Queen Elizabeth Hospital Birmingham
Part of University Hospitals Birmingham
NHS Foundation Trust

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**PATIENT INFORMATION SHEET**

Title of Project: “An open-label trial of CARBALIVE for the Treatment of Cholestatic Liver Disease”

Short name: The CATCh Study

The Centre for Liver and Gastrointestinal Research at the University of Birmingham is conducting a clinical trial. You are invited to participate in this trial as you have a condition called primary sclerosing cholangitis (PSC).

Before you decide whether to take part, you need to understand why this clinical trial is being done and what would be involved it you decide to participate. Please take time to read the following information carefully. Talk to others about the study if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide if you want to participate in the study.

**What is the purpose of the study?**

We all have bacteria in our gut, but in healthy people these bacteria normally remain confined in the gut. However, in people with primary sclerosing cholangitis (PSC), the types of bacteria in the gut are different compared to individuals without PSC. In PSC, gut bacteria, leak from the gut and travel to the liver and can cause inflammation. Over time, this inflammation can lead to liver scarring. Ongoing leak of gut bacteria (and their fragments) can cause the liver to lose function and fail. When this happens a liver transplant is needed.

This clinical trial will test a new way to lower the leakage of bacterial fragments with a new product called CARBALIVE ( or Yaq-001). CARBALIVE works by directly binding to the bacterial fragments in the gut and preventing them from leaking and travelling to the liver.

CARBALIVE is a new type of carbon which is being developed by the company Yaqrit Ltd. In animal experiments, the researchers have shown that CARBALIVE can bind harmful bacterial toxins. CARBALIVE, along with the bacterial toxins, are eliminated with stool without being absorbed into the bloodstream. This has been shown to have beneficial effects in animal models of liver disease, and in humans who have advanced liver disease (cirrhosis) from causes other than PSC.

The purpose of this clinical trial is to see if the same effect is seen, specifically in people who have PSC. The goal of the trial is to assess if treatment with CARBALIVE is safe for you and is well-tolerated by you. Additionally, we will assess if CARBALIVE helps to improve your overall health status. You will be expected to participate in the study for up to a total of 14 weeks: screening period up to 2 weeks, treatment for 12 weeks.

A total of 12 patients from The Queen Elizabeth Hospital Birmingham, University Hospitals Birmingham NHS Trust will participate in this clinical trial. The total study duration is estimated to be approximately 12 months from screening of the first patient until study completion of the last patient.

**Why have I been invited to participate?**

Your doctor has explained to you that you have PSC. This study is about a new approach to reduce the complications of that arise as a result of this condition.

**Do I have to take part?**

Your decision to participate will not affect further treatment by your doctor in any way. You are under no obligation to participate in this study.

**What will happen to me if I take part?**

If you decide to participate, you will be given this information sheet to keep and you will be asked to sign and date a consent form. You will also be given a copy of the consent form to keep.

The treatment and procedures that you will have to undergo during the study are described below.

***Screening visit:***

After having signed the informed consent, you will undergo a screening visit up to two weeks prior to start of the study treatment. The screening visit is anticipated to last 60 minutes.

On this first visit we will perform a general evaluation including:
- review of your medical history and medication history
- physical examination
- vital signs: blood pressure, pulse rate, respiratory rate, and body temperature
- blood and urine tests

Ten mL of blood will be drawn at your Screening Visit and stool sample will be collected. These above tests are part of the normal management of a patient with your disease.

***Dosage of study medication***

The first six people included in the study will receive a daily dose of 8g CARBALIVE. The second group of six participants will receive a daily dose of 12g CARBALIVE. The safety and tolerability of CARBALIVE will be assessed at two different dosages. We will only start people on the higher dose after we have safety information about the 8g dose group.

***Treatment Period (week 1, week 6 and week 12)***

You will be treated for 12 weeks. During this period, you will be assessed by a study doctor.

The following assessments will be performed at week 1 (one the first day you receive treatment), week 6 and week 12:

- physical examination
- vital signs: blood pressure, pulse rate, respiratory rate, and body temperature
- collection of blood and urine samples for analysis at the hospital laboratory
- review of changes in your medical status since the previous visit
- review of changes in your medications taken since the previous visit
- Ten mL of blood will be drawn at each visit. You will also be asked to provide a stool sample. The stool sample can be obtained at home, up to 24 hours before you attend for your study visit. Specific containers for collecting stool samples will be provided.

