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A Phase II study of a candidate COVID-19 vaccine in children (COV006)

Submission date
10/02/2021

Recruitment status
No longer recruiting

Registration date
11/02/2021

Overall study status
Completed

Last Edited
27/08/2025

Condition category
Infections and Infestations

[X] Prospectively registered
[X] Protocol
[_] Statistical analysis plan
[X] Results
[_] Individual participant data

Plain English summary of protocol

Background and study aims
Since emerging in Wuhan, China in December 2019, SARS CoV-2 has since rapidly spread to many other countries around the world, causing the disease known as COVID-19. Common symptoms of COVID-19 include fever, tiredness, and dry cough. Whilst about 80% of infected people have no or mild symptoms and will recover from the disease without needing special treatment, older people and those with underlying medical problems are more likely to develop serious illness. 1.7 millions deaths so far have been reported to the WHO.
The World Health Organization declared the COVID-19 epidemic a Public Health Emergency of International Concern on 30th January 2020. Several vaccines have undergone development including ChAdOx1 nCoV-19, which has demonstrated an acceptable safety and efficacy profile in adults in phase 2/3 studies and has been approved for emergency use and routine deployment in the UK.
Immunising children is likely to be an important step in gaining control of the pandemic in the UK, as teenagers have some of the highest swab positivity rates in the UK as of December 2020, and immunising school-age children is important to protect vulnerable adults e.g. teachers and carers. This study will give us valuable information on the safety aspects of the vaccine and its ability to generate good immune responses against the virus in this age group. In total we will enrol 300 participants between the ages of 6 and 17 years of age.

Who can participate?
Children between the ages of 6 and 17 years of age. Participation in this study is voluntary but the researchers are only accepting volunteers from the local area around the study sites.

What does the study involve?
Participants will be randomly allocated to receive the investigational vaccine or a MenB vaccine. The researchers will then do blood tests and collect information about any symptoms that occur after vaccination. There will be five study visits over a 12-month period.

What are the possible benefits and risks of participating?
Participants enrolled in the control groups will receive 2 doses of Meningococcal Group B vaccine, a licensed vaccine which since 2015 has been part of the routine immunisation schedule in the UK. Previous vaccination with MenB vaccine is an exclusion criterion for this study,

therefore participants in this study will not have had this vaccine previously, and will gain the benefit of protection against group B meningococcus.
Recipients of the IMP, ChAdOx1 nCoV-19, may benefit from the protection offered by the vaccine. Interim phase III data from an adult study of ChAdOx1 nCoV-19 indicate that the vaccine is 60-90%% effective at preventing COVID-19 when used in a homologous prime-boost regimen. There were initial concerns of disease enhancement and lung immunopathology in the event of COVID-19 disease following ChAdOx1 nCoV-19 vaccination, due to an episode of disease enhancement observed in pre-clinical studies in a mouse model. However, since April 2020, ChAdOx1 nCoV-19 has been administered to over 20,000 adult participants in Phase I-III trials with as yet no evidence of disease enhancement. Drawing blood may cause slight pain and occasionally bruising. Common side effects of vaccinations are some mild redness and swelling at the injection site. Participants may feel like they have flu-like symptoms within 24 hours of the vaccinations. These usually resolve within 48 hours.

Added 29/04/2021:
With any new medicine or vaccine, there is always a possibility of an unexpected side effect. Following reports of blood clots with lowered platelets a review has been undertaken by the MHRA (Medicines and Healthcare products Regulatory Agency) and the EMA (European Medicines Agency). The reports were into a very rare type of blood clot in the brain, known as cerebral venous sinus thrombosis (CVST), and in some other organs together with low levels of platelets (thrombocytopenia) that might be associated with vaccination with ChAdOx1 nCoV-19. Up to and including 31 March 2021 there have been 79 UK reports of these blood clots and unfortunately 19 people died. By 31 March 2021, 20.2 million doses of the ChAdOx1 nCoV-19 vaccine had been given in the UK. This means the overall risk of these blood clots is extremely rare, approximately 4 people in a million who receive the vaccine.
More investigations are needed, but as a precaution the JCVI (Joint Committee on Vaccination and Immunisation), which advises the UK government on vaccination policy, has recommended that those under 30 years old who have not yet had a first dose of the ChAdOx1 nCoV-19 vaccine, have an alternative COVID-19 vaccine. This decision was made by looking at the risk of clots following vaccination versus the benefits of receiving protection from COVID-19 disease. Severe COVID-19 disease is much less common in young adults. The JCVI recommended that second doses of the ChAdOx1 nCoV-19 vaccine should continue, as there were no reports of clots associated with the second dose.

