

ZAKLJUČNO POROČILO

*o rezultatih internega raziskovalnega projekta UKC Maribor
za obdobje od 24. 11. 2017 do 23. 5. 2023*

A. PODATKI O RAZISKOVALNEM PROJEKTU

Osnovni podatki o raziskovalnem projektu

Šifra projekta:	IRP-2017/01-04	
Naslov projekta:	OCENA OPTIMALNEGA VOLUMSKEGA STANJA PRI BOLNIKI NA NADOMESTNEM ZDRAVLJENJU Z DIALIZO S POMOČJO ULTRAZVOKA PLJUČ IN BIOIMPENDANCE TER VPLIV VOLUMSKEGA STANJA NA 24-48H KRVNI TLAK, ARTERIJSKO TOGOST IN PREŽIVETJE	
Vodja projekta:	prof. dr. Robert EKART, dr. med.	
Trajanje projekta (leta, od-do):	5 let 6 mesecev	24. 11. 2017 - 23. 5. 2023
Velikost projekta	<input type="checkbox"/> mali (do 10.000,00 EUR)	<input checked="" type="checkbox"/> veliki (do 50.000,00 EUR)

B. REZULTATI IN DOSEŽKI RAZISKOVALNEGA PROJEKTA

1. Poročilo o realizaciji predloženega programa raziskovalnega projekta - opis raziskave (izhodišča, predstavitev problema, metode dela), ugotovljeni rezultati in uporaba (*največ do 3 strani*)

Volumska preobremenitev je vodilni dejavnik tveganja za smrt in srčnožilne dogodke pri bolnikih s končno ledvično odpovedjo na nadomestnem zdravljenju. Zgodnje prepoznavanje volumske preobremenitve lahko pri teh bolnikih prepreči srčnožilne posledice. Klinični znaki volumske preobremenitve so pogosto nezadovoljivi, da bi z zanesljivostjo lahko odkrili bolnike s tveganjem. Po drugi strani nam standardne tehnike za meritve izvenceličnega in krvnega volumna ne podajo dovolj informacij o osnovnih parametrih srčne funkcije, ki določajo hemodinamsko toleranco na presežek volumna in odvzem tekočin (polnitveni tlak in funkcijo levega prekata) pri posameznem bolniku. Od teh dejavnikov je odvisna izvenžilna pljučna voda, ki predstavlja približek cirkulirajočega volumna in polnitvenega tlaka levega prekata. Zato je ocena pljučne vode boljši kriterij za odkrivanje bolnikov z visokim tveganjem za škodljive klinične dogodke in za spremljanje učinka zdravljenja, ki bi preprečili takšne dogodke.

METODE DELA: Namen naše klinične raziskave je pri bolnikih s končno ledvično odpovedjo na nadomestnem zdravljenju s hemodializo ali peritonealno dializo opraviti meritve, s katerimi bomo z več metodami ocenili volumsko stanje bolnika. Vsem bolnikom smo s pomočjo ultrazvoka izmerili izvenžilno pljučno vodo, stanje tekočinske preobremenitve s pomočjo bioimpedance, izmerili smo tudi hitrost karotidno-femoralnega pulznega vala, debelino intime medije karotid in pri nekaterih izvedli 48-h neinvazivno merjenje krvnega tlaka. Na podlagi teh meritev smo bolnikom na nadomestnem zdravljenju s hemodializo prilagodili intenzivnost dializnega zdravljenja – bodisi s spremembo dializnega režima odvzema tekočin,

spremembo dolžine hemodialize, prilagoditvijo antihipertenzivnih zdravil. Pri bolnikih na peritonealni dializi smo na podlagi rezultatov meritev preiskav po potrebi spremenili režim menjav peritonealnih raztopin, dolžino dializnega zdravljenja pri bolnikih na avtomatizirani peritonealni dializi in prilagodili antihipertenzivna zdravila.

REZULTATI: Sodelovali smo v mednarodnem projektu LUST in SubLust, v katera je vključenih veliko naših bolnikov.

S študenti Medicinske fakultete UM smo sodelovali v dveh študentskih raziskovalnih nalogah, objavili članke, prispevke na kongresih in za obe nalogi prejeli Srebrno in Bronasto Dekanovo nagrado.

