

Supplement 7: Search Strategy, Baseline Risk
Coronavirus and prophylaxis for thrombotic events
Search narrative, 23 July 2020

Bibliographic databases:

EMBASE (1974 to, 22 July 2020)

Epistemonikos COVID-19 Evidence (21 July 2020) (includes records from Cochrane Database of Systematic Reviews, Pubmed, EMBASE, CINAHL, PsycINFO, LILACS, Database of reviews of Effects, The Campbell Collaboration online library, JBI Database of Systematic Reviews and Implementation Reports, EPPI-Centre Evidence Library)

MEDLINE (1946 to, 23 July 2020)

SCOPUS (19 July 2020)

WHO Global Research Database (COVID-19) (20 July 2020)

Trial/study Databases:

Cochrane COVID-19 study register (23 July 2020) (includes records from ClinicalTrials.gov, WHO ICTRN, and PubMed)

CYTEL map of ongoing [COVID-19] clinical trials (20 July 2020) (WHO International Clinical Trials Registry Platform, European Clinical Trials Registry, clinicaltrials.gov, Chinese Clinical Trial Registry, German Clinical Trials registry, Japan Primary Registries Network, Iranian Clinical Trial Registry, and Australian New Zealand Clinical Trials Registry)

Results were downloaded from sources and deduplicated in EndNote.

Results from BioRxiv, ChemRxiv, MedRxiv (preprints indexed in Medline and Epistemonikos), or protocols for clinical trials were removed as they were beyond the scope of the search.

COCHRANE COVID-19

(<https://covid-19.cochrane.org/>)

Search 1: anticoagula* or anti-coagula* or coagulation or thromb* or antithromb* or antiplatelet* or heparin or LMWH or aspirin or embol* or phlebothrombos* or phlebo-thrombus* or microembol* or micro-embol* or DVT or PE or fondaparinux or apixaban or dabigatran or edoxaban or rivaroxaban or argatroban or bivalirudin or "platelet inhibition" or hypercoagulability or coagulopathy or coagulation or limb ischemia or heparin or aspirin or bleed* or haemorrhag* or hemorrhage* or "blood clot*"

Results: 2,414 citations from 2,281 studies

Search 2: Study aim = "Diagnostic/Prognostic"

Results: 6,475 citations from 6,235 studies

Search 3: Study aim = "Epidemiology"

Results: 2,451 citations from 2,307 studies

Search 4: Study aim = "Prevention"

Results: 950 citations from 902 studies

Total: 12,290

Cytel

(<https://www.covid-trials.org/>)

Filter for Treatments: anticoagulants, antiplatelet, antiplatelets antithrombotics

Results: 79 entries

Embase <1974 to 2019 July 22>, and OVID Medline Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Ovid MEDLINE(R) Daily and Ovid MEDLINE(R) 1946 to Present

- 1 exp Coronaviridae/
- 2 exp Coronaviridae Infections/
- 3 coronavirus*.mp. or (COVID or "covid-19" or COVID19 or nCoV or hCoV or 19nCoV or 2019nCoV or 2019-nCoV or SARS-CoV-2 or SARS-CoV or SARSCOV2 or SARSCOV-2 or SARS2 or MERS-CoV).ti,ab,kw.
- 4 (coronavirus* or corona virus* or betacoronavirus* or OC43 or NL63 or 229E or HKU1 or HCoV* or ncov* or covid* or sars-cov* or sarscov* or Sars-coronavirus* or Severe Acute Respiratory Syndrome Coronavirus*).mp.
- 5 or/1-4

6 5 not (SARS or SARS-CoV or MERS or MERS-CoV or Middle East respiratory syndrome or camel* or dromedar* or equine or coronary or coronal or covidence* or covidien or influenza virus or HIV or bovine or calves or TGEV or feline or porcine or BCoV or PED or PEDV or PDCoV or FIPV or FCoV or SADS-CoV or canine or CCov or zoonotic or avian influenza or H1N1 or H5N1 or H5N6 or IBV or murine corona*).mp.

