ISRCTN91655550 https://doi.org/10.1186/ISRCTN91655550

Introducing a non-endoscopic diagnostic test into the clinical pathway to identify high-risk patients with Barrett's oesophagus

Submission date
08/06/2020

Recruitment status
No longer recruiting

Registration date
30/06/2020

Overall study status
Completed

Last Edited
15/12/2022

Condition category
Cancer

[X] Prospectively registered
[ ] Protocol
[ ] Statistical analysis plan
[ ] Results
[ ] Individual participant data
[ ] Record updated in last year

Plain English summary of protocol

https://www.cancerresearchuk.org/about-cancer/find-a-clinical-trial/a-study-using-cytosponge-to-find-barretts-oesophagus-and-early-oesophageal-cancer-delta

Background and study aims
Many people experience heartburn and it can usually be treated with medication and lifestyle changes, for example avoiding eating heavy meals late at night. However, some people who have regular heartburn develop a condition called Barrett's oesophagus. This is when the cells in the food pipe change shape. About 3-6 people in every 100 with regular heartburn develop Barrett's oesophagus. Diagnosing Barrett's oesophagus is conducted by an endoscopy. An endoscope is a thin, flexible tube with a light and a tiny camera on the end which is inserted into the mouth, down the throat, and into the oesophagus.
Endoscopy is relatively invasive and services have been substantially disrupted because of the COVID-19 crisis. Endoscopy is performed for a variety of reasons including symptoms affecting the food pipe. These include heartburn and reflux, regurgitation and swallowing difficulties. Swallowing difficulties can occur due to narrowing of the oesophagus (a stricture) due to inflammation within the normal lining (called oesophagitis) or within the Barrett's or from cancer. Researchers are interested in Barrett's oesophagus because people with Barrett's have a slightly higher chance of developing oesophageal cancer and earlier detection improves outcomes. The aim of this study is to find out whether introducing a non-endoscopic diagnostic test into the clinical pathway can identify high-risk patients with Barrett's oesophagus.

Who can participate?
Patients will be recruited at their GP's if they are currently being prescribed acid-suppressant medication for acid reflux symptoms or if they have requested a repeat prescription from their GP. Patients at a hospital clinic will be recruited if they are referred by their GP to the hospital for an investigation of symptoms which may be due to a problem with their oesophagus.

What does the study involve?
In addition to the care that patients will normally receive for their symptoms, they will have a Cytosponge™ test. The nurse will arrange an appointment for at a GP surgery or local referral

centre. The test takes about 10 minutes to perform and the results will be received within a few weeks. If the sample contains an insufficient number of cells to give a clear result, participants may be invited to have a repeat test before getting their result. If the test result suggests that an endoscopy is needed to confirm the findings and investigate further, then this will be arranged at their local hospital. The Cytosponge™ is similar in size to a vitamin pill and contains a small sponge inside a capsule attached to a piece of string. Participants will be required to swallow it with a glass of water, the capsule is left in their stomach for up to 7 minutes until it dissolves releasing the sponge inside it. The trained nurse will remove the sponge by pulling gently on the threadstring. As it is pulled out, the sponge collects a sample of the cells lining the food pipe (oesophagus).

What are the possible benefits and risks of participating?
It is not possible to perform offer an endoscopy to everyone with oesophageal symptoms and currently due to the COVID-19 outbreak, endoscopy services are much reduced. By having the test, the researchers hope to diagnose any abnormality in the oesophagus easily and to start any treatment as soon as possible. If participants are diagnosed with Barrett's oesophagus or dysplasia (cell changes that may be a precursor to cancer), they will be offered treatment at an early stage.
Over 4000 people have had the Cytosponge™ test so far with no serious side-effects. Swallowing the capsule containing the sponge device is not painful and the majority of people do not have any problem swallowing it. It is quite common to experience a mild sore throat for 24 hours and in some people this may last for a few days but some paracetamol and throat lozenges will usually soothe this and it will then resolve. There is a very small risk (less than 1 in 2,000) that the sponge becomes detached from the string or the nurse is unable to remove the device (<1 in 2,000). If this happens, their GP will first assess them at the surgery. They will then arrange for the patient to attend their local hospital for an endoscopy where the device sponge will be readily removed. There is a very small risk of participants experiencing some bleeding. If this happens, patients will be assessed by the GP and clinical nurse. This is unlikely to require need any intervention but if required an endoscopy could be performed to find and stop the bleeding. This has not been required to date.
Following the Cytosponge™ test, participants should be able to carry on with their day as normal. If participants are referred for an endoscopy then this is done in line with the standard clinical procedure.

Where is the study run from?
University of Cambridge, Cambridge University Hospital and Cyted Ltd (UK)

When is the study starting and how long is it expected to run for?
July 2020 to June 2023

Who is funding the study?
Innovate UK

Who is the main contact?
Prof. Rebecca Fitzgerald

Contact information

Type(s)
Scientific

Contact name
Miss Abigail Kerridge

ORCID ID
https://orcid.org/0000-0002-6554-029X

Contact details
Hutchison/MRC Research Centre MRC Cancer Unit at University of Cambridge
Cambridge
United Kingdom
CB2 0XZ
+44 (0)7729833450
amk88@mrc-cu.cam.ac.uk

Additional identifiers

Clinical Trials Information System (CTIS)
Nil known

Integrated Research Application System (IRAS)
283505

Protocol serial number
IRAS 283505

Study information

Scientific Title
Project DELTA - integrateD diagnostic solution for EarLy deTection of oesophageal cAncer

Acronym
DELTA

Study objectives
To re-design and evaluate the clinical pathway to systematically identify those at risk, perform a simple test to inform who needs endoscopy and in so doing rationalise the use of long-term PPI medication. Due to the cost-effectiveness of Cytosponge™ -TFF3 compared with endoscopy these changes will likely result in an economic benefit to the NHS, a social benefit for early detection of a lethal cancer and a reduction in over-use of PPI medication.

