BCG vaccination for healthcare workers in SARS-CoV-2 pandemic

No registrations found.

Ethical review	Positive opinion
Status	Pending
Health condition type	-
Study type	Interventional

Summary

ID

NL-OMON27106

Source
NTR

Brief title
BCGcorona

Health condition

SARS-CoV-2, COVID19

Sponsors and support

Primary sponsor: University Medical Centre Utrecht
Source(s) of monetary or material Support: University Medical Centre Utrecht

Intervention

Outcome measures

Primary outcome

Number of days of unplanned absenteeism for any reason

Secondary outcome

-Secondary endpoints will be:

• the cumulative incidence of documented COVID-19 infection
• the cumulative incidence of Hospital Admission due to documented COVID-19 infection
• the number of days of unplanned absenteeism, because of documented COVID-19 infection
• the cumulative incidence of self-reported acute respiratory symptoms or fever
• the cumulative incidence of death due to documented COVID-19 infection
• the cumulative incidence of Intensive Care Admission due to documented COVID-19 infection

Exploratory endpoints will be:
• the number of days of absenteeism, because of imposed quarantine as a result of exposure to SARS-CoV-2 infection
• the number of days of absenteeism, because of imposed quarantine as a result of having acute respiratory symptoms, fever or documented SARS-CoV-2 infection
• the number of days of unplanned absenteeism because of self-reported acute respiratory symptoms
• the number of days of self-reported fever (≥38 gr C)
• the cumulative incidence of self-reported fever (≥38 gr C)
• the number of days of self-reported acute respiratory symptoms
• the cumulative incidence of self-reported acute respiratory symptoms
• the cumulative incidence of death for any reason
• the cumulative incidence of Intensive Care Admission for any reason
• the cumulative incidence of Hospital Admission for any reason
• the cumulative incidence and magnitude of plasma/serum antibodies (IgA,M,G) and SARS-CoV-2-specific antibodies at 12 weeks after vaccination and at the end of the study period
• the cumulative incidence and magnitude of total and/or SARS-COV-2-specific mucosal antibodies at 12 weeks after vaccination and at the end of the study period

Study description

Background summary

RATIONALE: SARS-CoV-2 spreads rapidly throughout the world. A large epidemic in the Netherlands would seriously challenge the available hospital capacity, and this would be augmented by absenteeism of healthcare workers (HCW). Strategies to prevent absenteeism of HCW are, therefore, desperately needed to safeguard continuous patient care. Bacille Calmette-Guérin (BCG) is a vaccine against tuberculosis, with protective non-specific effects against other respiratory tract infections in in vitro and in vivo studies, and reported significant reductions in morbidity and mortality. We hypothesize that BCG vaccination can reduce HCW absenteeism during the epidemic phase of SARS-CoV-2.
OBJECTIVES: Primary objective: To reduce absenteeism among HCW with direct patient contacts during the epidemic phase of COVID19. Secondary objective: To reduce hospital admission, ICU admission or death in HCW during the epidemic phase of COVID19.
STUDY DESIGN: A placebo-controlled adaptive multi-centre randomized controlled trial.
STUDY POPULATION: HCW with direct patient contacts, defined as nurses and physicians

working at emergency rooms and wards where COVID-infected patients are treated.
INTERVENTION: Participants will be randomized between intracutaneous administration of BCG vaccine or placebo in a 1:1 ratio.
MAIN STUDY PARAMETERS/ENDPOINTS: Primary endpoint: number of days of (unplanned) absenteeism for any reason. Secondary endpoints: number of days of (unplanned) absenteeism because of documented SARS-CoV-2 infection, and the cumulative incidence of hospital admission, Intensive Care Admission, and death.
NATURE AND EXTENT OF THE BURDEN AND RISKS ASSOCIATED WITH PARTICIPATION, BENEFIT AND GROUP RELATEDNESS: Based on previous experience and randomized controlled trials in adult and elderly individuals, the risks of BCG vaccination are considered low. The objective of this trial is to evaluate the beneficial effects of BCG vaccination through a lower work absenteeism rate of HCW and/or a mitigated clinical course of SARS-CoV-2 infection. The primary endpoint and the adaptive design with frequent interim analyses facilitate maximum efficiency of the trial, so that results can inform policy making during the ongoing epidemic.

Study objective

BCG vaccination may induce (partial) protection against susceptibility to and/or severity of SARS-CoV-2 infection. This will lead to reduced workplace absenteeism under health care workers taking care of patients with COVID-19

Study design

Daily measurements of the primary and secondary endpoints through a mobile application, with two-weekly interim analysis of the primary endpoint starting in week 4 using a Bayesian negative binomial regression model. This means study duration and follow-up is dynamic, with a maximum of 180 days per participant.

Intervention

Participants will be randomized between intracutaneous administration of BCG vaccine or placebo in a 1:1 ratio

Contacts

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Eligibility criteria

Inclusion criteria

- Adult (≥18 years);
- Male or female;
- Hospital personnel (expected to) taking care for patients with SARS-CoV-2 infection

Exclusion criteria

- Known allergy to (components of) the BCG vaccine or serious adverse events to prior BCG administration;
- Known active or latent Mycobacterium tuberculosis or with another mycobacterial species. A history with- or a suspicion of M. tuberculosis infection;
- Fever (>38 C) within the past 24 hours
- Pregnancy;
- Suspicion of active viral or bacterial infection;
- Vaccination in the past 4 weeks or expected vaccination during the study period, independent of the type of vaccination
- Severely immunocompromised subjects. This exclusion category comprises: a) subjects with known infection by the human immunodeficiency virus (HIV-1); b) neutropenic subjects with less than 500 neutrophils/mm3; c) subjects with solid organ transplantation; d) subjects with bone marrow transplantation; e) subjects under chemotherapy; f) subjects with primary immunodeficiency; g) severe lymphopenia with less than 400 lymphocytes/mm3; h) treatment with any anti-cytokine therapies. i) treatment with oral or intravenous steroids defined as daily doses of 10mg prednisone or equivalent for longer than 3 months, or probable use of oral or intravenous steroids in the following four weeks;
- Active solid or non-solid malignancy or lymphoma within the prior two years;
- Direct involvement in the design or the execution of the BCG-CORONA study;
- Expected absence from work of ≥4 of the following 12 weeks due to any reason (holidays, maternity leave, retirement, planned surgery etc);
- Employed to the hospital < 22 hours per week;
- Not in possession of a smartphone

Study design

Design

Study type:	Interventional
Intervention model:	Parallel
Allocation:	Randomized controlled trial
Masking:	Double blinded (masking used)
Control:	Placebo

Recruitment

NL

Recruitment status:	Pending
Start date (anticipated):	20-03-2020
Enrollment:	1500
Type:	Anticipated

IPD sharing statement

Plan to share IPD: Undecided

Ethics review

Positive opinion

Date:	20-03-2020
Application type:	First submission

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register	ID
NTR-new	NL8477
Other	METC Utrecht : 20-139

Study results