7 ((pneumonia or covid* or coronavirus* or corona virus* or ncov* or 2019-ncov or sars*).mp. or exp pneumonia/) and (Wuhan or Hubei or China or Chinese).mp.

8 (2019-ncov or ncov19 or ncov-19 or 2019-novel CoV or 19nCoV or sars-cov2 or sars-cov-2 or sarscov2 or sarscov-2 or Sars-coronavirus2 or Sars-coronavirus-2 or SARS-like coronavirus* or coronavirus-19 or covid19 or covid-19 or covid 2019 or ((novel or new or nouveau or "19" or "2019") adj2 (CoV or nCoV or covid or coronavirus* or corona virus or Pandemi*2)) or ((covid or covid19 or covid-19) and pandemic*2) or (coronavirus* and pneumonia)).mp.

9 COVID-19.rx,px,ox. or severe acute respiratory syndrome coronavirus 2.os.

10 COVID-19.mp. or severe acute respiratory syndrome coronavirus 2.dj,dq. [mp=ti, ab, hw, tn, ot, dm, mf, dv, kw, fx, dq, nm, kf, ox, px, rx, ui, sy]

11 or/6-10

12 11 and ((2019* or 202*).dp. or 20190101:20301231.(ep). or "2019".yr. or 202*.yr.)

13 limit 11 to dd=20191101-20301231 [Limit not valid in Ovid MEDLINE(R),Ovid MEDLINE(R) Daily Update,Ovid MEDLINE(R) In-Process,Ovid MEDLINE(R) Publisher; records were retained]

14 13 use oemez

15 12 or 14

16 exp animals/

17 exp animal experimentation/ or exp animal experiment/

18 exp models animal/

19 nonhuman/

20 exp vertebrate/ or exp vertebrates/

21 16 or 17 or 18 or 19 or 20

22 exp humans/

23 exp human experimentation/ or exp human experiment/

24 22 or 23

25 21 not 24

26 15 not 25

27 26 use oemez

28 26 use ppez

29 anticoagula*.mp. or anti-coagula*.ti,ab,kw.

30 exp anticoagulants/ or exp anticoagulant agent/

31 thrombophyla*.mp. or (coagulopathy or (thrombin* adj2 (inhibit* or prevent* or prophyla*))).ti,ab,kw.

32 exp Platelet Aggregation Inhibitors/

33 antiplatelet.mp. or (platelet adj2 (inhbit* or antagonist* or antiaggregant*)).ti,ab,kw.

34 29 or 30 or 31 or 32 or 33

35 26 and 34

36 exp Heparin, Low-Molecular-Weight/ or exp low molecular weight heparin/

37 exp Heparin/

38 exp Aspirin/

39 (LMWH? or fondaparinux or apixaban or dabigatran or edoxaban or rivaroxaban or argatroban or bivalirudin or aspirin).ti,ab,kw.

40 (Hydroxycoumarins or Abciximab or Acenocoumarol or Ancrod or Antithrombin III or Antithrombin Protein* or Becaplermin or beta 2-Glycoprotein or Blood Coagulation Factor Inhibitor* or Citric Acid or

Dabigatran or Dalteparin or Dermatan Sulfate or Dextrans or Dicumarol or Edetic Acid or Enoxaparin or Ethyl Biscoumacetate or Fibrin Fibrinogen Degradation or Gabexate or Heparin* or Heparinoids or Hirudin or Nadroparin or Pentosan Sulfuric Polyester or Phenindione or Phenprocoumon or Protein C or Protein S or Sodium Citrate or Tinzaparin).mp. or Warfarin.ti,ab,kw. [mp=ti, ab, hw, tn, ot, dm, mf, dv, kw, fx, dq, nm, kf, ox, px, rx, ui, sy]

41 (Abciximab or Alprostadil or Aspirin or Cilostazol or Clopidogrel or Dipyridamole or Disintegrins or Epoprostenol or Eptifibatide or Iloprost or Ketanserin or Milrinone or Pentoxifylline or Prasugrel Hydrochloride or Resveratrol or S-Nitrosoglutathione or S-Nitrosothiols or Sevoflurane or Ticagrelor or Ticlopidine or Tirofiban or Trepidil).ti,ab,kw.

