

Can DiaGO reliably and sensitively detect Graves' orbitopathy?

Submission date 25/09/2017	Recruitment status No longer recruiting	☐ Prospectively registered
		☐ Protocol
Registration date 13/12/2017	Overall study status Completed	☐ Statistical analysis plan
		☐ Results
Last Edited 13/12/2017	Condition category Nutritional, Metabolic, Endocrine	☐ Individual participant data
		☐ Record updated in last year

Plain English summary of protocol

Background and study aims

Thyroid eye disease (TED) is an inflammatory condition of the eyes associated with Graves' disease (the commonest cause of an overactive thyroid). TED is also known as Graves' orbitopathy (GO). In its most severe forms, TED can cause blindness. The earlier TED is treated the better the results. However, recognising TED can be challenging for doctors and delays in diagnosis are unfortunately common. Through patient support groups, such as the British Thyroid Foundation and the Thyroid Eye Disease Charitable Trust, it was discovered that patients place a high importance on receiving a diagnosis and appropriate treatment early, and therefore this is a priority. Researchers have developed DiaGO, a clinical assessment tool, to guide doctors in making a possible diagnosis of TED in patients with Graves' disease. DiaGO is a set of questions and a simple examination of the eyes that can be done quickly by health professionals. The DiaGO assessment tool has already been tested in a pilot study where we found that it can be used to accurately identify TED in patients with Graves' disease whose eye condition was previously undiagnosed. Making a diagnosis means that these people can be referred to specialist ophthalmologists (eye experts) who can make an early diagnosis and offer specialist treatment when it is required. The aim of this study is to test the DiaGO clinical assessment tool on a larger scale, across multiple UK hospitals, so that we can determine whether it can be used widely in outpatient endocrinology clinics (where Graves' disease patients are commonly seen regularly) to help detect TED in patients at an early stage.

Who can participate?

Adults who have Grave's disease.

What does the study involve?

The DiaGO assessment tool is made up of two sections. Participants in this study are asked 13 simple (yes/no answer) questions from section one (which takes approximately 3 minutes), and then a doctor will look at the participant's eyes and complete section two of the tool (which is made up of 7 further yes/no questions based on the appearance of the eyes). The doctor completing the examination then uses the tool to generate a score. The score can then be used to decide who should be referred to the eye specialists. In the first phase of this study, patients scoring on DiaGO will be referred to ophthalmology for further review. These individuals have signs and/or symptoms of TED and therefore this is part of their routine care. In the second

phase of this study, all patients completing the DiaGO questionnaire are referred to ophthalmology, regardless of their score. This is to see whether some people with TED are being missed by the DiaGO tool. Those patients who are invited to attend ophthalmology receive a separate appointment for this. This therefore involves a separate visit to the hospital outpatient clinic and the examination will take approximately 30 minutes. This appointment involves the ophthalmologist looking at the eyes in detail. This examination is not painful. If there is any evidence of TED, treatment may be offered if it is required.

What are the possible benefits and risks of participating?
There are no direct benefits or risks with participating.

Where is the study run from?
Royal Victoria Infirmary (UK)

When is the study starting and how long is it expected to run for?
August 2015 to June 2018

Who is funding the study?
Fight for Sight (British Eye Research Foundation) (UK)

Who is the main contact?
Dr Anna Mitchell

Contact information

Type(s)
Scientific

Contact name
Dr Anna Mitchell

ORCID ID
<https://orcid.org/0000-0001-7320-5574>

Contact details
Endocrinology offices
Leazes Wing Level 6
Royal Victoria Infirmary
Queen Victoria Road
Newcastle
United Kingdom
NE1 4LP

Additional identifiers

Protocol serial number
31333

Study information

Scientific Title

Can the DiaGO (Diagnosis of Graves' orbitopathy) clinical assessment tool reliably and sensitively detect people with and without Graves' orbitopathy? A multicentre study

Study objectives

Hypothesis:

A previous pilot study led to the formulation of a simple clinical tool for early diagnosis of Graves' orbitopathy (DiaGO). The hypothesis is that further refinement and validation of DiaGO can result in a tool with high sensitivity and specificity for early diagnosis of GO in patients with Graves' disease and therefore prevent diagnostic delay and reduce the morbidity that is associated with this.

