Supplemental material

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Table1: Study characteristics of papers included in this review

Author	Study design	Sample characteristics (size, mean age, location)	Primary outcome	Medication given	Results
Ayerbe et al.[1]	Retrospective cohort	N=2,075 Age = 67.57±15.52 Spain	Mortality (yes/no)	Heparin	Heparin reduced mortality rates in patients
Helms et al.[2]	Prospective cohort	N = 150 Age = 68 ± 7 France	Thrombotic event (yes/no)	Heparin (LMWH or UFH)	Patients with ARDS secondary to COVID-19 developed thrombotic complications regardless of anticoagulation.
Nadkarni et al.[3]	Retrospective cohort	N = 4,389 Age = 65 ±12 USA	Mortality Intubation Bleeding (yes/no)	DOAC Heparin (LMWH or UFH)	Therapeutic and Prophylactic AC reduced mortality and risk of intubation compared to no AC.
Bousquet et al.[4]	Prospective cohort	N=108 Age = 78.4 ± 7.8 France	Mortality (yes/no)	Therapeutic AC (type not specified)	Therapeutic AC reduced one-month mortality compared to no AC
Fauvel et al.[5]	Retrospective cohort	N = 1,240 Age = 64 ± 17 France	Pulmonary embolism (yes/no)	Heparin (LMWH or UFH)	Therapeutic AC and prophylactic AC were associated with reduced PE
Tang et al.[6]	Retrospective cohort	N = 449 Age = 65.1 ± 12.0 China	Mortality (yes/no)	Heparin (LMWH or UFH)	Therapeutic AC decreases 28-day mortality in severe cases
Author	**Study design**	**Sample characteristics**	**Endpoint**	**Intervention**	**Results**

		(size, controls, location)			
Gonzalez-Porras et al.[7]	Retrospective cohort	N = 690 Age = 72·48 ±13·83 Spain	Mortality (yes/no)	Heparin (LMWH)	High dose prophylactic LMWH reduced patient mortality by 2 folds compared to low dose and 6.2 folds compared to non-users
Li et al.[8]	Retrospective cohort	N = 1,125 Age = 58 ±15 China	Thrombo-embolism Bleeding (yes/no)	Heparin (LMWH or UFH) NOAC Warfarin	Anticoagulants reduced mortality and thromboembolic events
Russo et al.[9]	Retrospective cohort	N = 192 Age = 67.2 ±15.2 Italy	Mortality (yes/no)	Antiplatelets(Aspirin or P2y12 inhibitor) and anticoagulant (NOAC or VKA)	Antiplatelet and antithrombotic therapies don't have a protective effect in severe COVID-19 patients suffering from ARDS.
Viecca et al.[10]	Case control (proof of concept)	N = 5 Age = 61.8 ±15.4 Italy	Hypoxemia and hypoxemia related outcomes (lower/higher)	Antiplatelets (Aspirin, tirofiban, clopidogrel) Prophylactic Anticoagulant (Fondaparinux, heparin)	Enhanced gaseous exchange and reduced blood coagulation
Chow et al. [11]	Retrospective cohort	N=412 Age=57 United States	Mechanical ventilation, intensive care unit (ICU)	Aspirin use defined within 24 hrs of admission to hospital	Aspirin use was associated with a decreased risk of mechanical ventilation, ICU admission, and in-hospital mortality.

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			admission, and in-hospital mortality		
Pavoni et al.[12]	Retrospective cohort	N=42 64.3 ±12.1 Italy	Venous Thromboembolism, Bleeding (yes/no)	Heparin (LMWH) Antiplatelet (Aspirin)	Therapeutic dose heparin did not reduce VTE, but there was no major bleed

Abbreviations: LMWH : Low molecular weight heparin; UFH: Unfractionated Heparin; DOAC: Direct oral anticoagulant, NOAC: Novel oral anticoagulant; VKA: Vitamin K antagonists; AC: anticoagulant; ARDS: acute respiratory distress syndrome.

1   Ayerbe L, Risco C, Ayis S. The association between treatment with heparin and survival in patients with Covid-19. *J Thromb Thrombolysis* 2020;:1–4.

2   Helms J, Tacquard C, Severac F, *et al.* High risk of thrombosis in patients with severe SARS-CoV-2 infection: a multicenter prospective cohort study. *Intensive Care Med* 2020;:1–10.

3   Nadkarni GN, Lala A, Bagiella E, *et al.* Anticoagulation, bleeding, mortality, and pathology in hospitalized patients with COVID-19. *J Am Coll Cardiol* 2020;**76**:1815–26.

4   Bousquet G, Falgarone G, Deutsch D, *et al.* ADL-dependency, D-Dimers, LDH and absence of anticoagulation are independently associated with one-month mortality in older inpatients with Covid-19. *Aging* 2020;**12**:11306.

5   Fauvel C, Weizman O, Trimaille A, *et al.* Pulmonary embolism in COVID-19 patients: a French multicentre cohort study. *Eur Heart J* 2020;**41**:3058–68.

6   Tang N, Bai H, Chen X, *et al.* Anticoagulant treatment is associated with decreased mortality in severe coronavirus disease 2019 patients with coagulopathy. *J Thromb Haemost JTH* 2020;**18**:1094–9. doi:10.1111/jth.14817

7   Gonzalez-Porras JR, Belhassen-Garcia M, Lopez-Bernus A, *et al.* Low Molecular Weight Heparin in Adults Inpatient COVID-19. 2020.

8   Li W, Xiong J, Guo Y, *et al.* Risk Factors for Systemic and Venous Thromboembolism, Mortality and Bleeding Risks in 1125 Patients with COVID-19: Relationship to Anticoagulation Status. *Preprints* 2020.

9   Russo V, Di Maio M, Attena E, *et al.* Clinical impact of pre-admission antithrombotic therapy in hospitalized patients with COVID-19: a multicenter observational study. *Pharmacol Res* 2020;:104965.

10 Viecca M, Radovanovic D, Forleo GB, *et al.* Enhanced platelet inhibition treatment improves hypoxemia in patients with severe Covid-19 and hypercoagulability. A case control, proof of concept study. *Pharmacol Res* 2020;:104950.

11 Chow JH, Khanna AK, Kethireddy S, *et al.* Aspirin Use is Associated with Decreased Mechanical Ventilation, ICU Admission, and In-Hospital Mortality in Hospitalized Patients with COVID-19. *Anesth Analg* Published Online First: 21 October 2020. doi:10.1213/ANE.0000000000005292

12 Pavoni V, Gianesello L, Pazzi M, *et al.* Venous thromboembolism and bleeding in critically ill COVID-19 patients treated with higher than standard low molecular weight heparin doses and aspirin: A call to action. *Thromb Res* 2020;**196**:313–7. doi:10.1016/j.thromres.2020.09.013