in the time to: - clinical improvement - detectable viral RNA	Published	https://www.nejm.org/doi/full/10.1056/NEJMoa2001282
Yuan, J, et al.	Retrospective descriptive (correlation) (China)	LPV/r + Ribavirin + IFN α	LPV/r + IFN α	Discharged COVID 19 7-39y/o (94)	Viral clearance & biochemical outcomes of discharge COVID 19	SARS COv-2 conversion time was correlated with length of hospital stay & decline in CK & LDH between 2 groups, suggesting benefit for COVID 19	Published	https://link.springer.com/article/10.1007%2Fs00011-020-01342-0
Author/ Study Identifier	Study design	Intervention	Comparator	Population	Primary outcome	Results	Status	Source (hyperlink)

Li Y, et al.	Randomized, open label parallel assignment (China)	LPV/r; Arbidol	Standard care	Mild-moderate COVID 19 18-80 y/o (86)	At D7 & 14: -average time of (+) to (-) conversion of SARS-CoV-2 nucleic acid -improve-ment in symptoms & chest CT	No difference in: 1. (+) to (-) conversion rate; 2. improve-ment in symptoms & chest CT; more patients on LPV/r progressed to severe/critical status	Published (Pre-print)	https://www.medrxiv.org/content/10.1101/2020.03.19.20038984v2.full.pdf+html

Appendix 6-C. Antiviral Agent Studies for COVID 19: Remdesivir

Author/ Study Identifier	Study design	Intervention	Comparator	Population	Primary outcome	Results	Status	Source (hyperlink)
Grein J, et al.	Cohort study (US, Japan, Europe, Canada)	Remdesivir	NA	Severe COVID 19 23 – 52y/o (53)	Clinical improvement	Improvement observed in 36 of 53 patients (68%).	Published	https://www.nejm.org/doi/full/10.1056/NEJMoa2007016
Wang Y, et al.	Randomized, quadruple double blind, parallel assignment (China)	Remdesivir	Placebo	COVID 19 patients ≥18 y/o (237)	Time to clinical improvement	No significant benefits for remdesivir over standard care	Published	https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)31022-9/fulltext
Goldman,JD et al (NCT04292899)	Randomized, open label, parallel assignment (USA)	Remdesivir	Standard care	COVID 19 patients > 12y/o (6,000)	Odds of ratio for Improvement on a 7-point Ordinal Scale on D14	No significant difference between a 5-day course and a 10-day course of remdesivir.	Published	https://www.nejm.org/doi/full/10.1056/NEJMoa2015301
Author/ Study Identifier	Study design	Intervention	Comparator	Population	Primary outcome	Results	Status	Source (hyperlink)

NCT04280705 (NIH)	Randomized, double blind, parallel assignment (USA)	Remdesivir	Placebo	COVID 19 patients 18 – 99 y/o (1,063)	% of subjects reporting each severity rating	31% had faster time to recovery than placebo; median time to recovery (11 days) than placebo (15 days); mortality rate (8.0%) than placebo (11.6%)	Published	https://www.nih.gov/news-events/news-releases/nih-clinical-trial-shows-remdesivir-accelerates-recovery-advanced-covid-19

Appendix 6-D. Antiviral Agent Studies for COVID 19: Ribavirin

Author/ Study Identifier	Study design	Intervention	Comparator	Population	Primary outcome	Results	Status	Source (hyperlink)
Hung IFN, et al.	Randomized, open-label, Parallel assignment (Hongkong)	LPV/r + Ribavirin + IFN β-1B	LPV/r	Hospitalized Patients with COVID 19 ≥18 y/o (127)	Time to negative NPS for SARS-Cov-2 viral RT-PCR	LPV/r + Ribavirin + IFN β1B were safe & superior to LPV/r in shortening virus shedding, alleviating symptoms & facilitating discharge of patients with mild to moderate COVID 19.	Published	https://clinicaltrials.gov/ct2/show/NCT04276688?cond=interferon+in+covid-19&draw=2&rank=11
Author/ Study Identifier	Study design	Intervention	Comparator	Population	Primary outcome	Results	Status	Source (hyperlink)

