

Press release

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Basic information

Name: Mats Høy Bue

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Department of: Clinical Medicine

Main supervisor: Kjeld Søballe

Title of dissertation: Bone, intervertebral disc and subcutaneous adipose tissue pharmacokinetics of vancomycin obtained by microdialysis

Date for defence: 21-05-2019 at (time of day): 15.00 Place: Auditorium B, indgang G, G206 på Aarhus Universitetshospital

Press release (Danish)

Vancomycinkoncentrationer i knoglevæv, discus og fedtvæv

Forebyggelse og behandling af infektioner i knogle, discus, og proteser i knogle, er fortsat en stor behandlingsudfordring for den behandlende kliniker. Behandlingsvigt kan have fatale konsekvenser for både patienten såvel som for vores sundhedssystem. Antallet af behandlingssvigt er relativt høj, hvilket kan være en konsekvens af insufficiens i antibiotika penetration til knogle og discus.

Det overordnede formål med dette PhD-projekt var at anvende mikrodialyse til opsamling af vancomycinkoncentrationer i forskellige ortopædkirurgiske relevante situationer. Projektet bestod af tre studier, hvoraf et var et klinisk studie og to var eksperimentelle studier. I alle tre studier, klinisk såvel som eksperimentelt, blev der fundet en nedsat og forsinket penetration af vancomycin til knoglevæv og discus. Vores resultater tyder derfor på at en enkelt dosis af vancomycin ikke penetrerer sufficiens til hverken rask knoglevæv, inficeret knoglevæv eller discus.

Resultaterne er fremkommet via et nyt ph.d.-projekt fra Aarhus Universitet, Health. Projektet er gennemført af Mats Høy Bue, der forsvare det d. 21/05-2019

Forsvaret af ph.d.-projektet er offentligt og finder sted den 21/05-2019 kl. 15.00 i Auditorium B, indgang G, G206 på Aarhus Universitetshospital. Titlen på projektet er "Bone, intervertebral disc and subcutaneous adipose tissue pharmacokinetics of vancomycin obtained by microdialysis". Yderligere oplysninger: Ph.d.-studerende Mats Høy Bue, e-mail: matsbue@clin.au.dk, tlf. 2559 9294.

Bedømmelsesudvalg:

Matthew Scarborough, MB BCh BAO, FRCPath, MRCP, PhD, Nuffield Orthopaedic Centre, Oxford University Hospitals

Hans Gottlieb, MD, PhD, associate professor, Department of Orthopaedic Surgery, Herlev Hospital

Ellen-Margrethe Hauge, Professor, MD, PhD (Chairman) Department of Rheumatology, Aarhus University Hospital, Denmark

Press release (English)

Vancomycin concentrations in bone, intervertebral disc and subcutaneous adipose tissue

The prevention and treatment of bone, intervertebral disc and implant-associated bone infections remain a major challenge for clinicians. Treatment failure can have devastating complications for both the patients and the healthcare system. Treatment failure rates remain high, which may be a consequence of incomplete antimicrobial bone and intervertebral disc penetration.

The objective of this PhD project was to apply microdialysis for sampling of vancomycin in different orthopaedically relevant settings. The project consisted of three studies, one of which was a clinical

study and two of which were experimental studies. In all three studies, clinical as well as experimental, an incomplete and delayed penetration of vancomycin to bone and the intervertebral disc was found. These results suggest that a single dose of vancomycin may not penetrate adequately to healthy bone, infected bone or the intervertebral disc.

The results are obtained through a new PhD project from Aarhus University, Health. The project was carried out by Mats Høy Bue, who is defending her/his dissertation on the 21/05-2019.

The defence is public and takes place on 21/05-2019 at 15.00 in Auditorium B, entrance G, G206 Aarhus University Hospital. The title of the project is "Bone, intervertebral disc and subcutaneous adipose tissue pharmacokinetics of vancomycin obtained by microdialysis". For more information, please contact PhD student Mats Høy Bue, email: matsbue@clin.au.dk, Phone +45 2559 9294.

Assessment committee:

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Ellen-Margrethe Hauge, Professor, MD, PhD (Chairman) Department of Rheumatology, Aarhus University Hospital, Denmark

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