In order to build on the evidence achieved to date and move towards this vision the overall aims of this proposal are to assess the feasibility and practical implementation steps of introducing CytospongeTM - TFF3 as a triage test for endoscopy to identify Barrett’s oesophagus, early cancer and other oesophageal conditions.

Ethics approval required
Old ethics approval format

Ethics approval(s)

Provisional approval, final approval pending, Cambridge East Research Ethics Committee (Health Research Authority, The Old Chapel, Royal Standard Place, NG1 6FS, UK; +44 (0)20 7104 8096; CambridgeEast.REC@hra.nhs.uk)

Study design
Multicentre implementation research study

Primary study design
Observational

Study type(s)
Prevention

Health condition(s) or problem(s) studied
Oesophageal cancer

Interventions
The work is divided into four work packages with the following specific aims:

1. Work package 1 - Mine electronic health records, including drug prescription databases and endoscopy databases at a national level, to develop an algorithm to identify individuals at risk of oesophageal cancer suitable for referral for a Cytosponge test in the primary care setting. Since this work package is self-contained and uses national datasets and does not require any data collected as part of this proposal the researchers do not give further information here (conducted under REC 18/EM/0400, sponsored by University of Oxford)
2. Work package 2 - Build a transferrable operating model for a nurse-led Cytosponge™ clinic. This will include collecting patient-reported experience data from newly-recruited patients (having validated the Newcastle ENDOPREM™ tool with BEST3 data), and developing a new App for use during the Cytosponge procedure to improve the patient experience. Patients will be recruited into Cytosponge™ clinics in primary and secondary care for iterative development and refinement of the operating model.
3. Work package 3 - Develop Artificial Intelligence algorithms for high throughput computational pathology for the Cytosponge™-TFF3 test and endoscopic biopsies. Samples and data collected from newly-recruited patients in primary and secondary in WP2 will provide the required information for this activity. It will not be implemented in this phase of the project until regulatory frameworks are put in place
4. Work package 4 - Use quantitative and qualitative data and samples collected from newly-recruited patients in primary and secondary care during WP2, plus routinely collected NHS data, in health economics and implementation research to assess the effectiveness of the novel pathway including user preferences for patients and clinicians.

Intervention Type
Procedure/Surgery

Primary outcome(s)
The feasibility and practical implementation steps of introducing CytospongeTM - TFF3 as a triage test for endoscopy to identify Barrett’s oesophagus, early cancer and other oesophageal conditions, assessed by the uptake of the Cytosponge when offered by a GP

Key secondary outcome(s))

1. Patient experience assessed using questionnaires after the Cytosponge procedure
2. Data to inform the development of an App collected using focus groups and interviews after the Cytosponge procedure
3. Barriers and facilitators among patients assessed using questionnaires and interviews after the Cytosponge procedure

Completion date
30/06/2023

Eligibility

Key inclusion criteria
1. Male and female
2. Primary care: aged 50 and over
3. With repeat prescription for acid-suppressant medication or with referral to dyspepsia service for investigation of upper GI symptoms
4. During COVID 2WW and urgent referrals will also be considered provided dysphagia is not severe to the extent that they cannot swallow a tablet

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Adult

Lower age limit
50 years

Sex
All

Key exclusion criteria
1. Primary care: recorded regular prescriptions of NSAIDs
2. Primary care/dyspepsia patients: recorded diagnosis of a current or previous oro-pharynx, oesophageal or gastro-oesophageal tumour, or recorded BE
3. Primary care: received prior surgical intervention to the oesophagus
4. Difficulty in swallowing due to a known cerebrovascular accident or neurological disorder
5. Recorded oesophageal varices, cirrhosis of the liver
6. Unable to temporarily discontinue anti-thrombotic medication prior to procedure (in line with manufacturer’s guidance)
7. Lacking capacity

Date of first enrolment
01/07/2020

Date of final enrolment
30/06/2023

Locations

Countries of recruitment
United Kingdom

England

Study participating centre
Cambridge University Hospital
Addenbrooke's Hospital
Hills Road
Cambridge
United Kingdom
CB2 0QQ

Sponsor information

Organisation
University of Cambridge

Organisation
Cambridge University Hospitals NHS Foundation Trust

ROR
https://ror.org/04v54gj93

Funder(s)

Funder type
Government

Funder Name
Innovate UK

Alternative Name(s)
Technology Strategy Board

Funding Body Type
Government organisation

Funding Body Subtype
National government

Location
United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan
Discoverability of the dataset will be detailed on the Cyted Ltd website in due course.

IPD sharing plan summary
Data sharing statement to be made available at a later date