**TABLES**

**Table 1** Several Drugs with Therapeutic Potentials for COVID-19

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Drug type** | **Drug name** | **Target** | | **Mechanism** | **Pervious condition** | | **ClinicalTrials.gov Identifier** |
| Convalescent Plasma or immunoglobulins | NA | | SARS-CoV-2 antigen | The plasma of convalescent patients contains specific antibodies against SARS-CoV-2, which is neutralized with virus after infusion. | | COVID-19 | NCT04325672  NCT04292340  NCT04323800 |
| DAA-Anti viral nonstructural proteins | Lopinavir +ritonavir | | 3CLpro/PLpro | Protease inhibitors, ritonavir can enhance the effects of other protease inhibitors | | HIV infection | NCT04321174  NCT04252885  NCT04307693  NCT04261907… |
| Favipiravir | | RdRp | Guanine analogue, which are used by RdRP to synthesize RNA strands and thus terminate synthesis | | Influenza | -- |
| Remdesivir | | RdRp | Prodrugs of adenine analogue, which are used by RdRP to synthesize RNA strands and thus terminate synthesis | | Ebola virus infection | NCT04257656  NCT04252664  NCT04292899  NCT04292730  NCT04280705… |
| Galidesivir/BCX4430 | | RdRp | Adenine analogue, which are used by RdRP to synthesize RNA strands and thus terminate synthesis | | Hepatitis C virus, ebola virus, marburg virus infection | -- |
| DAA-Anti viral structural protein | Arbidol | | S protein | An inhibitor that may disrupt the binding of S proteins to ACE2 and prevent the virus from entering target cells | | Influenza virus infection | NCT04260594  NCT04252885 |
| APN01 | | S protein | RhACE2, competitively binds to S protein, thereby neutralizing the virus and preventing viral entry and decrease viral replication. | | COVID-19 | NCT04335136 |
| GSK2586881 | | S protein | RhACE2, reduce lung injury by reduction of angiotensin II and prevention of alveolar epithelial cell infection by occupation of the S protein | | ARDS | -- |
| Host cell membrane proteins blocker | Nafamostat | | TMPRSS2 | TMPRSS2 inhibitor, block the invasion process | | Pancreatic cancer | -- |
| Camostat Mesilate | | TMPRSS2 | TMPRSS2 inhibitor, block the invasion process | | Chronic pancreatitis, postoperative reflux esophagitis | NCT04321096 |
| Chloroquine/  Hydroxychloroquine | | ACE2 | Involve multiple molecular mechanisms. May increase endosome pH and interfere with ACE2 glycosylation | | Plasmodium infection | NCT04323527  NCT04307693… |
| NA | | CD147 | -- | | -- | -- |
| NA | | GRP78 | -- | | -- | -- |
| Anti-inflammatory drugs | Tocilizumab | | IL-6 | Neutralize IL-6 and relieve immune response | | Rheumatoid arthritis, adult giant cell arteritis, juvenile idiopathic arthritis, CAR-T therapy related CRS | NCT04320615… |
| Leronlimab | | CCR5 | Changes in macrophage migration and cytokine production | | ARDS | -- |
| Baricitinib | | JAK kinase | JAK inhibitor, may interfere with the inflammatory processes | | Rheumatoid arthritis | NCT04321993 |
| Ruxolitinib | | JAK kinase | JAK1/2 inhibitor, works as and immunomodulator decreasing the cytotoxic T lymphocytes and increasing the Treg cells. | | Myelofibrosis, polycythemia vera, graft-versus-host disease | NCT04334044 |

**Table 2** Summary of Clinical trials of Remdesivir

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Mild/moderate 2019-nCoV in China (Ⅲ) | Severe 2019-nCoV in China (Ⅲ) | NIAID multicenter trial (Ⅱ) | GILD-sponsored trial: Moderate (Ⅲ) | GILD-sponsored Severe (Ⅲ) | Solidarity Trial (Ⅲ) |
| NCT | NCT04252664 | NCT04257656 | NCT04280705 | NCT04292730 | NCT04292899 |  |
| Sample size | 308(154/154) | 453(302/151) | 440(220/220) | 600(200/200/200) | 400(200/200) |  |
| population | mild or moderate COVID-19 pneumonia | severe COVID-19 pneumonia | adults hospitalized with COVID-19 | moderate COVID-19 pneumonia | Severe COVID-19 pneumonia | adults hospitalized with COVID-19 |
| Allocation and Masking | Randomized, double-blind | Randomized, double-blind | Randomized, double-blind | Randomized, open label | Randomized, open label | Randomized, open label |
| Randomization | ≤ 8 days since illness onset | ≤12 days since illness onset | confirmed by PCR test < 3 days before randomization | confirmed by PCR test ≤ 4 days before randomization | confirmed by PCR test ≤ 4 days before randomization | No information |
| Study design | Remdesivir IV vs placebo  1. Day 1 200mg, Day 2-10 100mg QD  2. placebo  For severe patient trial, the comparison is made between remdesivir + supportive care (SC) vs SC | | | Remdesivir IV+SOC  1. Day 1 200mg, Day 2-10 100mg QD+SOC  2. Day 1 200mg, Day 2-5 100mg QD+SOC  3. SOC (severe group not include this treatment group) | | Remdesivir IV and Other drug Groups  Remdesivir: Day 1 200mg, Day 2-10 100mg QD |
| End point | Time to Clinical recovery Time to Clinical Recovery (TTCR) [up to 28 days] | Time to Clinical Improvement (TTCI) [Day 28] | Percentage of subjects reporting each severity rating on an 8-point ordinal scale [Day 15] | Proportion of participants discharged by Day 14 | Proportion of participants with normalization of fever and oxygen saturation Through Day 14 | No information |