Yuan, J, et al.	Retrospective descriptive (correlation) (China)	LPV/r + Ribavirin + IFN α	LPV/r + IFN α	Discharged COVID 19 7-39y/o (94)	Viral clearance & biochemical outcomes of discharge COVID 19	SARS COv-2 conversion time was correlated with length of hospital stay & decline in CK & LDH between 2 groups, suggesting benefit for treatment	Published	https://link.springer.com/article/10.1007%2Fs00011-020-01342-0

Appendix 6-E. Antiviral Agent Studies for COVID: Umifenovir (Arbidol)

Author/ Study Identifier	Study design	Intervention	Comparator	Population	Primary outcome	Results	Status	Source (hyperlink)
Li L, et al.	Retrospective cohort (China)	Arbidol	LPV/r + IFN	COVID 19 >18y/o (111)	Viral clearance, radiologic improvement; O2 therapy requirement	Arbidol could enhance viral clearance, chest CT improvement & reduce demand for O2 therapy	Published	https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3542148
Zhang J, et al.	Retrospective case control (China)	Arbidol	Oseltamivir	Family members (66) or health care workers w/o std respiratory protection (124) exposed to COVID-19	Occurrence of fever or respiratory symptoms within 24 days of exposure & confirmed by RT-PCR	Arbidol could reduce the infection risk	Published	http://www.chinaxiv.org/abs/202002.00065
Author/ Study Identifier	Study design	Intervention	Comparator	Population	Primary outcome	Results	Status	Source (hyperlink)

Zhu Z, et al.	Retrospective (China)	Arbidol	LPV/r	COVID 19 >18y/o (50)	Detection of viral load on day 7 and day 14	No difference in fever duration; arbidol group had shorter duration of (+) RNA test compared to LPV/r	Published	https://doi.org/10.1016/j.jinf.2020.03.060

Appendix 7. Azithromycin + Hydroxychloroquine (HCQ) Studies for COVID 19

Author/ Study Identifier	Study design	Intervention	Comparator	Population	Primary outcome	Results	Status	Source (hyperlink)
Geleris J et al	Observation-al, prospective (USA)	HCQ + Statin or ACEi or ARB or CS or Anticoagulant or Azithromycin or Remdesivir or Tocilizumab	Statin; ACEi or ARB; CS; Anticoagulant Azithromycin; Remdesivir; Tocilizumab	Hospitalized COVID 19 Adults (1,376)	Intubation or Death	No significant association between HCQ use & intubation or death.	Published	https://www.nejm.org/doi/full/10.1056/NEJMoa2012410?query=RP
Gautret P, et al.	Non-randomized, open label, parallel assignment (France)	HCQ; HCQ + Azithromycin	Standard care	Hospitalized COVID 19 patients >12 y/o (36)	Viral clearance at D6 post inclusion	Viral clearance at D6: HCQ + Azithromycin (100%); HCQ (57%); Control (12.5%). Effect is reinforced by Azithromycin.	Published	https://www.sciencedirect.com/science/article/pii/S0924857920300996?via%3Dihub
Author/ Study Identifier	Study design	Intervention	Comparator	Population	Primary outcome	Results	Status	Source (hyperlink)

Lane J, et al	Cohort studies; self-controlled case series (Germany, Japan, Netherlands, Spain, UK, USA)	HCQ + Azithromycin	Sulfasalazine + Amoxicillin	Rheumatoid arthritis patients ≥18y/o (1,941,802)	Intention to treat & risk of SAEs associated with short-term use	Addition of Azithromycin: prolonged hospital stay - heart failure & cardio-vascular mortality (synergistic effects on QT length)	Published (Pre-print)	https://doi.org/10.1101/2020.04.08.20054551
Gautret P, et al.	Observation-al, prospective (France)	HCQ + Azithromycin	NA	COVID-19 >18 y/o (80)	Disease progression, need for oxygen, ICU admission	Death (1); Discharge (81.25%); Virologic clearance on day 7 (83%); Mean length hospital stay (5 days); O2 therapy (12); Transferred to ICU (3) AE: nausea, vomiting, diarrhea	Published	https://www.sciencedirect.com/science/article/pii/S0924857920300996?via%3Dihub
Chorin E, et al.	Observation-al retrospective (USA)	HCQ + Azithromycin	None	COVID-19 >18 y/o (84)	Change in QT interval	Prolonged QTc (11%)	Published (Pre-print)	https://doi.org/10.1101/2020.04.02.20047050
Molina JM, et al.	Observation-al, prospective (France)	HCQ + Azithromycin	NA	Severe COVID-19 Adults (11)	Virologic presence after D6-7 of treatment	(+) virus in NPS on D7 of treatment (8/10)	Published	https://doi.org/10.1016/j.medmal.2020.03.006

