COVID-19 Research Group

Powered by… Infectious Diseases, Acute Medicine, Respiratory, Intensive Care Unit, EMERGE, the WTCRF, ACCORD, the Labs, Pharmacy and others. All coming together to work collaboratively on COVID-19 research activity

Astra Zeneca/Oxford Vaccine

Over 31 million people in the UK have received at least one does of one of the coronavirus vaccines. The Astra Zeneca/Oxford vaccine has been rolled out internationally, a huge success for research and for the fight against COVID-19. However this roll-out has recently been making headlines for the wrong reasons, vaccinations being put on hold due to fears of an increased risk of thrombotic events, specifically a rare strokes called cerebral venous sinus thromboses (CVST) from the vaccine. Recently the US arm of the AZ vaccine trial completed (https://www.astrazeneca.com/content/astraz/media-centre/press-releases/2021/astrazeneca-us-vaccine-trial-met-primary-endpoint.html) with the data safety monitoring board finding 'no increased risk of thrombosis or events characterised by thrombosis among the 21,583 participants receiving at least one dose of the vaccine.'

The trial completed with 32,449 participants and 141 symptomatic COVID-19 cases. In the press release Astra Zeneca state that the reported efficacy of the vaccine is 79%, specifying that in participants >65 years old the efficacy was 80%.

RECOVERY Aspirin arm closes and Happy birthday to the world's largest clinical trial!

RECOVERY Randomised Evaluation of COVID-19 Therapy

At 23:00 on the 21st of March recruitment to the aspirin arm of the trial was stopped. Sufficient patients have been recruited to this comparison to provide good power to detect a proportional reduction in mortality of 12.5%. (https://www.recoverytrial.net/for-site-staff). We're excited to see the results of this arm published, this looks like it could be another example of a cheap, readily available drug that is effective against COVID-19.

This coincides with the first anniversary of the RECOVERY trial. To mark this amazing milestone the RECOVERY team is holding a webinar on the 7th of April, 09:00-10:00. Over the past year the trial has recruited nearly 40,000 participants over 177 sites in the UK before expanding internationally an amazing achievement considering the trial was approved in 6 days and started recruitment only 3 days later. The trial quickly established that dexamethasone as a treatment for COVID-19 and this was immediately picked up by the UK government to be used as the standard of care.

Prof. Martin Landray summed up his feelings on the trial as "The RECOVERY trial is, quite simply, an extraordinary endeavour. In one year, it has recruited almost 40,000 patients and investigated 10 treatments. It has been remarkable to see so many people supporting it, from the scientists and clinical researchers, to the patients themselves when at a very frightening time of their lives. I feel privileged to be part of it, humbled by the contribution of all involved, and proud of what this amazing trial has achieved. It really has put randomised trials at the heart of high-quality healthcare – for COVID-19 and beyond."

For more information on the webinar visit https://www.recoverytrial.net/news/public-webinar-the-recovery-trial-one-year-on

This also coincides with the anniversary of the first UK lockdown. While many of us would agree the past year has been bleak, we should keep in mind how far along we have come in such a short, and often difficult, time. Drug trials such as RECOVERY have increased survival rates of patients in hospital while vaccine trials such as COV002 set the ground work for the mass vaccination that is currently being rolled out across the country.

Thank you to all research active staff. The achievements of the past year are thanks to all of your efforts.

SIREN Recruitment Closed

At this point we hope that all of our readers are familiar with the SIREN study! Our SIREN nurses have been eagerly recruiting across the hospital any staff who are patient facing. As a result SIREN has recruited over it's initial target with a total of 1945 participants recruited.

We've recruited staff at the Royal Infirmary, St. John's Hospital, Western General Hospital and we had a final push with the influx of staff that came with the official opening of the Royal Hospital for Children and Young People.

The study closed for recruitment on Wednesday the 31st of March, after this date no new participants can join.

If you are taking part in the SIREN study you must still take samples and sending them to the lab until the study is fully closed. Remember to try and get a hold of someone in your local clinical team to help you collect your samples before asking for the SIREN team, there is only a few of us and a lot of samples to collect!

For more information on this study email the SIREN team at **SIREN@nhslothian.scot.nhs.uk**

FALCON - Developing Point of Care Diagnostic Testing

The FALCON trial has moved on from the testing of samples via mass spectrometry to testing a novel point of care system. The device is the BD Veritor System, a chromatographic immunoassay that analyses a patient's nasal swab and returns a simple positive or negative result for the presence of SARS-CoV-2. The devices themselves are simple with a single button to operate and a 'walk away' setting where operators can set tests running and come back later after the test has run to collect results. We are recruiting participants for this trial from wards and from the Emergency Department.