Where is the study run from?
Centre for Clinical Vaccinology and Tropical Medicine, Churchill Hospital (UK)

When is the study starting and how long is it expected to run for?
March 2020 to March 2024

Who is funding the study?
National Institute for Health Research (NIHR) (UK)

Who is the main contact?
Dr Alix de Calignon, alix.decalignon@paediatrics.ox.ac.uk

Study website
https://covid19vaccinetrial.co.uk/volunteer

Contact information

Type(s)
Scientific

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Additional identifiers

EudraCT/CTIS number
2020-005765-13

IRAS number
293182

ClinicalTrials.gov number
Nil known

Secondary identifying numbers
COV006, IRAS 293182

Study information

Scientific Title
A single-blind, randomised, Phase II study to determine safety and immunogenicity of the Coronavirus Disease (COVID-19) vaccine ChAdOx1 in UK healthy children and adolescents (aged 6 - 17 years)

Acronym
COV006

Study objectives
1. To assess the local reactogenicity profile and tolerability of ChAdOx1 nCoV (5.0 x1010vp /5.0 x1010vp) given as a homologous prime boost schedules (28 and 84 days interval post prime) in children aged 6 - 17 years
2. To determine the safety of the candidate ChAdOx1 nCoV-19 in children aged 6 - 17 years
3. To assess cellular and humoral immunogenicity of ChAdOx1 nCoV-19 (5.0 x1010vp /5.0 x1010vp) given as homologous prime boost (at 28 and 84 days post prime) in children aged 6 - 17 years

Ethics approval required
Old ethics approval format

Ethics approval(s)
Approved 10/02/2021, Berkshire Research Ethics Committee (Easthampstead Baptist Church, South Hill Road, Bracknell, RG12 7NS, UK; berkshire.rec@hra.nhs.uk, +44 (0)207 104 8224), ref: 21 /SC/0054

Study design
Single-blinded randomized controlled multi-centre

Primary study design
Interventional

Secondary study design
Randomised controlled trial

Study setting(s)
Other

Study type(s)
Prevention

Participant information sheet
See additional files ISRCTN15638344_PIS_Parent-Guardian_V2.0_09Feb2021, ISRCTN15638344_PIS_16-17 years_V2.0_09Feb2021, ISRCTN15638344_PIS_12-15 years_V2.1_17Feb2021, and ISRCTN15638344_PIS_6-11 years_V2.1_17Feb2021 (added 19/02/2021)

Health condition(s) or problem(s) studied
Prevention of COVID-19 infection in children

Interventions

Groups 1 and 2 (ages 12-17) will be recruited first, then Groups 3 and 4 (ages 6-11) a few weeks afterwards.

Group 1
75 participants between 12-17 years of age will receive either ChAdOx1 nCoV-19 5.0 x1010vp (N=60) OR Meningococcal Group B vaccine (Bexsero®) (N=15) with homologous boost at D28, then followed up at days 56, 182 and 364.

Group 2
75 participants between 12-17 years of age will receive either ChAdOx1 nCoV-19 5.0 x1010vp (N=60) OR Meningococcal Group B vaccine (Bexsero®) (N=15) with homologous boost at D84, then followed up at days 112, 182 and 364.

Group 3
75 participants between 6-11 years of age will receive either ChAdOx1 nCoV-19 5.0 x1010vp (N=60) OR Meningococcal Group B vaccine (Bexsero®) (N=15) with homologous boost at D28, then followed up at days 56, 182 and 364.

Group 4
75 participants between 6-11 years of age will receive either ChAdOx1 nCoV-19 5.0 x1010vp (N=60) OR Meningococcal Group B vaccine (Bexsero®) (N=15) with homologous boost at D84, then followed up at days 112, 182 and 364.

Volunteers will stay in the trial site for observation for a minimum of 15 minutes (+15 minutes), in case of immediate adverse events. All participants will be given the emergency 24-hour telephone number to contact the on-call study physician if needed.