Appendix 8. Calcineurin Inhibitors Studies for COVID 19: Cyclosporin A, Tacrolimus

Author/ Study	Study design	Intervention	Comparator	Population	Primary	Results	Status	Source

Identifier					outcome			(hyperlink)
Banerjee D, et al	Case series (United Kingdom)	Tacrolimus + Azathioprine + CS; Azathioprine + CS; Tacrolimus + MMF	NA	COVID-19 who underwent renal transplant 45 – 69y/o (7)	Effect of immune-suppressive therapy on COVID 19 patients undergoing renal transplant	Suggest to suspend kidney transplant during the pandemic for high-risk recipients with comorbidities	Published	https://www.kidney-international.org/article/S0085-2538(20)30361-6/fulltext
Ning L, et al.	Case report (China)	Cyclosporin + LPV/r + CS	NA	COVID 19 who underwent renal transplant 29y/o (1)	Clinical presentation, severity & outcome of COVID 19 with solid organ transplant	Clinical recovery with no significant complications	Published	https://onlinelibrary.wiley.com/doi/epdf/10.1111/ajt.15897
Bhoori S, et al.	Case series (Italy)	Cyclosporine; Tacrolimus	NA	COVID 19 post-liver transplant >65y/o (3)	Effects of immuno-suppressive therapy on post liver transplant recipients	All 3 patients died who rapidly developed ARDS	Published	https://www.thelancet.com/pdfs/journals/langas/PIIS2468-1253(20)30116-3.pdf

Appendix 9. Corticosteroids (CS) Studies for COVID 19: Methylprednisolone

Author/ Study Identifier	Study design (Country)	Intervention	Comparator	Population (Sample size)	Primary outcome	Results	Status	Source (hyperlink)
Wang Y, et al.	Observation-al, retrospective (China)	Methyl-prednisolone	Standard care	Severe COVID 19 pneumonia (46)	Clinical & radiographic outcome of treatment w/ or w/o CS	Early short term & low dose CS: faster improvement	Published (Pre-print)	https://www.researchgate.net/publication/339892221
Author/ Study Identifier	Study design (Country)	Intervention	Comparator	Population (Sample size)	Primary outcome	Results	Status	Source (hyperlink)
Zhou ZG, et	Case series	Methylpredni	NA	Patients with	Reversion of	Short-term	Published	https://www.p

al	(China)	solone moderate dose + IVIG		COVID 19 who have failed low dose CS (10)	continued deterioration of COVID-19 patients.	mod-dose CS + IVIG is effective for reversing the continued deterioration of COVID-19 patients.	(Pre-print)	reprints.org/manuscript/202003.0065/v1

Appendix 10. Hydroxychloroquine (HCQ) and Chloroquine (CQ) Studies for COVID 19

Author/ Study Identifier	Study design	Intervention	Comparator	Population	Primary outcome	Results	Status	Source (hyperlink)
Zhaowei C, et al.	Randomized, Open label, parallel assignment (China)	HCQ	Standard care	COVID-19 with pneumonia >18 y/o (62)	Normalization of body temperature, cough relief, CT changes	Normal body temperature: HCQ (2.2 days); Cough relief HCQ (2.0 days); Progression to severe illness: HCQ (0); CT improvement: HCQ (25); Adverse effects with HCQ: rash (1), Headache (1)	Published (Pre-print)	https://doi.org/10.1101/2020.03.22.20040758
Author/ Study Identifier	Study design	Intervention	Comparator	Population	Primary outcome	Results	Status	Source (hyperlink)
Chen J, et al.	Randomized,	HCQ	Standard	Patients with	Negative	No significant	Published	http://www.zju

