# An investigation into the influence of intestinal transit rate on the metabolism of dietary sulphate

Submission date Recruitment status Prospectively registered 12/09/2003 No longer recruiting [ ] Protocol [ ] Statistical analysis plan Registration date Overall study status 12/09/2003 Completed [X] Results [ ] Individual participant data Last Edited Condition category Nutritional, Metabolic, Endocrine 15/11/2011

# Plain English summary of protocol

Not provided at time of registration

# Contact information

# Type(s)

Scientific

#### Contact name

Dr Stephen Lewis

#### Contact details

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# Additional identifiers

**Protocol serial number** N0544093560 - PROJ 30/10/2000

# Study information

Scientific Title

#### Study objectives

Influence of intestinal transit on sulphate metabolism.

Hydrogen sulphide (H2S) can be toxic to the colon. The principle source of H2S in the colon is from the conversion of sulphate to sulfide by bacteria. Other sources of H2S production include the fermentation of proteins of animal and plant origin. The majority of dietary sulphate is absorbed in the small intestine with relatively small amounts entering the colon. Intestinal transit speed is known to influence the absorption and breakdown of many dietary substances. In particular intestinal transit speed alters the colonic bacterial flora and fermentation of food. The purpose of this study is to look at the influence of intestinal transit time on the metabolism of sulphate as no data exist. If transit is an influence in sulphate metabolism, then many of the findings linking high concentrations of faecal H2S to diseases such as ulcerative colitis could be explained. A brief clinical and drug history would be taken.

#### Ethics approval required

Old ethics approval format

#### Ethics approval(s)

Not provided at time of registration

#### Study design

Randomised controlled trial

#### Primary study design

Interventional

# Study type(s)

Treatment

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

Dietary sulphate metabolism

#### **Interventions**

During the protocol volunteers will take (once a day) either:

- 1. Senna (a laxative)
- 2. Loperamide (slows down the colon)
- 3. Placeho tablet

Volunteers will be asked to take a special diet designed to be low in sulphate. Dr Lewis will be in close contact during the study period to answer any queries and ensure that the senna or loperamide are having the desired effect. In addition they will take tablets containing sulphate. Intestinal transit speed will be measured by two methods. Two stool samples will be collected and a urine sample. After completing the protocol volunteers will have a 2-week washout period repeating the protocol but taking a different transit altering tablet. The volunteers will complete all three protocols.

#### **Intervention Type**

Drug

#### Phase

Not Applicable

## Drug/device/biological/vaccine name(s)

Senna, loperamide

## Primary outcome(s)

Not provided at time of registration

## Key secondary outcome(s))

Not provided at time of registration

## Completion date

10/01/2004

# **Eligibility**

# Key inclusion criteria

Not provided at time of registration

# Participant type(s)

Patient

# Healthy volunteers allowed

No

#### Age group

**Not Specified** 

#### Sex

**Not Specified** 

#### Key exclusion criteria

Not provided at time of registration

#### Date of first enrolment

10/01/2001

#### Date of final enrolment

10/01/2004

# Locations

#### Countries of recruitment

**United Kingdom** 

England

# Study participating centre

# Box No 201A Cambridge United Kingdom CB2 2QQ

# Sponsor information

# Organisation

Department of Health (UK)

# Funder(s)

## Funder type

Government

#### Funder Name

Cambridge Consortium - Addenbrooke's (UK)

# **Results and Publications**

Individual participant data (IPD) sharing plan

# IPD sharing plan summary

Not provided at time of registration

# **Study outputs**

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	01/03/2007		Yes	No