

# AFI-targeted confocal endomicroscopy in Barrett's oesophagus

<b>Submission date</b> 12/06/2017	<b>Recruitment status</b> No longer recruiting	<input type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
<b>Registration date</b> 25/07/2017	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
<b>Last Edited</b> 23/09/2022	<b>Condition category</b> Cancer	<input type="checkbox"/> Individual participant data <input type="checkbox"/> Record updated in last year

## Plain English summary of protocol

<https://www.cancerresearchuk.org/about-cancer/find-a-clinical-trial/a-study-looking-at-a-new-test-to-find-cell-changes-for-people-with-barretts-oesophagus-ace-b>

## Contact information

### Type(s)

Public

### Contact name

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### Type(s)

Scientific

### Contact name

Dr Massimiliano di Pietro

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## **Additional identifiers**

**EudraCT/CTIS number**

**IRAS number**

**ClinicalTrials.gov number**

**Secondary identifying numbers**  
33291

## **Study information**

### **Scientific Title**

Cross-over randomised study to evaluate the combination of autofluorescence imaging and confocal laser endomicroscopy to diagnose dysplasia in Barrett's oesophagus

### **Study objectives**

The aim of this study is to test a combination of enhanced endoscopic imaging (autofluorescence imaging and confocal laser endomicroscopy) in combination to molecular tests on tissue samples to allow diagnosis of dysplasia and early cancer in Barrett's oesophagus.

### **Ethics approval required**

Old ethics approval format

### **Ethics approval(s)**

East of England - Cambridgeshire and Hertfordshire Research Ethic Committee, 05/04/2017, ref: 16/EE/0554

### **Study design**

Randomised; Interventional; Design type: Diagnosis, Imaging

### **Primary study design**

Interventional

### **Secondary study design**

Randomised controlled trial

### **Study setting(s)**

Hospital

### **Study type(s)**

Treatment

**Participant information sheet**

Not available in web format, please use the contact details below to request a patient information sheet

## **Health condition(s) or problem(s) studied**

Barrett's oesophagus

## **Interventions**

As part of this study, patients referred with flat Barrett's oesophagus without evidence of visible lesions receive two endoscopies in a randomised order (standard procedure and experimental procedure).

Standard procedure: This includes a standard endoscopy with multiple random biopsies according to the Seattle protocol (targeted biopsies on visible lesions + 4 biopsies every 2 cm within the Barrett's oesophagus). The endoscopist is only be allowed to use white light high resolution endoscopy.

Experimental procedure: This procedure uses multimodal imaging. The endoscopist uses autofluorescence imaging (AFI) to identify area at risk of dysplasia. These are analysed with Probed-Based Confocal Laser Endomicroscopy (pCLE) to make a real-time optical diagnosis (Barrett's with or without dysplasia). Two targeted biopsies stored in formalin are then taken for histology and biomarkers from each AFI targeted location. In patients with no AFI positive areas one random location are used for pCLE analysis and molecular biomarkers for every 5cm of maximum extent of the Barrett's. The biopsies on AFI targeted areas processed for standard histology are used for clinical purpose as well and are part of the final histologic diagnosis and potentially inform treatment as per clinical guidelines.

In addition to histological diagnosis, the biopsies taken during the experimental procedure are tested for a panel of 3 molecular biomarkers.

After the first study procedure, the patient arecheduled for a second endoscopy 8-12 weeks after with the alternative protocol.

With the second procedure the patient completes the study and referred for standard clinical management based on the histopathological result of the biopsies taken during the two study procedures.

## **Intervention Type**

Other

## **Primary outcome measure**

The diagnostic accuracy for any grade of dysplasia of pCLE is measured comparing real-time optical diagnosis of dysplasia by pCLE on AFI-positive areas (experimental procedure) with the gold standard histologic diagnosis (overall pathological diagnosis from experimental and standard procedures).