Study Aims:

To refine and determine the sensitivity and specificity of DiaGO, to determine ease of use of DiaGO by endocrinologists and its acceptability and to determine whether use of DiaGO results in earlier employment of treatments to manage GO.

Ethics approval required

Old ethics approval format

Ethics approval(s)

West of Scotland REC 3, 18/02/2016, ref: 16/WS/0046

Primary study design

Observational

Study design

Observational; Design type: Cohort study

Study type(s)

Treatment

Health condition(s) or problem(s) studied

Specialty: Metabolic and endocrine disorders, Primary sub-specialty: Metabolic and endocrine disorders; UKCRC code/ Disease: Metabolic and Endocrine/ Disorders of thyroid gland

Interventions

This will be a multicentre study across 6 UK centres (Newcastle upon Tyne, Gateshead, Exeter, Cardiff, Oxford and Leeds).

Phase 1: Refinement of DiaGO and reproducibility:

This phase includes an initial study of DiaGO across multiple sites, aiming to collect 50 cases with signs or symptoms of GO as identified by DiaGO, those triggering a referral to ophthalmology are reviewed in ophthalmology as part of standard patient care. Collection of anonymised feedback from participating endocrinologists and ophthalmologists regarding acceptability /practicality of the tool by online email survey is conducted. The refinement of DiaGO tool is based on analysis of data from the above 50 cases and user feedback. The intra- and inter-observer reproducibility of refined DiaGO using 10 patients and 10 clinician observers is determined.

Phase 2: Validation of refined DiaGO:

This phase is a further study of refined GO tool. 150 patients with GD not previously diagnosed to have GO screened across all participating sites with “blinded” receive an ophthalmology review regardless of DiaGO trigger for referral including documentation of diagnosis (GO or not) and treatment plan. Tool specificity is determined from this data. Data analysis is done to validate the tool sensitivity in an independent data set (compared to the pilot study data), determine which signs and symptoms most strongly correlate to a diagnosis of GO.

Phase 3 - Final analysis of full data set: Jan 2017.

Intervention Type

Other

Primary outcome(s)

Sensitivity and specificity of DiaGO using initial DiaGO data (at baseline, assessment in Endocrine clinic) and diagnosis of GO at six months (after assessment in ophthalmology clinic).

Key secondary outcome(s)

Ease of use of DiaGO by endocrinologists and its acceptability at baseline by a user questionnaire Whether use of DiaGO results in earlier employment of treatments to manage GO by clinical records review at six months.

Completion date

01/06/2018

Eligibility

Key inclusion criteria

1. Diagnosis of GD
2. Hyperthyroidism/subclinical hyperthyroidism and smooth, symmetrical goitre or positive TSH receptor antibodies
3. Euthyroid/hypothyroid/hyperthyroid and positive TSH receptor antibodies

Participant type(s)

Patient

Healthy volunteers allowed

No

Age group

Adult

Sex

All

Key exclusion criteria

1. People with Graves' Disease already reviewed by ophthalmology
2. Remain under the care of ophthalmology with GO
3. Children under 18 years of age

Date of first enrolment

21/07/2016

Date of final enrolment

01/12/2017

Locations

Countries of recruitment

United Kingdom

England

Study participating centre

Royal Victoria Infirmary

Endocrinology offices

Leazes wing level 6

Queen Victoria Road

Newcastle

United Kingdom

NE1 4LP

Sponsor information

Organisation

The Newcastle Upon Tyne Hospitals NHS Foundation Trust

ROR

<https://ror.org/05p40t847>

Funder(s)

Funder type

Charity

Funder Name

Fight for Sight UK

Alternative Name(s)

Fight for Sight, Fight for Sight (UK)

Funding Body Type

Private sector organisation

Funding Body Subtype

Trusts, charities, foundations (both public and private)

Location

United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan

The datasets generated will be published as supplemental data in a peer reviewed open access journal

IPD sharing plan summary

Other

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
HRA research summary			28/06/2023	No	No
Participant information sheet	version V3	22/02/2016	13/12/2017	No	Yes