Safety will be assessed in real time. The DSMB will periodically assess safety and efficacy data every 4-8 weeks and/or as required. Additional safety assessments will be carried out by the DSMB 7 days after the first dose in Groups 3 & 4 (and made available to the MHRA where needed) to facilitate boosting as well as monitor for difference in reactogenicity and tolerability associated with age de-escalation.

Participants will be followed over the duration of the study to record adverse events and episodes of virologically confirmed symptomatic COVID-19 cases.

Intervention Type
Biological/Vaccine

Pharmaceutical study type(s)
Not Applicable

Phase
Phase II

Drug/device/biological/vaccine name(s)
ChAdOx1 nCoV-19, Meningococcal Group B vaccine (Bexsero®)

Primary outcome measure
1. To assess the local reactogenicity profile and tolerability of ChAdOx1 nCoV (5.0 x1010vp /5.0 x1010vp) given as a homologous prime boost schedules (28 and 84 days interval post prime) in

children aged 6-17 years
1.1. Occurrence of solicited local reactogenicity signs and symptoms for 7 days following vaccination
1.2. Occurrence of solicited systemic reactogenicity signs and symptoms for 7 days following vaccination
2. To determine the safety of the candidate ChAdOx1 nCoV-19 in children aged 6 - 17 years
2.1. Occurrence of unsolicited adverse events (AEs) for 28 days following vaccination
2.2. Occurrence of SAEs and disease enhancement episodes over course of study
2.3. Occurrence of serious adverse events (SAEs) throughout study duration

Secondary outcome measures
1. To assess cellular and humoral immunogenicity of ChAdOx1 nCoV-19 (5.0 x1010vp /5.0 x1010vp) given as homologous prime boost (at 28 and 84 days post prime) in children aged 6-17 years
At Days 0, 28, 56, 84, 112, 182 and 364:
1.1. Quantify antibodies against SARS-CoV-2 spike protein
1.2. Virus neutralising antibody (NAb) assays against live and/or pseudotype SARS-CoV-2 virus
1.3. Interferon-gamma (IFN-γ) enzyme-linked immunospot (ELISpot) responses to SARS-CoV-2 spike protein
1.4. Cell analysis by flow cytometry assays

Overall study start date
02/03/2020

Completion date
25/03/2024

Eligibility

Key inclusion criteria
1. Healthy child or adolescent aged 6-17 years (upper age limit is 17 years and 8 months so that both prime and booster are expected to take place prior to their 18th birthday)
2. Able and willing (in the Investigator’s opinion) to comply with all study requirements (participant’s parents/guardians must not rely on public transport or taxis)
3. Willing to allow the investigators to discuss the participant’s medical history with their General Practitioner and access all medical records when relevant to study procedures
4. Parent/guardian to provide informed consent for participants under the age of 16; it will be assumed that participants aged 16 and over are able to provide consent for themselves, however parental support will be sought and investigators will reserve the right to refuse enrollment if concerns arise

Participant type(s)
Healthy volunteer

Age group
Child

Lower age limit
6 Years

Upper age limit

17 Years

Sex
Both

Target number of participants
300

Total final enrolment
262

Key exclusion criteria
1. History of laboratory confirmed COVID-19 (A positive result on a validated test for SARS-CoV-2 or seropositivity for SARS-CoV-2 before enrolment)
2. Chronic respiratory diseases, including mild asthma (resolved childhood asthma is allowed)
3. Prior receipt of MenB vaccine
4. Prior receipt of any vaccines (licensed or investigational) ≤30 days before enrolment
5. Planned receipt of any vaccine other than the study intervention within 30 days before and after each study vaccination
6. Prior receipt of an investigational or licensed vaccine likely to impact on interpretation of the trial data (e.g. Adenovirus vectored vaccines, any coronavirus vaccines)
7. Administration of immunoglobulins and/or any blood products within the three months preceding the planned administration of the vaccine candidate
8. Any confirmed or suspected immunosuppressive or immunodeficient state, including HIV infection; asplenia; recurrent severe infections and use of immunosuppressant medication within the past 6 months, except topical steroids or short-term oral steroids (course lasting <14 days)
9. Any autoimmune conditions,
10. History of allergic disease or reactions likely to be exacerbated by any component of the ChAdOx1 nCoV-19 or MenB vaccines
11. Previous diagnosis of Kawasaki disease
12. Any history of angioedema
13. Any history of anaphylaxis
14. Pregnancy, lactation or willingness/intention to become pregnant during the study
15. Any history of cancer
16. Bleeding disorder (e.g. factor deficiency, coagulopathy or platelet disorder), or prior history of significant bleeding or bruising following IM injections or venepuncture
17. Any other serious chronic illness requiring hospital specialist supervision
18. Congenital cardiovascular conditions
19. Any other significant disease, disorder or finding which may significantly increase the risk to the participant because of participation in the study, affect the ability of the participant to participate in the study or impair interpretation of the study data
20. Child of a staff member of the Oxford Vaccine Group

