

CORELATII INTRE DISFUNCTIA ENDOTELIALA SI CELULELE ENDOTELIALE CIRCULANTE IN BOALA RENALA CRONICA

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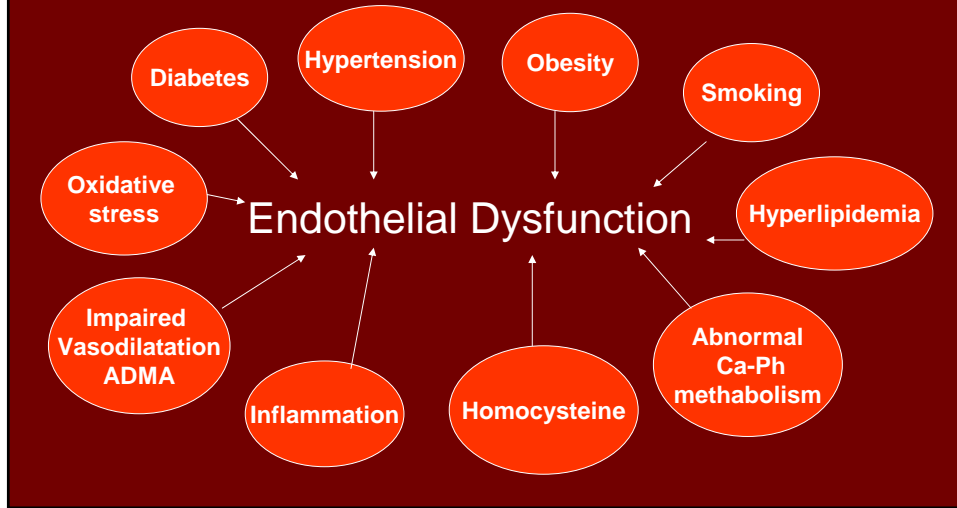
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DISFUNCTIA ENDOTELIALA (ED)

ED este caracterizata de modificarea proprietatilor endoteliului prin:

- vasodilatatie redusa
- stare pro-inflamatorie
- status protrombotic

Factori traditionali si netraditionali implicati in aparitia ED



Manifestari ale ED

Preclinic

- nivele anormale ale markerilor surogati

Clinic

- evenimente cardiovasculare
- ateroscleroza
- stenoza
- insuficienta cardiaca
- insuficienta renala cronica

Proiectul RENDO

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RENDO
STUDY OF CIRCULATING ENDOTHELIAL CELLS AND CYTOKINES
AS EARLY ENDOTHELIAL DYSFUNCTION MARKERS IN CHRONIC RENAL FAILURE

About Project

Partners

Summary

Relevance

Project Description

Project Impact

Project Management

The work packages of the project

Workpackage 1

Workpackage 2

Workpackage 3

Workpackage 4

RENDO Project



RENDO project is based on the fact that a dysfunctional endothelium represents a critical link accounting for the risk for both renal impairment and cardiovascular complications. The project fits within the general objectives of the 4th Program, by implementing new investigational methods in one of the worldwide peritarr medical care problems, which is represented by the atherosclerotic disease, an increasing and spreading phenomenon corresponding with an ageing population. During the last decade, circulating endothelial cells have been used in several prestigious medical centers as a surrogate marker of endothelial dysfunction in a variety of vascular disorders.

Recent studies showed that plasma levels of pro-inflammatory response markers, such as C-reactive protein, Interleukin-6 and TNF tumor necrosis factor- α , von Willebrand factor, soluble vascular and intercellular cell adhesion

Proiectul RENDO

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Project Director: Prof. Dr. Mihai Voiculescu

Participant no.	Organisation name
1. UMF - CD (Coordinator)	"Carol Davila" University of Medicine and Pharmacy Bucharest Center of Internal-Medicine and Nephrology Fundeni
2. INBP – NS	"Victor Babes" National Institute for Research and Development in Pathology and Biomedical Sciences
3. CGEMUS	"Prof. Dr. CC. Iliescu" Institute of Cardiovascular Diseases

RENDO - scop

Extinderea cunostintelor in abordarea noninvaziva a ED la pacientii cu boala renala cronica.

Evaluarea si validarea unor noi metode de investigatie in scopul depistarii precoce a ED.

RENDO

Criterii de includere:

- Varsta 18 – 75 ani
- Nefropatie diabetica
- Nefropatie tubulointerstitala
- Nefropatie hipertensiva
- Hemodializa

RENDO

Distribution of patient groups in accordance with CKF stage

	<i>No of patients</i>	<i>CKD stage 2</i>	<i>CKD stage 3</i>	<i>CKD stage 4</i>	<i>CKD stage 5</i>
<i>DM group</i>	9	2 (22.2%)	5 (55.6%)	2 (22.2%)	
<i>HN group</i>	8	1 (12.5%)	5 (62.5%)	2 (25%)	
<i>NTI group</i>	7		5 (71.4%)	2 (28.6%)	
<i>HD group</i>	10				10 (100%)
<i>Total</i>	34	3	15	6	10