42 or/36-41

43 26 and 42

44 exp Mortality/

45 exp Pulmonary Embolism/ or exp lung embolism/

46 exp venous thromboembolism/

47 exp Venous Thrombosis/

48 exp "embolism and thrombosis"/

49 exp Thrombophlebitis/

50 exp Hemorrhage/ or exp bleeding/

51 exp Thrombocytopenia/

52 exp Blood Coagulation Disorders/ or exp blood clotting disorder/

53 exp Multiple Organ Failure/

54 exp renal replacement therapy/

55 (mortality or death or died or dying).ti,ab,kw.

56 (Thrombi or thrombus* or thrombocyto* or thrombophlebitis or thrombo-phlebitis or thrombopro* or thrombopro* or thrombotic* or thrombotic* or thromboemboli* or thrombo-emboli* or thrombos* or embol* or microembol* or micro-embol* or phlebothrombos* or phlebo-thrombos*).mp.

57 ((blood or lung or pulmonary or cerebral (or artery or arterial or vein or venous or peripher*) adj3 clot*).mp.

58 (dvt or vte).mp. or pte.ti,ab,kw. [mp=ti, ab, hw, tn, ot, dm, mf, dv, kw, fx, dq, nm, kf, ox, px, rx, ui, sy]

59 ((vascular or vein* or ven*) adj thromb*).mp.

60 (h?emorrhage or bleed* or bled).ti,ab,kw.

61 (multiple organ adj2 (failure* or dysfunction)).ti,ab,kw.

62 ((h?emo* or renal) adj2 (dialysis or filt*)).ti,ab,kw.

63 exp Myocardial Infarction/ or exp heart infarction/

64 heart attack*.mp. or ((heart or myocardial) adj2 infarct*).ti,ab,kw.

65 exp Stroke/ or exp cerebrovascular accident/ or exp "intercranial embolism and Thrombosis"/

66 (stroke* or ((cerebr* or vascular) adj accident*)).ti,ab,kw.

67 exp acute coronary syndrome/

68 acute coronary syndrome.ti,ab,kw.

69 peripheral arterial disease/ or exp peripheral occlusive artery disease/

70 (peripheral arter* adj (disease* or obstructive or occlusive or oblitera* or occlusion)).ti,ab,kw.

71 exp amputation/ or exp limb amputation/

72 (amputate or amputation* or ((loss or remove) adj2 (limb or leg* or arm* or foot or hand* or toe* or finger*))).ti,ab,kw.

73 or/44-72

74 26 and 73

75 (prognos: or survival or (validation or prediction) or (cohort or relative risk:)).tw.

76 27 and 75

77 (prognos: or first episode or cohort or (validation or validate)).tw. or ((relative risk: or risks).tw. or cohort stud:.mp.)

78 28 and 77

79 76 or 78

80 35 or 43 or 74 or 79

Epistemonikos COVID-19 Evidence

“prevention or treatment” and (Antifibrinolytic agents or Antithrombotics)