	open label, parallel assignment (China)		care	COVID 19 (30)	conversion rate of COVID 19 nucleic acid in respiratory pharyngeal swab on D7 after randomiza-tion.	difference in (-) nucleic acid throat swab, median duration from admission to virus nucleic acid (-) conversion, median time for normal body temp & radiological progression in CT images		journals.com/med/EN/10.3785/j.issn.1008-9292.2020.03.03
Borba MG, et al.	Randomized double blind, quadruple; parallel assignment (Brazil)	CQ (high dosage)	CQ (low dosage) + placebo	COVID 19 ≥18y/o (440)	Mortality rate reduction of 50% by D28	High dose CQ + Azithromycin is not recommend-ed for critically ill COVID 19: Lethality until Day 13 (39% in high vs 15% in low dose); QTc prolongation (18.9% high vs 11.1% low dose)	Published	https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2765499?utm_campaign=articlePDF%26utm_medium%3darticlePDFlink%26utm_source%3darticlePDF%26utm_content%3djamanetworkopen.2020.8857
Author/ Study Identifier	Study design	Intervention	Comparator	Population	Primary outcome	Results	Status	Source (hyperlink)
Mahévas M,	Observation-	HCQ in 1st 48	Standard	COVID-19	Transfer to	Death or	Pre print	https://doi.org

et al.	al, retrospective (France)	hours after hospitalisa-tion	care	pneumonia 18-80 y/o (181)	ICU within 7 days of inclusion and/or death from any cause	transfer to ICU: HCQ (20.2%) Non-HCQ (22.1%); Death in 7 days: HCQ (2.8%) Non-HCQ (4.6%); Harm w/ QTc prolongation (8), AV block (1), LBBB (1)	(Pre-print)	/10.1101/2020.04.10.20060699
Gao J, et al.	Randomized control, parallel assignment (China)	CQ	Standard care	COVID 19 (>100)	Clinical improvement	Reduced symptom duration; inhibited pneumonia exacerbation; improved lung function; virus (-) conversion; w/o severe side effects	Published	https://www.jstage.jst.go.jp/article/bst/14/1/14_2020.01047/_article

Appendix 11. Interferons (IFNs) Studies for COVID 19: IFN-α, IFN-β

Author/ Study Identifier	Study design	Intervention	Comparator	Population	Primary outcome	Results	Status	Source (hyperlink)
Qiu et al.	Retrospective cohort study (China)	IFN α + LPV/r	NA	Mild-moderate COVID 19 0-16y/o (36)	Clinical presentation; diagnostic findings; therapy & outcome	Pneumonia improved at D4–10; (-) NPS after 10 days;14 days admitted	Published	https://www.thelancet.com/action/showPdf?pii=S1473-3099%2820%2930198-5
Author/ Study Identifier	Study design	Intervention	Comparator	Population	Primary outcome	Results	Status	Source (hyperlink)

Zhou Q e al.	Non-randomized, retrospective (China)	IFN α-2B + Arbidol	IFN α-2B; Arbidol	COVID 19 Adults (77)	Clinical improvement	IFN-α 2b + arbidol reduced the duration of (+) SARS Cov-2 on NPS & of elevated IL-6 & CRP	Published	https://www.medrxiv.org/content/10.1101/2020.04.06.20042580v1.full.pdf+html
Hung IFN, et al.	Randomized, open-label, parallel assignment (Hongkong)	LPV/r + Ribavirin + IFN β-1B	LPV/r	Hospitalized Patients with COVID 19 ≥18 y/o (127)	Time to negative NPS for SARS-Cov-2 viral RT-PCR	LPV/r + Ribavirin + IFN β1B were safe & superior to LPV/r in shortening virus shedding, alleviating symptoms & facilitating discharge of patients with mild to moderate COVID 19.	Published	https://clinicaltrials.gov/ct2/show/NCT04276688?cond=interferon+in+covid-19&draw=2&rank=11
Huang YQ, et al.	Randomized, open labeled,	Ribavirin + IFN-α	LPV/r + IFN-α; Ribavirin + LPV/r + IFN-α	Mild to moderate COVID-19 18–65 y/o (101)	Difference in the interval from baseline to (-) NPS SARS-CoV-2 nucleic acid	No significant differences among the three regimens in terms of antiviral effectiveness in patients with mild to moderate COVID-19.	Published	file:///C:/Users/Vicky/Downloads/fphar-11-01071%20(1).pdf
Author/ Study Identifier	Study design	Intervention	Comparator	Population	Primary outcome	Results	Status	Source (hyperlink)