Each study doctor's visit during the treatment period is anticipated to last 60 minutes.

At each visit during the treatment period, the study doctor or study nurse will also ask you to complete a health-related quality of life questionnaire.

The study treatment will be supplied to you as sachets for oral administration (to take by mouth). At week 1 (day 1), Week 6 and Week 12 visits you will receive a kit (box) containing enough treatment for you to take between visits. The study doctor will instruct you to take the study treatment once at night after dinner. You will be asked to carefully keep all the used and unused sachets and to return them at each visit. The used and unused sachets should be returned in the same kit (box) they came in. If you wish, you can place the used sachets in a plastic bag.

***Termination visit***

You will have your last study in week 12, no later than 3 days following the last day of treatment. The following assessments will be done:

- Physical examination
- Vital signs: blood pressure, pulse rate, respiratory rate, and body temperature
- Review of changes in your medical status or medications taken since the previous visit.
- Collection of a blood sample and stool sample.

The termination visit will take about 30 minutes.

**How Do I Take the Product?**

Note: The following directions will also be included in each kit (box) of product that you will receive at Week 1, Week 6, and Week 12 visits.

1. Tear off the top of sachets (4 or 6) and pour the contents of the sachets (4 or 6) into a glass.

2. Add at least 50ml of water to the glass.

3. Stir the content several times to mix the contents

4. Immediately drink the entire 50ml solution.

5. Add a further 50ml (minimum) of water to the glass and repeat steps 3 and 4.

6. You may wish to swish water around in your mouth to rinse any leftover product. Place the entire contents of one sachet on the back of the tongue.

6. If you accidentally drop a sachet, or spill the contents, open a new sachet and take the full contents. Save the sachet that you dropped.

**Store the product at room temperature. Do not expose to moisture/excessive humidity (keep at less than 40% humidity).**

**CARBALIVE does not have any taste or smell.**

### Expenses

There will be no charge to you for any of the procedures or treatment products associated with this study. You will not incur any additional costs as a participant of this study. Any travel expenses (cost to travel back and forth to the clinical study site) incurred during the study will be reimbursed.

### Will I be paid if I take part in this clinical trial?

Other than reimbursement for travel expenses, you will not be paid to take part in this study.

### What are the alternatives for treatment?

At present, there are no licensed medical treatments for PSC.

### What are the possible disadvantages and risks of taking part in the study?

Small risks associated with taking blood samples may include pain, temporary dizziness and bruising.

There may possibly be other side effects and risks that are currently unknown. If you are concerned about other, unknown side effects, please discuss this with the researchers.

**What are the potential side effects of the treatment?**

Oral carbons have been used safely in humans for centuries. Previous large studies have demonstrated that oral carbons are safe in patients with other chronic liver diseases, irritable bowel syndrome and on dialysis.

No major side effects have been reported in previous trials related to CARBALIVE. The commonest side effects that have been reported with CARBALIVE use are: nausea, vomiting, constipation and diarrhoea (at a rate of less than 5%). Your doctor will prescribe appropriate medications to counter this, if this becomes a problem.

There is a possibility that the carbons may bind and affect other medications you may be taking. Your doctor will instruct you as to when to take your other medications to prevent any possible interactions with CARBALIVE.

Either CARBALIVE or placebo may cause your stool to turn black. Because CARBALIVE is a very good adsorbent, there is a small possibility that some of your vitamin levels will go down slightly and you may need to take supplements during the study. We will monitor your vitamin levels, as part of your blood tests, throughout the study to make sure you get the right supplements you need.

If you experience any side effects, you should report this to the study team. The 24-hour emergency contact is:

Name: On call Liver Registrar

Telephone number: 0121 371 2000

In addition, the contact email address for the research trial team is: CATChtrial@uhb.nhs.uk
Please note that emails sent outside of our business hours (9:00 AM – 5:00 PM) may not be read or responded to until the next business day.

**How will risks be minimized or prevented?**

Regardless of participation in this clinical trial, you will be treated and monitored according to standard of care. Every effort will be made to minimize or eliminate all potential risks and discomforts.