Date of first enrolment
15/02/2021

Date of final enrolment
17/04/2021

Locations

Countries of recruitment
England

United Kingdom

Study participating centre
Centre for Clinical Vaccinology & Tropical Medicine
University of Oxford Churchill Hospital
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OX3 7LA

Study participating centre
University Hospitals Bristol and Weston NHS Foundation Trust
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Study participating centre
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SO16 6YD

Study participating centre
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Sponsor information

Organisation
University of Oxford

Sponsor details

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Sponsor type
University/education

Website
http://www.ox.ac.uk/

ROR
https://ror.org/052gg0110

Funder(s)

Funder type
Government

Funder Name
National Institute for Health Research

Alternative Name(s)
National Institute for Health Research, NIHR Research, NIHRresearch, NIHR - National Institute for Health Research, NIHR (The National Institute for Health and Care Research), NIHR

Funding Body Type
Government organisation

Funding Body Subtype
National government

Location
United Kingdom

Funder Name
AstraZeneca UK

Results and Publications

Publication and dissemination plan
There are no plans currently to have any additional documents be available. Planned publication in a high-impact peer-reviewed journal.

Intention to publish date
01/09/2023

Individual participant data (IPD) sharing plan
The datasets generated during and/or analyzed during the current study are/will be available upon requests directed to the corresponding author on publications or upon written approval of the sponsor.

IPD sharing plan summary
Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Participant information sheet	version V2.0	09/02/2021	19/02/2021	No	Yes
Participant information sheet	version V2.1	17/02/2021	19/02/2021	No	Yes
Participant information sheet	version V2.0	09/02/2021	19/02/2021	No	Yes
Participant information sheet	version V2.1	17/02/2021	19/02/2021	No	Yes
Protocol file	version V3.0	01/03/2021	09/03/2021	No	No
Participant information sheet	version 3.0	15/03/2021	23/03/2021	No	Yes
Participant information sheet	version 3.0	15/03/2021	23/03/2021	No	Yes
Participant information sheet	version 3.0	15/03/2021	23/03/2021	No	Yes
Participant information sheet	version 4.0	25/03/2021	12/04/2021	No	Yes
Participant information sheet	version 4.0	25/03/2021	12/04/2021	No	Yes
Participant information sheet	version 7.0	28/05/2021	09/06/2021	No	Yes
Participant information sheet	version 6.0	28/05/2021	09/06/2021	No	Yes
Participant information sheet	version 6.0	28/05/2021	09/06/2021	No	Yes
Results article		11/06/2022	13/06/2022	Yes	No
HRA research summary			28/06/2023	No	No
Protocol file	version 8.4	15/07/2022	23/08/2024	No	No
Protocol file	version 4.0	15/03/2021	27/08/2024	No	No
Protocol file	version 5.0	25/03/2021	27/08/2024	No	No

Protocol file	version 6.0	10/04/2021	27/08/2024	No	No
Protocol file	version 7.0	10/05/2021	27/08/2024	No	No
Protocol file	version 8.0	28/05/2021	27/08/2024	No	No
Protocol file	version 8.1	16/07/2021	27/08/2024	No	No
Protocol file	version 8.2	14/09/2021	27/08/2024	No	No
Protocol file	version 8.3	21/10/2021	27/08/2024	No	No
Results article	Final results	25/08/2025	25/03/2025	Yes	No
Results article			27/08/2025	Yes	No