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Hepatitis B vaccination in patients with chronic hepatitis B

Submission date 27/04/2016	**Recruitment status** No longer recruiting	[X] Prospectively registered [_] Protocol [_] Statistical analysis plan [_] Results [_] Individual participant data [_] Record updated in last year
Registration date 27/04/2016	**Overall study status** Completed	
Last Edited 23/10/2017	**Condition category** Infections and Infestations	

Plain English summary of protocol

Background and study aims
Hepatitis B is a liver infection caused by a virus. The surface antigen is the part of the hepatitis B virus that is found in the blood of someone who is infected. Hepatitis B carriers who no longer have the surface antigen in their blood have a better prognosis. Nevertheless, they are still at risk of developing a flare up of hepatitis B, acute liver failure, cirrhosis (scarring of the liver) and hepatocellular carcinoma (liver cancer). We therefore would like to evaluate the effect and safety of treatment with imiquimod ointment before hepatitis B vaccination in patients who have lost their surface antigens.

Who can participate?
Patients aged 18 or over who have lost their surface antigens during follow-up of chronic hepatitis B infection

What does the study involve?
Participants are randomly allocated to receive either three doses of hepatitis B vaccine or a placebo (dummy) vaccine at 0, 1 and 6 months. Participants are also randomly allocated into three groups. Group 1 is treated with an imiquimod ointment before intradermal vaccination (into the skin). Group 2 is treated with an imiquimod ointment before intramuscular vaccination (into the muscle). Group 3 is treated with a cream before intradermal vaccination (into the skin).

What are the possible benefits and risks of participating?
The potential benefit is that the participants may be cured of their hepatitis B carrier status and successfully mount an antibody response against hepatitis B. The risks are local side effects of pain and swelling over the vaccination site. Patients who do not receive the vaccine might not be able to mount an immune response against hepatitis B.

Where is the study run from?
Queen Mary Hospital (Hong Kong)

When is the study starting and how long is it expected to run for?
April 2016 to March 2018

Who is funding the study?
University of Hong Kong

Who is the main contact?
Prof Ivan Hung

Contact information

Type(s)
Public

Contact name
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Additional identifiers

Protocol serial number
UW 15-106

Study information

Scientific Title
A double-blind randomized controlled trial of hepatitis B vaccination with topical imiquimod in subjects with occult hepatitis B

Study objectives
The objective of this prospective double-blind randomized controlled trial is to evaluate the effect and safety of topical treatment with imiquimod immediately before intradermal vaccination with Sci-B-Vac™ in patients with occult hepatitis B (OBI). Our a priori hypothesis is that imiquimod pretreatment would improve immune responses to Sci-B-Vac™ further in OBI patients, resulting in HBsAb conversion, thereby preventing subsequent complications including flare of hepatitis, cirrhosis and HCC in these patients.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Institutional Review Board of the University of Hong Kong/Hospital Authority Hong Kong West Cluster (HKU/HA HKW IRB), 11/03/2015, IRB Reference Number: UW 15-106

Study design

Double-blind randomised controlled trial

Primary study design
Interventional

Study type(s)
Treatment

Health condition(s) or problem(s) studied
Patients with occult hepatitis B (OBI) as defined by chronic hepatitis B carrier, with documented loss of HBsAg, negative anti-HBs, positive anti-HBc and negative HBV DNA.

Interventions
Recruited patients will be randomised into 3 groups in the ratio of 1:1:1. Each patient will receive a 3-dose Sci-B-Vac™ regime or placebo at 0, 1 and 6 months. Group 1 will receive a total of 10µg intradermal HBsAg each time with topical imiquimod ointment pretreatment; Group 2 will receive a total of 10µg intramuscular HBsAg each time with topical imiquimod ointment pretreatment; Group 3 will receive a total of 10µg intradermal HBsAg each time with topical aqueous cream pretreatment.

Intervention Type
Biological/Vaccine

Primary outcome(s)
Percentage of patients with anti-HBs antibody titre ≥10 IU/L at 12 months

Key secondary outcome(s))
1. Seroconversion and seroprotection rate at 1, 6 and 12 months after the first first dose of vaccination
2. The GMT fold increase at 1, 6 and 12 months
3. Safety and side effects after vaccination

Completion date
31/03/2018

Eligibility

Key inclusion criteria
1. Subjects recruited have to be aged ≥18 years with no history of previous hepatitis B vaccination, with documentation of loss of HBsAg without anti-HBs production during follow-up of the chronic hepatitis B infection, with normal liver function tests and negative HBV DNA
2. Subjects have to give written informed consent
3. Subjects must be available to complete the study and comply with study procedures

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Adult

Lower age limit
18 years

Sex
All

Key exclusion criteria
1. Subjects with a history or any illness that might interfere with the results of the study or participation in the study may pose additional risk to the subjects
2. Subjects have a recent history (documented, confirmed or suspected) of a flu-like disease within a week of vaccination
3. Subjects have a known allergy to components of the study vaccine Sci-B-Vac™
4. Subjects have a positive urine or serum pregnancy test within 24 hours prior to vaccination, or women who are breastfeeding
5. Subjects have an active neoplastic disease or a history of any hematologic malignancy
6. Subjects have known chronic active hepatitis C (anti-HCV+ve), autoimmune hepatitis or cirrhosis
7. Subjects have known active human immunodeficiency virus infection (anti-HIV+ve)
8. Subjects have received an experimental agent (vaccine, drug, biologic, device, blood product, or medication) within 1 month prior to vaccination in this study or expect to receive an experimental agent during this study
9. Subjects participate in another clinical study during the current study
10. Subjects have axillary temperature ≥38°C or oral temperature ≥38.5°C within 3 days of intended study vaccination
11. Subjects have a history of alcohol or drug abuse in the last 5 years
12. Subjects have any condition that the investigator believes may interfere with successful completion of the study

Date of first enrolment
30/04/2016

Date of final enrolment
31/03/2017

Locations

Countries of recruitment
Hong Kong

Study participating centre
Queen Mary Hospital
102 Pokfulam Road
Hong Kong
Hong Kong
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Sponsor information

Organisation
University of Hong Kong

ROR
https://ror.org/02zhqgq86

Funder(s)

Funder type
University/education

Funder Name
University of Hong Kong

Alternative Name(s)
The University of Hong Kong, , Universitas Hongkongensis, HKU

Funding Body Type
Government organisation

Funding Body Subtype
Universities (academic only)

Location
Hong Kong

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Stored in repository

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes