

Dose escalation study of Melatonin in Sepsis: healthy volunteers

Submission date 29/02/2012	Recruitment status No longer recruiting	☒ Prospectively registered ☐ Protocol
Registration date 24/04/2012	Overall study status Completed	☐ Statistical analysis plan ☒ Results
Last Edited 29/08/2019	Condition category Infections and Infestations	☐ Individual participant data

Plain English summary of protocol

Background and study aims

Patients who are admitted to an Intensive Care Unit with severe infections (called sepsis) have a very high risk of death. We have shown in laboratory studies that melatonin can be of benefit. This is because melatonin is a very powerful antioxidant and can protect cells and organs against the damage caused by severe infections. We would like to give melatonin to patients with sepsis but we need to get some key information in healthy subjects first so we can decide what dose to give. In this study we will give groups of healthy men different doses of melatonin to provide crucial information for a further study (clinical trial) of melatonin in patients with sepsis. The main aim is to see how well different doses of melatonin are tolerated. We will also measure levels of melatonin and related substances in the blood and urine. This will tell us how quickly the doses are processed in the body. If we find that melatonin is able to protect cells in patients with sepsis, this might mean treatment will also reduce the death rate.

Who can participate?

Male participants, aged between 18 and 30 years old, weighing less than 100kg, not taking any medication.

What does the study involve?

Participants will be given a single dose of melatonin (20-100mg) as oral capsules and will be monitored for 6 hours. This will include heart rate, temperature, blood pressure and also blood sampling and urine collection. A week later participants will fill in a questionnaire. The doses given will gradually increase, with each group of 5 people getting the same dose. The decision to increase the dose will be made by an independent group of doctors, not the researchers.

What are the possible benefits and risks of participating?

Melatonin is a naturally occurring hormone which controls the sleep wake cycle. Melatonin manufactured as a drug has been used for several years as a treatment for jet lag. It has also been used in other clinical studies in various doses and the only common side effect is drowsiness. There have been some rare reports of slight nausea with very high doses but other side effects have not been reported. The needle used to put a tube into a vein to take blood

samples may sting a bit and may cause bruising but this is likely to be very transient. There is no direct benefit to taking part but the study will provide essential information which will help decide what dose of melatonin to give to patients in the future.

Where is the study run from?

At Aberdeen Royal Infirmary in Scotland and is organised by researchers at the University of Aberdeen (UK)

When is the study starting and how long is it expected to run for?

June 2012 and will last for 1 year

Who is funding the study?

Chief Scientist Office (Experimental and Translational Medicine Board), UK

Who is the main contact?

Professor Helen Galley

h.f.galley@abdn.ac.uk

Contact information

Type(s)

Scientific

Contact name

Prof Nigel R Webster

Contact details

University of Aberdeen

Institute of Medical Sciences

Aberdeen

United Kingdom

AB25 2ZD

Additional identifiers

ClinicalTrials.gov (NCT)

NCT01724424

Protocol serial number

3/057/11

Study information

Scientific Title

A dose escalation study of melatonin in healthy volunteers as a potential treatment for sepsis

Acronym

DAMSEL1

Study objectives

The aim of this proposed study is to administer melatonin to healthy volunteers to determine the tolerability at each dose and pharmacokinetics of melatonin using a standard dose escalation study design. We will measure the concentrations of melatonin and its major metabolites to determine a dosing interval and clearance.

Ethics approval required

Old ethics approval format

Ethics approval(s)

Not provided at time of registration

Primary study design

Interventional

Study design

Single-centre phase I open-label dose-escalation study

Study type(s)

Treatment

Health condition(s) or problem(s) studied

Sepsis

Interventions

Oral melatonin, 20-100mg, single dose in cohorts of 5 subjects

Intervention Type

Other

Phase

Phase I

Primary outcome(s)

Tolerance of the oral melatonin dose with no adverse events and approval by the Data Monitoring Committee to proceed to the next dose

Key secondary outcome(s)

Plasma levels and clearance of melatonin/metabolites at different doses measured at intervals up to 6 hours

Completion date

14/06/2013

Eligibility**Key inclusion criteria**

1. Male
2. Aged 18-30 years
3. <100kg
4. Not taking medication

Participant type(s)

Patient

Healthy volunteers allowed

No

Age group

Adult

Lower age limit

18 Years

Upper age limit

30 Years

Sex

Male

Key exclusion criteria

1. Female
2. <18 or >30 years
3. >100kg
4. Taking regular medication

Date of first enrolment

01/06/2012

Date of final enrolment

14/06/2013

Locations**Countries of recruitment**

United Kingdom

Scotland

Study participating centre

Aberdeen Royal Infirmary

Intensive Care Unit

Aberdeen

United Kingdom

AB25 2ZN

Sponsor information

Organisation

University of Aberdeen (UK)

ROR

<https://ror.org/016476m91>

Funder(s)

Funder type

Government

Funder Name

Chief Scientist Office (UK) ref: ETM/167

Alternative Name(s)

CSO

Funding Body Type

Government organisation

Funding Body Subtype

Local government

Location

United Kingdom

Results and Publications

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

Not expected to be made available

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	01/05/2014		Yes	No