Monfared ED, et al.	Randomized, open label, Parallel assignment (Iran)	IFN β-1a	Standard care	COVID-19 ≥ 18 y/o (42)	Time to reach clinical response	No change in the time to reach clinical response; increased discharge rates on D14 & decreased 28-day mortality in treatment group. IFN significantly improved survival if given early.	Published	https://aac.asm.org/content/aac/early/2020/07/08/AAC.01061-20.full.pdf
Dastan F, et al.	Prospective non-controlled (Iran)	IFN-β-1a	NA	COVID-19 ≥ 18 y/o (20)	Symptoms remission	Significant decrease in viral clearance in 10 days; imaging studies with significant recovery after 14 days in all patients; no deaths or significant adverse drug reactions	Published	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7275997/pdf/main.pdf

Appendix 12-A. Targeted Monoclonal Antiboy Studies for COVID 19: Anti-IL1: Anakinra

Author/ Study Identifier	Study design	Intervention	Comparator	Population	Primary outcome	Results	Status	Source (hyperlink)
Franzetti M, et al.	Case report (Italy)	Anakinra with Remdesivir	N/A	57-year old man with severe COVID-19 who refused ventilatory support	Improvement in clinical & laboratory parameters	Potential role of anakinra in treatment of respiratory dysfunction in COVID-19	Published	https://www.sciencedirect.com/science/article/pii/S1201971220303057X
Filocamo G, et al.	Case report (Italy)	Anakinra	N/A	50-year old man with COVID-19 who developed hepatic involvement	Improvement in clinical and laboratory parameters	The patient improved but developed bacteremia; anakinra is effective and safe.	Published	https://www.sciencedirect.com/science/article/pii/S1201971220303337
Karadeniz H, et al.	Case report (Turkey)	Anakinra	N/A	33-year-old male affected by COVID-19 complicated by pericarditis	Clinical and laboratory improvement after unsuc-cessful colchicine and indomethacin therapy	Anakinra is an effective and reliable option in COVID-19-associated pericarditis	Published	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7391046/
Cauchois R, et al.	Prospective cohort (USA)	Anakinra	Standard care (10)	COVID-19 pneumonia in patients with a positive PCR (12)	Clinical improvement	Significant clinical improvement consisting of the NEWS score at day 5 ($p<0.01$)	Published	https://www.pnas.org/content/early/2020/07/21/2009017117
Gonzalez-Garcia A, et al.	Case report (Spain)	Anakinra	N/A	47-y/o man with COVID-19, asthma & intolerance to CS	Clinical improvement	High dose SC anakinra had no safety problems.	Published	https://academic.oup.com/rheumatology/article/59/8/2171/5860797
Author/ Study	Study design	Intervention	Comparator	Population	Primary	Results	Status	Source

Identifier					outcome			(hyperlink)
Dimopoulos G, et al.	Case series (Greece)	Anakinra	N/A	COVID-19 patients with secondary hemophago-cytic lymphohistio-cytosis (8)	Severe respiratory failure leading to mechanical ventilation and death	All patients had improve-ment in their respiratory function at the end of treat-ment (7 days) but 3 patients later died of refractory shock (mortality still lower than historical series of patients with sHLH in sepsis)	Published	https://www.cell.com/cell-host-microbe/fulltext/S1931-3128(20)30289-4?_returnURL=https%3A%2F%2Flinkinghub.elsevier.com%2Fretrieve%2Fpii%2FS1931312820302894%3Fshowall%3Dtrue
Huet T, et al.	Retrospective cohort study (France)	Anakinra	Standard of care using historical control (44)	COVID-19 patients >18 y/o with severe COVID-19-related bilateral pneumonia (52)	Need for admission to the ICU with invasive mechanical ventilation or death	Need for invasive mechanical ventilation or death occurred in 13 (25%) of 52 patients in the anakinra group compared with 32 (73%) of 44 patients in the historical group (HR 0.22 [95% CI 0.11–0.41; p<0.0001)	Published	https://www.thelancet.com/journals/lanrhe/article/PIIS2665-9913(20)30164-8/fulltext
Author/ Study	Study design	Intervention	Comparator	Population	Primary	Results	Status	Source