Results: 106 citations

SCOPUS

TITLE-ABS-KEY ("COVID-19" OR "COVID 19" OR "COVID 2019" OR "severe acute respiratory syndrome coronavirus 2" OR "SARS-CoV-2" OR "2019-nCoV" OR "2019 nCoV" OR nCoV19 or nCoV?19 OR "2019?novel CoV" or "SARS?cov2" OR "SARS?CoV?2" OR "sarscov2" OR "sarscov?2" OR ((novel OR new OR 2019 OR wuhan OR hubei OR china) AND (coronavirus OR covid))) AND TITLE-ABS-KEY (anticoagula* or anti?coagula* or thromb* or antiplatelet* or heparin or LMWH or aspirin or embol* or phlebothrombos* or phlebo-thrombus* or microembol* OR micro?embol* or DVT or PE or fondaparinux or apixaban or dabigatran or edoxaban or rivaroxaban or argatroban or bivalirudin or “platelet inhibition” or hypercoagulability or coagulopathy or coagulation or limb ischemia) or (Hydroxycoumarins or Abciximab or Acenocoumarol or Ancrod or Antithrombin or Becaplermin or “beta 2?Glycoprotein or Blood Coagulation Factor Inhibitor*” or “Citric Acid” or Dabigatran or Dalteparin or “Dermatan Sulfate” or Dextrans or Dicumarol or “Edetic Acid” or Enoxaparin or “Ethyl Biscoumacetate” or “Fibrin Fibrinogen Degradation” or Gabexate or Heparin* or Heparinoids or Hirudin or Nadroparin or “Pentosan Sulfuric Polyester” or Phenindione or Phenprocoumon or “Protein C” or “Protein S” or “Sodium Citrate” or Tinzaparin or Abciximab or Alprostadiol or Aspirin or Cilostazol or Clopidogrel or Dipyridamole or Disintegrins or Epoprostenol or Eptifibatide or Iloprost or Ketanserin or Milrinone or Pentoxifylline or “Prasugrel Hydrochloride” or Resveratrol or “S?Nitrosoglutathione” or “S?Nitrosothiols” or Sevoflurane or Ticagrelor or Ticlopidine or Tirofiban or Trapidil AND Thromb*)) AND PUBYEAR > 2018 AND NOT INDEX(medline)

Results: 63 citations

WHO COVID-19 Database (20 July 2020)

<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/global-research-on-novel-coronavirus-2019-ncov>

(tw:(anticoagula* OR anti?coagula* OR thromb* OR antiplatelet* OR heparin OR LMWH OR aspirin OR embol*) OR tw:(phlebothrombos*) OR tw:(phlebothrombos* OR phlebo-thrombus* OR microembol* OR micro?embol* OR DVT OR PE OR fondaparinux OR apixaban) OR tw:(dabigatran OR edoxaban OR rivaroxaban OR argatroban OR bivalirudin OR “platelet inhibition” OR hypercoagulability OR

coagulopathy OR coagulation) OR tw:(“limb ischemia”) OR tw:(Hydroxycoumarins OR Abciximab OR Acenocoumarol OR Ancrod OR Antithrombin OR Becaplermin OR beta 2-Glycoprotein OR Blood Coagulation Factor Inhibitor* OR Citric Acid OR Dabigatran OR Dalteparin OR Dermatan Sulfate OR Dextrans OR Dicumarol OR Edetic Acid OR Enoxaparin) OR tw:(Ethyl Biscoumacetate) OR tw:(Fibrin Fibrinogen Degradation) OR tw:(Gabexate OR Heparin* OR Heparinoids OR Hirudin) OR tw:(Nadroparin OR Pentosan Sulfuric Polyester OR Phenindione OR Phenprocoumon OR Protein C OR Protein S OR Sodium Citrate) OR tw:(Tinzaparin OR Abciximab OR Alprostadil OR Aspirin OR Cilostazol OR Clopidogrel OR Dipyridamole OR Disintegrins) OR tw:(Epoprostenol OR Eptifibatide OR Iloprost OR Ketanserin OR Milrinone OR Pentoxifylline OR Prasugrel Hydrochloride OR Resveratrol) OR tw:(S?Nitrosoglutathione OR S?Nitrosothiols OR Sevoflurane OR Ticagrelor OR Ticlopidine OR Tirofiban OR Trapidil) AND (year_cluster:[2019 TO 2021])

Results: 1,655 citations