The FALCON study is a part of the CONDOR platform, the COVID-19 National DiagnOstic Research and Evaluation Platform. For more information on CONDOR and it's diagnostic evaluation trials visit https://www.condor-platform.org/ for a summary of their recruitment to date their figures are summarised at https://www.condor-platform.org/condor-activity-report

PHOSP-COVID—Investigating the long-term effects of COVID-19

On the 25th of March the PHOSP-COVID study published a preprint of the results of studying the health of 1,077 patients with COVID-19. It was found that 7 out of 10 participants had persistent symptoms after 5 months. Those who experienced these more persistent symptoms were more likely to be middle-aged, white, female, and had at least 2 co-morbidities like lung or heart disease and diabetes.

In older males cognitive impairment was a predominant symptom, this is often referred to as 'brain fog'

CRP is seen to be elevated in all but the most mild of cases.

The full preprint is available at https://doi.org/10.1101/2021.03.22.21254057

ISARIC4C

The Tier 0 arm of the ISARIC4C trial has started collecting data on patients with COVID-19 once more. As with last year we have a team of medical students and volunteers from around the hospital that are working diligently through the list of patients. This purely data collecting arm of the study has collected information on over 200,000 patients across the UK for the COVID-19 Clinical Information Network.

Tier 1 is also open, however rather than collecting samples from and patient with COVID-19 we are only looking for patients who have tested positive after having received a COVID-19 vaccination over 3 months ago. This aims to identify any patients who may have a strain of the coronavirus that current vaccinations may not provide protection for.

Publications

As the issues of this newsletter have shown there has been no end to the volume of research being carried out through the pandemic. The following 2 pages lists publications linked to the work carried out by the COVID-19 Research Group. Listing studies like this not only shows the volume of work, but the variety of research topics covered over the last year.

CERA

COVID-19 emergency response assessment study: a prospective longitudinal survey of frontline doctors in the UK and Ireland: study protocol
DOI: 10.1136/bmjopen-2020-039851

CHaDOX COV002 Vaccine Trial

Safety and efficacy of the ChAdOx1 nCoV-19 vaccine (AZD1222) against SARS-CoV-2: an interim analysis of four randomised controlled trials in Brazil, South Africa, and the UK
DOI: 10.1016/S0140-6736(20)32661-1

Phase 1/2 trial of SARS-CoV-2 vaccine ChAdOx1 nCoV-19 with a booster dose induces multifunctional antibody responses
DOI: 10.1038/s41591-020-01179-4

A phase I trial evaluating the safety and immunogenicity of a candidate tuberculosis vaccination regimen, ChAdOx1 85A prime - MVA85A boost in healthy UK adults.
DOI: 10.1016/j.vaccine.2019.10.102

Single-dose administration and the influence of the timing of the booster dose on immunogenicity and efficacy of ChAdOx1 nCoV-19 (AZD1222) vaccine: a pooled analysis of four randomised trials.
DOI: 10.1016/S0140-6736(21)00432-3

An analysis of the potential global impact of dosing regimen and rollout options for the ChAdOx1 nCoV-19 vaccine
DOI: 10.21203/rs.3.rs-296726/v1

Safety and immunogenicity of the ChAdOx1 nCoV-19 vaccine against SARS-CoV-2: a preliminary report of a phase 1/2, single-blind, randomised controlled trial
DOI: 10.1016/S0140-6736(20)31604-4

T cell and antibody responses induced by a single dose of ChAdOx1 nCoV-19 (AZD1222) vaccine in a phase 1/2 clinical trial
DOI: 10.1038/s41591-020-01194-5

CONDOR (FALCON)

Care Pathway And Prioritization Of Rapid Testing For Covid-19 In UK Hospitals: A Qualitative Evaluation
DOI: 10.21203/rs.3.rs-121065/v1

Understanding COVID-19 testing pathways in English care homes to identify the role of point-of-care testing: an interview-based process mapping study
DOI: 10.1101/2020.11.02.20224550

COVID BREATHSPEC

Diagnosis of COVID-19 by Analysis of Breath with Gas Chromatography-Ion Mobility Spectrometry - A Feasibility Study.
DOI: 10.2139/ssrn.3668465

Association Between Administration of Systemic Corticosteroids and Mortality Among Critically Ill Patients With COVID-19
DOI:10.1001/jama.2020.17023

GenoMICC

Genetic mechanisms of critical illness in COVID-19
DOI: 10.1038/s41586-020-03065-y