2. Ocena stopnje realizacije in zastavljenih raziskovalnih ciljev (*obkrožite*)

DA

NE

Če je odgovor NE, napišite kratko utemeljitev

3. Pridobitev za UKC Maribor - doktorska disertacija, članek, prispevek na znanstveni konferenci/simpoziju ali kongresu, patent, uvedba novih dejavnosti, smernic in metod ali izboljšanje že obstoječih itd. (največ do 1 stran)

Doktorska disertacija, magistrska naloga, raziskovalna naloga, specialistična naloga:

Na podlagi rezultatov tega projekta so študentje prejeli dve Dekanovi nagradi MFUM: LUČIČ ŠRAJER, Lucijan, MARKO, Katharina. *Bioimpedanca, arterijska togost in krvni tlak pri bolnikih na peritonealni dializi*. Maribor: [L. Lučič Šrajter, K. Marko], 2021. 45 f., ilustr. <https://dk.um.si/IzpisGradiva.php?id=81240>. [COBISS.SI-ID 93108995]

nagrada: Bronasta Dekanova nagrada

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[COBISS.SI-ID 96646403]

nagrada: Srebrna Dekanova nagrada

Objavljeni članki:

LOUTRADIS, Charalampos, SARAFIDIS, Pantelis, EKART, Robert, PAPADOPOULOS, Christodoulos, SACHPEKIDIS, Vasileios, ALEXANDROU, Maria Eleni, PAPADOPOULOU, Dorothea, EFSTRATIADIS, Giorgos, PAPAGIANNI, Aikaterini, LONDON, Gérard M., ZOCCALI, Carmine. The effect of dry-weight reduction guided by lung ultrasound on ambulatory blood pressure in hemodialysis patients : a randomized controlled trial. *Kidney international*. [Online ed.]. Jun. 2019, vol. 95, iss. 6, str. 1505-1513, ilustr. ISSN 1523-1755.

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LOUTRADIS, Charalampos, SARAFIDIS, Pantelis, EKART, Robert, TSOUCHNIKAS, Ioannis, PAPADOPOULOS, Christodoulos, KAMPERIDIS, Vasileios, ALEXANDROU, Maria Eleni, FERRO, Charles J., PAPAGIANNI, Aikaterini, LONDON, Gérard M., MALLAMACI, Francesca, ZOCCALI, Carmine. Ambulatory blood pressure changes with lung ultrasound-guided dry-weight reduction in hypertensive hemodialysis patients : 12-month results of a randomized controlled trial. *Journal of hypertension*. [Online ed.]. Jul. 2021, vol. 39, no. 7, str. 1444-1452, ilustr. ISSN 1473-5598.

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Nove metode, smernice, dejavnosti:

Prispevki (konference, srečanja, kongresi, simpoziji):

EKART, Robert. *Technical methods for volume evaluation in ESKD; are there differences between haemodialysis and peritoneal dialysis? : lecture on 58th ERA-EDTA Congress, online, June 5-8, 2021*. [COBISS.SI-ID 69731843]

EKART, Robert. Fluid volume overload and vascular stiffness in CKD patients. V: MALLAMACI, Francesca (ur.), EKART, Robert (ur.). *EuReCa-M CME course 2022 : book of abstracts*. [Parma]: ERA, Working Group EURECA-m; Maribor: Univerzitetni klinični center, 2022. Str. 22. ISBN 978-961-7039-64-1. [COBISS.SI-ID 123630595]

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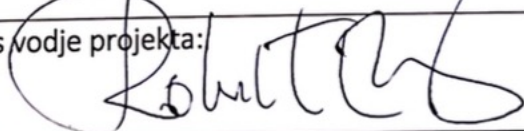
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 [COBISS.SI-ID 6716735], [WoS]

4. Sumaričen prikaz ciljev projekta (obvezno izpolnite!)

	Doktorat, magisterij, raziskovalna ali specialistična naloga	Objavljeni članki	Nove metode, smernice, dejavnosti	Prenos znanja (konference, srečanja, kongresi, simpoziji)
(DA/NE)	DA	DA	NE	DA
Število	2	7		21

Datum: 21.11.2023	Podpis vodje projekta: 
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Izpolni Oddelek za znanstveno-raziskovalno delo	
REALIZACIJA PROJEKTA <input type="checkbox"/> CILJI IZPOLNJENI V CELOTI <input type="checkbox"/> CILJI DELNO IZPOLNJENI <input type="checkbox"/> CILJI NISO IZPOLNJENI Porabljena sredstva (v EUR): <hr/>	Pregledal in ocenil predstojnik OZRD: Podpis: _____ Datum: _____