The schedule of the study visits has been designed to be minimally intrusive whilst providing for enough visits to allow for sufficient safety monitoring.

**What are the possible benefits of taking part?**

This study is being undertaken to confirm that CARBALIVE is safe and well tolerated in patients with PSC. It may also have the benefit of the reduction in bacteria and bacterial toxins into the blood, and the improvement of organ function (liver, brain, kidney, intestine and immune system) and nutritional status.

If you agree to take part in this clinical trial, there may not be immediate or direct benefits for you. The study doctor cannot guarantee that you will benefit from participation in this clinical trial. However, the information gained from this study may lead to better management of the complications of PSC in the future.

**What will my responsibilities be during the study?**

It is your responsibility to:

- Ask questions about anything that is not understood.
- Follow the researchers' instructions, including timing of taking the study treatment, and timing of taking your other medications.
- Return supplies of used and unused study product in the box that it came in.
- Let the researchers know if there are telephone number or address changes.
- Report to the study researchers any injury or illnesses while you are in the study even if you do not think it is related.

**If I agree to take part in this clinical trial, will I be told of any new risks that may be found during the study?**

Yes. You will be told if any new information becomes available during the study that could cause you to change your mind about continued participation or that is important to the patient's health or safety. You may be asked to sign a revised consent form if this occurs.

**Can I stop taking part in this clinical trial?**

Yes. If you decide to participate in the clinical trial and later change your mind, you are free to stop participation in the study at any time.

If you decide to stop taking part in this clinical trial, this will not affect your relationship with staff or doctors. Whether you participate or not in the study will have no effect on your legal rights or the quality of your health care.

**Are there procedures I should follow after stopping my participation in this study?**

You will need to let the study doctor know immediately that you wish to withdraw from the study. You will continue your regular standard of care visits with your treating doctor/healthcare team.

**If I agree to take part in this study, can I be removed from it without my consent?**

Yes. The doctors may decide to take you off this study if:

- regulatory authorities order that the clinical trial be stopped
- they believe that participation in the study is no longer safe for you
- you do not take your trial treatment as directed by your doctor

**What happens when the clinical trial has ended?**

The treatment period is for 12 weeks. We will not offer further Yaq-001 therapy after the treatment period is complete.

**Will my taking part in the study be kept confidential?**

All information which is collected about you during the study is personal data and will be kept strictly confidential. However, by signing the Informed Consent Form, you are authorising individuals appointed by the sponsoring company, and members of the NHS Trust to read the medical information about you which is related to your participation in the study.

The monitors and auditors employed or contracted by the company sponsoring the study (Yaqrit Ltd) will have access to your medical records and study data pertinent to you to verify that your rights and welfare are being respected and to verify the validity of the study data that is being collected.

In addition, regulatory authorities may review your records while conducting inspections of the study to confirm that the sponsor and the investigator are carrying out the study correctly and to assess the validity of the data generated from the study.

The study data that the sponsor requests from the study doctors does not include your name, address or other personal details. Instead, the doctor assigns a code number to your records that are sent to the sponsor. Your name will be never used for study information or to label your blood or urine or stool samples. There will be only one list which links the study number to your name, and this list will be safely kept by the investigator in the hospital.

The sponsor will enter all the collected study data into a research database. If you stop your participation in the study, we will stop collecting any new data but the sponsor will use the data that has already been collected.

We can assure you that all the data acquired from the study will be kept confidential in keeping with the Data Protection Act.

**How will we use information about you?**

We will need to use information from you and your medical records for this research project.

This information will include your:

- Initials
- Name
- Hospital number
- Contact details
- Details relating to medical history and medications

People will use this information to do the research or to check your records to make sure that the research is being done properly. People who do not need to know who you are will not be able to

see your name or contact details. Your data will have a code number instead. University Hospitals Birmingham trial site will keep identifiable information about you for 10 years after the study has finished.

Yaqrit Ltd is the sponsor of this research and is responsible for looking after your information. We will keep all information about you safe and secure by:

- Assigning you a unique study number to attach to your study records
- Maintaining your confidentiality and ensuring your name, NHS or hospital number, contact details or other identifiers are not passed to Yaqrit Ltd.
- Ensuring that your information is only used by your hospital as needed, to contact you about the research study and make sure that relevant information about the study is recorded for your care, and to oversee the quality of the study.
- Ensuring that the people who analyse the information will not be able to identify you and will not be able to find out your name, NHS number or contact details.