## **Secondary outcome measures**

1. Added value of the use of molecular biomarkers to the optical biopsy for the diagnosis of any grade of dysplasia. This will be measured by testing molecular biomarkers on tissue biopsies. The biomarkers result will be integrated with that of the optical diagnosis and the results will be compared with that of the gold standard histologic diagnosis.
2. Diagnostic accuracy for any grade of dysplasia of a panel of biomarkers performed on AFI-

targeted biopsies. This will be measured by testing molecular biomarkers on tissue biopsies and comparing the results with the gold standard histologic diagnosis

3. Time to perform AFI-targeted pCLE vs gold standard (Seattle protocol). This will be measured as time from the beginning to the end of each endoscopic procedure. Standard and experimental procedure time will be compared.

4. Costs to perform AFI-targeted pCLE +/- biomarkers and conventional endoscopic surveillance with Seattle protocol. This will be measured by the costs of a single use of pCLE probe and laboratory costs of molecular biomarkers for the experimental procedure and costs for processing biopsies and costs of pathology time for histologic diagnosis for the standard procedure.

5. Patient-reported experience and outcome measures, including acceptability and anxiety levels. This outcome will be measured using 2 validated questionnaires: a 10-point visual analogue scale (VAS, 0 = worst and 10 = best), filled by participants before and after each procedure and 6-item state-trait anxiety inventory (STAI -6), completed after each procedure.

#### **Overall study start date**

02/05/2017

#### **Completion date**

29/02/2020

## **Eligibility**

#### **Key inclusion criteria**

1. Able to read, comprehend, and complete the consent form
2. Aged  $\geq 18$
3. Diagnosed with dysplastic or non-dysplastic BO at least 2 cm in length if circumferential (C2) or 3 cm if not circumferential (M3)

#### **Participant type(s)**

Patient

#### **Age group**

Adult

#### **Lower age limit**

18 Years

#### **Sex**

Both

#### **Target number of participants**

Planned Sample Size: 146; UK Sample Size: 146

#### **Total final enrolment**

146

#### **Key exclusion criteria**

1. Oesophagitis (Los Angeles grade  $\geq B$ )
2. Previous oesophagectomy or known oesophageal abnormality (e.g. fistula or severe

oesophageal stricture)

3. Previous evidence of oesophageal adenocarcinoma
4. Previous history of endoscopically visible BO-related neoplasia
5. Known allergy to fluorescein
6. Severe or uncontrolled asthma
7. Coagulopathy or anticoagulant/antiplatelet therapy for high risk conditions
8. Active or severe cardiopulmonary disease or decompensated liver disease
9. Pacemaker or other intra-cardiac electric device

**Date of first enrolment**

02/05/2017

**Date of final enrolment**

31/12/2019

## **Locations**

**Countries of recruitment**

England

United Kingdom

**Study participating centre**

**Cambridge University Hospital**

Hills Road  
Cambridge  
United Kingdom  
CB2 0QQ

**Study participating centre**

**Nottingham University Hospital**

The Queen's Medical Centre Campus  
Derby Road  
Nottingham  
United Kingdom  
NG7 2UH

## **Sponsor information**

**Organisation**

Cambridge University Hospitals NHS Foundation Trust

**Sponsor details**

Addenbrookes Hospital  
Hills Road  
Cambridge  
England  
United Kingdom  
CB2 0QQ

**Sponsor type**

Hospital/treatment centre

**ROR**

<https://ror.org/04v54gj93>

## **Funder(s)**

**Funder type**

Charity

**Funder Name**

Cancer Research UK

**Alternative Name(s)**

CR\_UK, Cancer Research UK - London, CRUK

**Funding Body Type**

Private sector organisation

**Funding Body Subtype**

Other non-profit organizations

**Location**

United Kingdom

## **Results and Publications**

**Publication and dissemination plan**

Presentation of final results in international conferences of gastroenterology in 2019. Planned publication in a high-impact peer reviewed journal.

**Intention to publish date**

31/08/2020

**Individual participant data (IPD) sharing plan**

The datasets generated during and/or analysed during the current study are/will be available upon request from from the Chief Investigator, Dr Massimiliano di Pietro [md460@mrc-cu.cam.ac.uk]

## IPD sharing plan summary

Available on request

## Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Plain English results</a>			23/09/2022	No	Yes
<a href="#">HRA research summary</a>			28/06/2023	No	No