Solidarity Trial include lots of trial in many countries, so it is difficult to search all information about it.

**Table 3** Summary of HCQ clinical study results

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Chen J 2020 49** | **Chen ZW 2020 4** | **Gautret P 2020 48** | **Gautret 2020 50** |
| Sample size | 30 (15:15) | 62 (31:31) | 36 (20:16) | 80 |
| Population | COVID-19 pneumonia | COVID-19 pneumonia | COVID-19  -asymptomatic  -Upper respiratory tract infection (URTI)  -Lower respiratory tract infection (LRTI) | COVID-19  -asymptomatic  -Upper respiratory tract infection (URTI)  -Lower respiratory tract infection (LRTI) |
| Allocation and Masking | randomized 1:1  open label  conventional treatment control | randomized 1:1  open label  conventional treatment control | non-randomized  open label  control (without HCQ) | single group  open label |
| Dosage regimen of intervention treatment | HCQ sulfate 400 mg QD for 5 days  (with conventional treatment) | HCQ sulfate 200 mg BID for 5 days  (with conventional treatment) | HCQ sulfate 200 mg TID for 10 days  or combined with azithromycin 500mg on day1 followed by 250mg per day, the next 4 days | HCQ sulfate 200 mg TID for 10 days combined with azithromycin 500mg on day1 followed by 250mg per day, the next 4 days |
| Time window (days) | not reported | not reported | time between onset of  symptoms and inclusion is 4.0±2.6 | time between the onset of symptoms and the initiation of treatment is 4.9±3.6 |
| Endpoint | viral clearance rate at day 7:  86.7% in treatment group vs 93.3% in control group | improved pneumonia rate:  80.6% in treatment group vs 54.8% in control group | viral clearance rate at day 6:  70% in the HCQ group vs 12.5% in the control group | viral negative rate:  83% at Day7;  93% at Day8. |

Table 4 Summary of HCQ clinical study design examples

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Post-exposure Prophylaxis** | | **Pre-exposure Prophylaxis** | | **Prevention of Severe COVID19 Disease** |
|  | CAHON/dMed/CDC | University of Minnesota  (NCT04308668) | University of Oxford  (NCT04303507) | Washington University School of Medicine  (NCT04333732) | Dr. Michael Hill  (NCT04329611) |
| Sample size | 1131 | 3000 | 40000 | 55000 | 1660 |
| Allocation and Masking | randomized 2:1  double blinded  placebo control | randomized 2:1  double blinded  placebo control | randomized 1:1  double blinded  placebo control | randomized  double blinded  placebo control | randomized 2:1  double blinded  placebo control |
| Population | household contact ≥ 24 h | healthcare worker or household contact | healthcare worker or frontline in a healthcare facility or similar institution | healthcare worker with potential exposure to SARS-CoV-2 | immunosuppressed patients with:  - a positive test result to day 1 of treatment <96 h  - reported first symptoms to day 1 of treatment <12 days |
| Index patients | COVID-19 case with confirmed diagnosis ≤ 72 h | COVID-19 case with confirmed diagnosis within 4 days of symptom onset or symptomatic healthcare worker with known COVID-19 contact and within 4 days of symptom onset | NA | NA | NA |
| HCQ/CQ dose regimen | HCQ sulfate  200 mg BID on day 1  + 100 mg BID for day 2-5 | HCQ sulfate  800 mg once, followed in 6 to 8 hours by 600 mg, then 600 mg QD for day 2-5 | HCQ/CQ base  10 mg/kg once, followed by 155 mg QD | HCQ/CQ base  low-dose: 300 mg QD for day 1-4 + 300 mg weekly  mid-dose: 300 mg QD for day 1-4 + 300 mg twice weekly  high-dose: 300 mg QD for day 1-4 +150 mg QD | HCQ sulfate  400 mg BID on day 1 + 200 mg BID for day 2-5 |
| Endpoint | incidence of COVID19 pneumonia among those who are asymptomatic at trial entry for 14 days | incidence of COVID19 Disease among those who are asymptomatic at trial entry for 14 days | number of symptomatic COVID-19 infections for 3 100 days | number of symptomatic COVID-19 for 3 months | composite of hospitalization, invasive mechanical ventilation or death within 30 days |
|  |  |  |  |  |  |