ISARIC4C

Risk stratification of patients admitted to hospital with covid-19 using the ISARIC WHO Clinical Characterisation Protocol: development and validation of the 4C Mortality Score
DOI: 10.1136/bmj.m3339

Broad and strong memory CD4+ and CD8+ T cells induced by SARS-CoV-2 in UK convalescent individuals following COVID-19
DOI: 10.1038/s41590-020-0782-6

Features of 20 133 UK patients in hospital with covid-19 using the ISARIC WHO Clinical Characterisation Protocol: prospective observational cohort study
DOI: 10.1136/bmj.m1985

Clinical characteristics of children and young people admitted to hospital with covid-19 in United Kingdom: prospective multicentre observational cohort study
DOI: 10.1136/bmj.m3249

Robust, reproducible clinical patterns in hospitalised patients with COVID-19
DOI: 10.1101/2020.08.14.20168088

Publications

ISARIC4C (Continued)

Ethnicity and Outcomes from COVID-19: The ISARIC CCP-UK Prospective Observational Cohort Study of Hospitalised Patients
DOI: 10.2139/ssrn.3618215

Genetic mechanisms of critical illness in Covid-19
DOI: 10.1101/2020.09.24.20200048

Antibody testing for COVID-19: A report from the National COVID Scientific Advisory Panel
DOI: 10.12688/wellcomeopenres.15927.1

Investigating SARS-CoV-2 surface and air contamination in an acute healthcare setting during the peak of the COVID-19 pandemic in London
DOI: 10.1093/cid/ciaa905

ICECAP

Tissue-Specific Immunopathology in Fatal COVID-19
DOI: 10.1164/rccm.202008-3265OC

Tissue-specific tolerance in fatal Covid-19
DOI: 10.1164/rccm.202008-3265OC

PHOSP-COVID

Physical, cognitive and mental health impacts of COVID-19 following hospitalisation – a multi-centre prospective cohort study
DOI: 10.1101/2021.03.22.21254057

PREIST

Characterisation of 22445 patients attending UK emergency departments with suspected COVID-19 infection: Observational cohort study
DOI: 10.1371/journal.pone.0240206

Post-exertion oxygen saturation as a prognostic factor for adverse outcome in patients attending the emergency department with suspected COVID-19: a substudy of the PRIEST observational cohort study
DOI: 10.1136/emermed-2020-210528

Derivation and validation of a clinical severity score for acutely ill adults with suspected COVID-19: The PRIEST observational cohort study
DOI: 10.1371/journal.pone.0245840

Prognostic accuracy of emergency department triage tools for children with suspected COVID-19: The PRIEST observational cohort study
DOI: 10.1101/2020.09.01.20185793

Do Not Attempt Resuscitation (DNAR) status in people with suspected COVID-19: Secondary analysis of the PRIEST observational cohort study
DOI: 10.1101/2021.01.23.21249978

Prognostic accuracy of emergency department triage tools for adults with suspected COVID-19: The PRIEST observational cohort study
DOI: 10.1101/2020.09.02.20185892

The PRIEST COVID-19 clinical severity score
https://www.sheffield.ac.uk/scharr/research/centres/cure/priest/priest-covid-19

RECOVERY

Dexamethasone in Hospitalized Patients with Covid-19
DOI: 10.1056/NEJMoa2021436

Association Between Administration of Systemic Corticosteroids and Mortality Among Critically Ill Patients With COVID-19
DOI:10.1001/jama.2020.17023

Effect of Hydroxychloroquine in Hospitalized Patients with Covid-19
DOI: 10.1056/NEJMoa2022926

Lopinavir–ritonavir in patients admitted to hospital with COVID-19 (RECOVERY): a randomised, controlled, open-label, platform trial
DOI: 10.1016/S0140-6736(20)32013-4

Azithromycin in patients admitted to hospital with COVID-19 (RECOVERY): a randomised, controlled, open-label, platform trial
DOI: 10.1016/S0140-6736(21)00149-5

REMAP-CAP

Effect of Hydrocortisone on Mortality and Organ Support in Patients With Severe COVID-19The REMAP-CAP COVID-19 Corticosteroid Domain Randomized Clinical Trial
DOI: 10.1001/jama.2020.17022

SIREN

Effectiveness of BNT162b2 mRNA Vaccine Against Infection and COVID-19 Vaccine Coverage in Healthcare Workers in England, Multicentre Prospective Cohort Study (the SIREN Study)
DOI:10.2139/ssrn.3790399

As well as COVID-19 research there are many trials that are still active that are unrelated to the current pandemic. Keep an eye out for our main newsletter for information on all of our non-COVID related research news!