Rotation from subcutaneous infusion to transdermal administration of fentanyl: A validation of current practice

No registrations found.

Ethical review	Positive opinion
Status	Recruiting
Health condition type	-
Study type	Observational non invasive

Summary

ID

NL-OMON26606

Source
NTR

Brief title
FARAO

Health condition

Cancer-related pain

Sponsors and support

Primary sponsor: Erasmus MC
Source(s) of monetary or material Support: Erasmus MC

Intervention

Outcome measures

Primary outcome

To prove bioequivalence in fentanyl exposure (measured as area under the curve (AUC)) pre-

and post-rotation.

Secondary outcome

To associate the occurrence and severity of adverse events and pain scores pre- and post-rotation with pharmacokinetic parameters.

Study description

Background summary

Rationale: Fentanyl is a strong-acting, widely used opioid in the treatment of cancer-related pain. In hospitalized patients with severe pain, fast dose titration of fentanyl can be performed
by combined continuous and bolus subcutaneous administration. When stable pain control is reached, a rotation to transdermal patches can be done. The fentanyl rotation-scheme used in
Erasmus MC was previously based on data concerning rotation from intravenous fentanyl. Based on a PK modeling study with subcutaneous fentanyl (METC nr.09-332) and clinical observations, the fentanyl rotation scheme has been optimized and the rotation scheme is now
used in standard clinical practice. However, this scheme has never been validated prospectively on PK and PD-endpoints.
Objective: To prospectively validate the pharmacokinetics of fentanyl during the current standard-of-care rotation scheme from subcutaneous to transdermal fentanyl administration in
patients with moderate to severe cancer-related pain. We aim to prove bio-equivalence before
and after fentanyl rotation using the area under the curve (AUC).
Study design: Real-life observational study in patients who are rotated from a subcutaneous to a transdermal administration route for fentanyl according to the current standard of care in
the Erasmus Medical Centre. Due to the use of the previously developed model the number of
blood samples will be very sparse. We plan to collect 2-3 randomly taken samples prior to the rotation and 2-3 random samples after the rotation. The acquired exposure quantified as AUC will be compared pre- and post-rotation with a paired t-test. Patients complete the study when
all blood samples are taken or when the patient is discharged from the hospital.
Study population: Cancer patients who are hospitalized and who are being treated with subcutaneous fentanyl and are expected to switch towards transdermal fentanyl using a 1:1 dose conversion ratio. To prevent interference with fentanyl pharmacokinetics, rescues are only allowed to be an opioid other than fentanyl 12 hours prior to the rotation.
Intervention: Not applicable

Main study parameters/endpoints:
- Primary endpoint
o To prove bioequivalence in fentanyl exposure (measured as area under the curve (AUC)) pre- and post-rotation.
- Secondary endpoint
o To associate the occurrence and severity of adverse events and pain scores pre- and post-rotation with pharmacokinetic parameters.

Study objective

This study aims to prove bio-equivalence pre- and post-rotation and therefore validate the standard of care clinical practice regarding the rotation from subcutaneous to transdermal administration of fentanyl in the Erasmus MC on PK and PD endpoints.

Study design

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Contacts

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Eligibility criteria

Inclusion criteria

Age > 18 years
Able to understand the written information and able to give informed consent.
Current treatment with subcutaneous fentanyl and planned to rotate to transdermal fentanyl
To ensure steady-state kinetics, patients must have been treated with subcutaneous fentanyl for at least 40 hours prior to the rotation and have been

treated with a stable fentanyl dose at least 20 hours prior to the rotation This way, fentanyl pharmacokinetics are at steady-state.

Exclusion criteria

Patients that use short-acting fentanyl via the oral, (oral mucosal, sublingual), intranasal or subcutaneous administration route 12 hours prior to the rotation will be excluded as this influences the pharmacokinetic profile of the subcutaneous administration. This implicates that patients will be prescribed oral short acting oxycodone or morphine 12 hours before rotation as these are mostly used next to treatment with transdermal fentanyl.
Patients that use strong CYP3A4 inhibitors or inducers will be excluded as the model did not account for the influence of strong CYP3A4 inhibition or induction on fentanyl pharmacokinetics while the effects have been shown in multiple studies
Patients that are rotated using a dose conversion ratio other than 1:1 will also be excluded.

Study design

Design

Study type:	Observational non invasive
Intervention model:	Other
Allocation:	Non controlled trial
Masking:	Open (masking not used)
Control:	N/A , unknown

Recruitment

NL

Recruitment status:	Recruiting
Start date (anticipated):	01-11-2021
Enrollment:	30
Type:	Anticipated

IPD sharing statement

Plan to share IPD: Undecided

Ethics review

Positive opinion

Date:	01-11-2021
Application type:	First submission

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register	ID
NTR-new	NL9839
Other	Erasmus MC : MEC 2021-0581

Study results