**International transfers**

Your data will not be shared outside the UK.

**What are your choices about how your information is used?**

- You can stop being part of the study at any time, without giving a reason, but we will keep information about you that we already have
- You have the right to ask us to remove, change or delete data we hold about you for the purposes of the study. We might not always be able to do this if it means we cannot use your data to do the research. If so, we will tell you why we cannot do this
- If you agree to take part in this study, you will have the option to take part in future research using your data saved from this study.

**Where can you find out more about how your information is used?**

You can find out more about how we use your information by:

- Asking one of the research team or
- Contacting (Sponsor’s Data Protection Officer

**Involvement of the GP/family doctor**

Your GP will be informed of your participation in this study only if you agree. However, if you prefer that we do not contact your GP, please inform your study doctor who will ensure that this does not happen.

**What will happen to the biological samples (e.g., blood, stool) I give?**

All research samples will be given a coded number before being sent from your hospital for analysis. This ensures that no personal information (name, address) is associated with your samples. Any remaining samples will be stored for future ethically approved research work

The samples will be processed for analyses to provide study data. If additional samples are taken for any other tests than specified in this informed consent, we will inform you at the time. You would need to sign an additional consent form at the time.

Should we discover anything of clinical significance through analyzing your samples as part of this study, we will discuss this with your clinician, relay this back to you and action these findings are necessary.

**What will happen to the results of the clinical trial?**

The results of this study will be submitted for publication to a medical journal. The authors will be the study doctors of this study. The results of the study may be presented at local, national or international conferences. A letter will also be sent out to all participants informing them of the general outcome of the study. Your identification as a study participant will not be disclosed in any publication.

**Who is organising, insuring and funding this clinical trial?**

The study is sponsored by Yaqrit Ltd and will be coordinated by the University of Birmingham Centre for Liver and Gastrointestinal Research and the University Hospitals Birmingham NHS Trust Liver Unit. The Chief Investigator is Dr Palak Trivedi. The investigators will include doctors and nurses within the Liver Unit. Funding for the study is being provided by a grant provided by LifeArc.

**Who has reviewed the study?**

This study has been evaluated and approved by the West Midlands - South Birmingham Research Ethics Committee on 17th June 2025 and the Medicines and Healthcare products Regulatory Agency (MHRA) on 3rd June 2025.

**What if there is a problem?**

In the unlikely event that something goes wrong or if you have a concern about any aspect of this study, please speak to your study doctor or ask to speak with the doctor in charge of the study at the hospital, Dr Palak Trivedi (0121 371 4672 / 8173).

If you remain unhappy and wish to complain formally, you can do this via the hospital's Patient Advice and Liaison Service (PALS). Contact details are as follows:

UHB PALS office, Queen Elizabeth Hospital, Birmingham
0121 424 0808; pals@uhb.nhs.uk.

**Harm**

If there is a problem or adverse event during the study, participants will be treated according to standard clinical strategies and will be followed up until the adverse event is resolved or stabilized or until a plausible explanation of the cause of the event has been found. In the unlikely event of injury or illness resulting from this study, emergency medical treatment is available and will be provided to you.

While it is not expected that you will suffer any health problems by taking part in this study, in the event that something does go wrong and you are harmed during the research, the study sponsor has an insurance policy that provides compensation for impairment of health or injuries that may occur in connection with your participation in the study. What is not covered by the insurance policy is the impairment of health related to your current medical condition or a natural consequence of your medical condition.

You may need to inform your private health insurer that you are participating in this study, depending on your policy.

**Whom do I call if I have questions or problems?**

For questions about the study, do not hesitate to contact your study doctor:

Dr: Palak Trivedi

Phone: 0121 371 4672 / 8173 or Michelle Panton, Penny Rogers and Pamela Jones; Research Nurses, 0121 371 8182 / 8460 during regular business hours.

Phone: On call Liver Registrar 0121 371 2000 after hours and on weekends and holidays.

***Thank you for reading this document and considering participating in the study.***