Identifier					outcome			(hyperlink)
Navarro-Millan I, et al.	Retrospective case series (USA)	Anakinra	N/A	Patients with COVID-19, AHRF, and signs and symptoms of CSS (14)	Prevention of mechanical ventilation (MV)	8 of 14 patients treated with early initiation of anakinra did not require MV or avoided recurrent MV; 3 patients with late-initiation of anakinra required MV; 3 patients who did not receive anakinra required MV	Published	https://doi.org/10.1002/art.41422
Figuero-Pérez L, et al.	Case report (Spain)	Anakinra	N/A	51 y/o man with COVID 19, COPD, liver cirrhosis & rectal CA refractory to antiviral & anti-IL-6	Clinical improvement	The patient had clinical improvement in 48 hours	Published	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7298486/
Pontali E, et al.	Case series (Italy)	Anakinra	N/A	COVID-19 patients (5)	Resolution of systemic inflammation and improve-ment in respiratory parameters	All 5 patients experienced rapid resolution of systemic Inflammation & remarkably improved in respiratory parameters	Published	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7211718/
Author/ Study Identifier	Study design	Intervention	Comparator	Population	Primary outcome	Results	Status	Source (hyperlink)

Cavalli G, et al.	Retrospective cohort study (Italy)	Anakinra	Standard treatment (16)	COVID-19 patients >18 y/o with moderate to severe ARDS	Survival	At D21: survival was 90% in the high-dose anakinra group & 56% in the standard treatment group. Treatment with low dose anakinra was stopped after 7 days due to paucity of effects in CRP & clinical status.	Published	https://doi.org/10.1016/S2665-9913(20)30127-2
Day JW, et al.	Case series (United Kingdom)	Anakinra	N/A	three patients with acute leukaemia and confirmed or suspected COVID-19 pneumonia with a life-threatening hyper-inflammatory syndrome	Clinical improvement	IL-1 blockade with anakinra was safe and resulted in clinical improvement in patients with acute leukemia	Published	https://onlinelibrary.wiley.com/doi/full/10.1111/bjh.16873
Author/ Study Identifier	Study design	Intervention	Comparator	Population	Primary outcome	Results	Status	Source (hyperlink)

Aouba A, et al.	Prospective case series (France)	Anakinra	N/A	Moderate to severe COVID-19 pneumonia at high risk of worsening >18 y/o (9)	Avoidance of mechanical ventilation	1 patient developed acute respiratory failure after 1 dose; the 8 other patients had good clinical & biologic outcomes	Published	https://ard.bmj.com/content/annrheumdis/early/2020/05/05/annrheumdis-2020-217706.full.pdf
Langer-Gould, et al.	Retrospective cohort study (USA)	Anakinra	Tocilizumab	COVID 19 treated with at least 1 dose of tocilizumab or anakinra to treat cytokine storm (93)	Treatment failure (death) & treatment response	The risk of death was lower in anakinra group than tocilizumab group; % of anakinra treatment responders was higher; this difference did not reach statistical sig-nificance	Published (Pre-print)	https://pubmed.ncbi.nlm.nih.gov/32768693/

Appendix 12-B. Targeted Monoclonal Antibody Studies for COVID 19: Anti-IL-6: Tocilizumab

Author/ Study Identifier	Study design	Intervention	Comparator	Population	Primary outcome	Results	Status	Source (hyperlink)
Sciascia S et al.	Prospective open label, single-arm (Italy)	Tocilizumab	NA	Severe COVID 19 50 -74y/o (63)	Improvement in clinical & laboratory parameters	Associated w/ increased likelihood of survival within 6 days of ttreatment	Published	https://www.clinexprheumatol.org/article.asp?a=15723
Author/ Study	Study design	Intervention	Comparator	Population	Primary	Results	Status	Source

