

The cerebrospinal fluid (CSF) pharmacokinetics of a single pre-operative intravenous bolus dose of diclofenac (Dyloject®) in comparison to diclofenac infusion (Voltarol®)

Submission date 23/12/2008	Recruitment status No longer recruiting	<input type="checkbox"/> Prospectively registered
		<input type="checkbox"/> Protocol
Registration date 12/02/2009	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan
		<input type="checkbox"/> Results
Last Edited 09/06/2016	Condition category Surgery	<input type="checkbox"/> Individual participant data
		<input type="checkbox"/> Record updated in last year

Plain English summary of protocol

Not provided at time of registration

Contact information

Type(s)

Scientific

Contact name

Dr Nilesh Randive

Contact details

PARC
Unit 11, First Floor Dominion House
59 Bartholomew Close
West Smithfield
London
United Kingdom
EC1A 7BE

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drnilran@gmail.com

Additional identifiers

Protocol serial number

BLT-Dylo-07/01

Study information

Scientific Title

The cerebrospinal fluid (CSF) pharmacokinetics of a single pre-operative intravenous bolus dose of diclofenac (Dyloject®) in comparison to diclofenac infusion (Voltarol®): a prospective open-label randomised single-centre phase IV study

Study objectives

Dyloject®, a novel injectable diclofenac bolus is ideally suited for peri-operative anti-inflammatory analgesic use, and in view of the high peak plasma concentration following rapid intravenous administration may facilitate greater penetration of the central nervous system (CNS) and hence exert additional beneficial central actions.

Ethics approval required

Old ethics approval format

Ethics approval(s)

South East Regional Ethics Committee approval decision awaiting as of 14th January 2009

Study design

Prospective open-label randomised single-centre phase IV study

Primary study design

Interventional

Study type(s)

Treatment

Health condition(s) or problem(s) studied

Peri-operative anti-inflammatory analgesia

Interventions

Dyloject® (75 mg) single intravenous bolus or Voltarol® ampoules (75 mg) single intravenous infusion will be given pre-operatively prior to spinal anaesthesia for surgery and cerebrospinal fluid sampling.

Intervention Type

Drug

Phase

Phase IV

Drug/device/biological/vaccine name(s)

Diclofenac (Dyloject®, Voltarol®)

Primary outcome(s)

Characterisation of the CSF diclofenac kinetics following administration of intravenous Dyloject®. The patients will receive the drug at 65, 35 and 5 minutes prior to CSF sampling.

Key secondary outcome(s)

1. Characterise CSF PGE2 levels in the normal uninjured human with or without diclofenac
2. Establish baseline CSF and plasma prostaglandins and cytokine levels
3. Examine the relationship between CNS and plasma PGE2 levels
4. Establish proof of concept for further analyses: an optional continuation of this pilot study is proposed dependant on interim analysis of the first phase. This would entail a further 18 patients entering the study.

Completion date

05/08/2010

Eligibility

Key inclusion criteria

1. Male or female patients aged at least 18 years
2. Scheduled to undergo surgery performed under spinal anaesthesia
3. Patients must be inpatients
4. Patient has given written informed consent

Participant type(s)

Patient

Healthy volunteers allowed

No

Age group

Adult

Lower age limit

18 years

Sex

All

Key exclusion criteria

1. History of bleeding diathesis or use of anticoagulant or antiplatelet agent
2. History of spinal or neurological disease (including raised intracranial pressure), or surgery contraindicating spinal anaesthesia
3. Use of aspirin within 72 hours prior to surgery
4. Use of other non-steroidal anti-inflammatory drugs (NSAIDs), paracetamol or steroids within 12 hours before surgery
5. Hypersensitivity to diclofenac or local anaesthetics
6. Aspartate aminotransferase (AST), alanine aminotransferase (ALT) or blood urea nitrogen (BUN) greater than 1.5 x the upper limit of the reference range, or creatinine greater than the upper limit of the reference range
7. Any other abnormal laboratory results considered clinically significant in relation to this study by the investigator
8. Presence of oliguria, anaemia, hypotension or hypovolaemia
9. Contraindications to NSAID/diclofenac
10. Patients who are unwilling or unable to conform to the protocol
11. Patients who have received an unlicensed drug less than 30 days prior to the study

12. Patients who have been previously admitted to the study
13. Pregnant or lactating females or females of child-bearing potential who are unwilling to undertake a pregnancy test (urinary beta-human chorionic gonadotropin [B-HCG])
14. A bloody tap (visible blood in CSF)
15. Patients with a hypersensitivity to the excipients hydroxypropylbetadex (HPβCD) or monothioglycerol
16. Operations with high risk of haemorrhage
17. Patients who are considered unsuitable by the responsible anaesthetist - for whom spinal anaesthesia is deemed to constitute an unacceptable, increased risk
18. Patients who are involved in existing research

Date of first enrolment

05/02/2009

Date of final enrolment

05/08/2010

Locations

Countries of recruitment

United Kingdom

England

Study participating centre

PARC

London

United Kingdom

EC1A 7BE

Sponsor information

Organisation

Barts and The London NHS Trust (UK)

ROR

<https://ror.org/00b31g692>

Funder(s)

Funder type

Industry

Funder Name

Javelin Pharmaceuticals UK Limited (UK)

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary

Not provided at time of registration