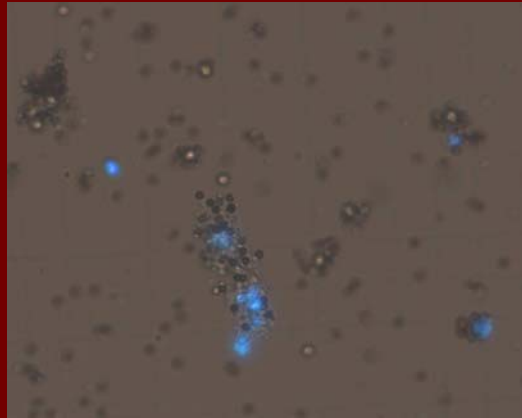
Abordarea disfuncției endoteliale

Biomarkerii disfuncției endoteliale:

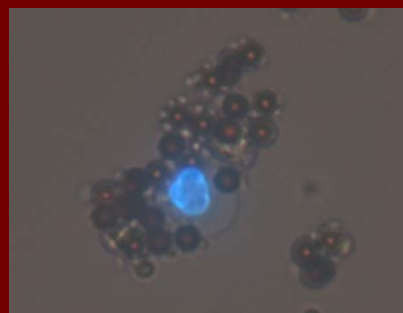
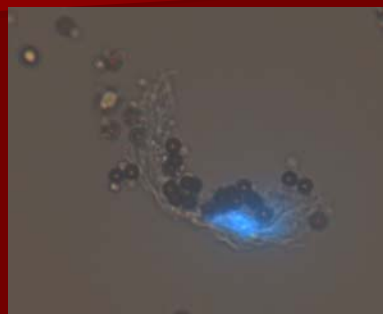
- Intercellular adhesion molecules (ICAM-1)
 - Vascular adhesion molecules (VCAM-1)
 - von Willebrand Factor
 - E-selectin
 - C Reactive Protein
 - **Interleukin – 6**
 - **Tumoral necrosis factor-alpha**
 - **Interleukin – 10** → Anti – inflammatory cytokine
 - Adiponectine
 - Visfatine
 - Resistine
- } Pro-inflammatory cytokines

Abordarea disfuncției endoteliale

Izolarea imunomagnetică a CEC



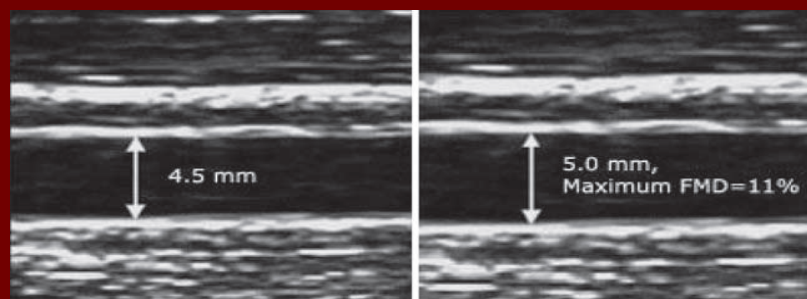
Abordarea disfuncției endoteliale



Abordarea disfuncției endoteliale

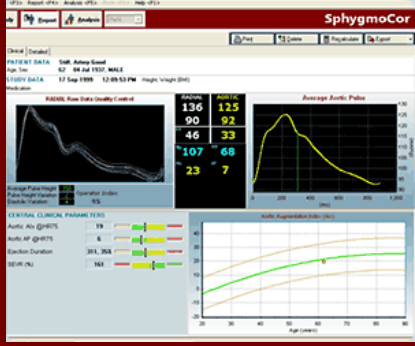
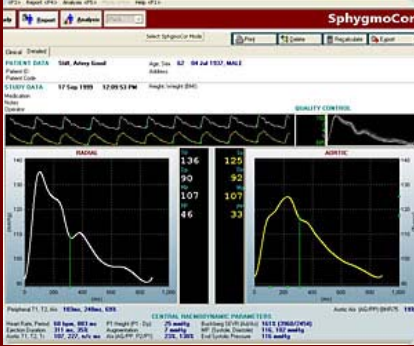
- Vasodilatație dependentă de endoteliu (Flow-Mediated Vasodilatation) - **FMD**
- Vasodilatație independentă de endoteliu (nitroglycerin – mediated vasodilatation) – **NMD**
- Măsurarea complexului intimă – media a nivelului arterelor carotide comune

Abordarea disfuncției endoteliale



Abordarea disfunctiei endoteliale

- Rigiditatea arteriala:
Velocitatea undei pulsului (PWV)

Caracteristicile bazale si factorii de risc cardiovascular

	<i>CKD stage 2</i>	<i>CKD stage 3</i>	<i>CKD stage 4</i>	<i>Hemodialysis</i>
<i>Number of pts</i>	3	15	6	10
<i>Age</i>	68.3 ± 1.1	64.3 ± 10.9	69.1 ± 8.5	57.5 ± 13.1
<i>Male gender</i>	66.7%	64.3%	50%	80%
<i>Smoking</i>	0	7.7%	0	10%
<i>Diabetes mellitus</i>	66.7%	35.7%	33.3%	20%
<i>HTA</i>	66.7%	92.9%	100%	88.9%
<i>Dyslipidemia</i>	66.7%	70%	80%	55.6%
<i>Obesity</i>	33.3%	28.5%	16.6%	30%