Identifier					outcome			(hyperlink)
Xu et al.	Observation-al, prospective (China)	Tocilizumab + LPR + Methylpred-nisolone	NA	Severe or critical COVID-19 (21)	Normaliza-tion of body temperature, O2 sat & improvement in CT scan findings	After day 1 of Tocilizumab: normal temperature; improved SpO_2 & resolution of lung opacities	Published	http://www.chinaxiv.org/abs/202003.00026

Appendix 12-C. Targeted Monoclonal Antibody Studies for COVID 19: JAK 1 and 2 Inhibitors: Baricitinib

Author/ Study Identifier	Study design	Intervention	Comparator	Population	Primary outcome	Results	Status	Source (hyperlink)
Sodani P, et al.	Case report (Italy)	Baricitinib + Tocilizumab + Remdesivir + HCQ	NA	COVID 19 pneumonia with follicular non-Hodgkin lymphoma in remission 50 y/o male	NA	Successful recovery	Published	https://reader.elsevier.com/reader/sd/pii/S2213007120302574?token=87453CD0C3FAE748CE67E0967BE784314E2A36DE085896543F3CDF4981A1A128AB74BAE11C21A16C1ED8D76D8B814E14
Cantini F, et al.	Non-randomized, open label, cross over assignment (Italy)	Baricitinib	Standard care	COVID 19 with pneumonia 18 – 85y/o (12)	Safety of Baricitinib combined with LPV/r in terms of adverse events incidence rate	Both at week 1 & week 2, Baricitinib therapy significantly improved clinical & laboratory parameters, none required ICU support, & majority were discharged.	Published (Pre-print)	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7177073/

Author/ Study Identifier	Study design	Intervention	Comparator	Population	Primary outcome	Results	Status	Source (hyperlink)
Caputo SL, et al.	Case report (Italy)	Baricitinib + LPV/r + HCQ	LPV + HCQ	Mild – moderate COVID 19 87 y/o wife, 90 y/o husband, 59 y/o son	NA	The wife given Baricitinib recovered while the husband and son not given Baricitinib died	Punlished	https://onlinelibrary.wiley.com/doi/epdf/10.1002/jmv.26033
Titanji BK, et al.	Non-controlled Retrospective cohort (USA)	Baricitinib + HCQ	NA	Moderate – severe COVID 19 (15)	Recovered; not recovered; died	12 (73.3%) recovered with no fever, decreased inflammatory markers & need for O2; 3 (13.3%) died with secondary bacterial or fungal infections.	Published (Pre-print)	https://academic.oup.com/cid/advance-article/doi/10.1093/cid/ciaa1210/5892909
Cingolani A, et al.	Case report (Italy)	Baricitinib	NA	COVID 19 ARDS with incomplete response to standard care & Sarilumab 71 y/o male	NA	Significant decreased serum IL6 levels & clinical/ radiologic improvement after 2 weeks treatment with Baricitinib	Published	https://link.springer.com/content/pdf/10.1007/s15010-020-01476-7.pdf

Appendix 13. H2 Receptor Blocker Studies for COVID 19: Famotidine

Author/ Study Identifier	Study design	Intervention	Comparator	Population	Primary outcome	Results	Status	Source (hyperlink)
Janowitz T, et al	Case series (USA)	Famotidine	NA	COVID 19 20 - 70y/o (10)	COVID 19 symptom scores	Suggested high dose oral famotidine is well tolerated & associated with improved outcomes	Published	https://gut.bmj.com/content/early/2020/06/10/gutjnl-2020-321852
Freedberg DE, et al	Retrospective cohort (USA)	Famotidine	Standard care	COVID 19 ≥18y/o (1620)	Composite of death or endotracheal intubation	famotidine use was associated with a reduced risk of clinical deterioration leading to intubation or death	Published	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7242191/pdf/main.pdf
Cheung KS, et al	Retrospective cohort (Hong Kong)	Famotidine	Standard care	COVID 19 ≥18y/o (952)	Severe disease	Did not support any association between famotidine & COVID-19 severity	Published (Pre-print)	https://www.gastrojournal.org/article/S0016-5085(20)34940-4/pdf